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U. S. DEPARTMENT OF COMMERCE
LUTHER H. HODGES, Secretary
WEATHER BUREAU
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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JANUARY 1961
Volume 12 No. 1

GOVERNMENT
PUBLICATIONS
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Beginning with the January 1961 issue, this publication will contain CLIMATOLOGICAL DATA tables in both English and Metric Units. The separate table in metric units is obtained by conversion from data in the English units table.

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 12 No. 1

JANUARY 1961

GENERAL SUMMARY OF WEATHER CONDITIONS

Precipitation for January was much below normal in the interior of the contiguous United States, and generally somewhat below in the coastal and southwestern border States. Much above normal amounts were limited mainly to extreme southern Florida and central and southwestern Texas. The month was unseasonably mild in the northern Great Plains and Far West, and unusually cold in Texas, Arkansas, Louisiana, and east of the Mississippi River. A heavy snow cover persisted throughout the month in the Northeast, but the cover was lighter than usual in north-central areas during most of the month, and the snowpack in the western mountains remained below normal. Some flooding occurred during the second and third weeks in east Texas, Louisiana, and western Washington. Some glaze damage occurred in the Southeast on the 25th.

TEMPERATURE. --East of the Rocky Mountains, a period of extreme cold weather began on the 20th and persisted through the remainder of the month. During this period subzero minima ranged from -40° or lower in North Dakota and Minnesota to 0° or lower in Texas, Arkansas, Tennessee, and Virginia. Freezing extended over most of Florida on the 21st, 22d, and 23d for the first general freeze of the winter in the Everglades, but caused only light damage to the citrus and vegetable crops. In much of the South, where temperatures were slightly below normal during the first half of the month, this was the coldest January since 1940, and in northern areas, where the first half of the month was unseasonably mild, this was the coldest January since 1948 at many stations and the coldest since 1918 at some others. December 1960 and January 1961 combined was the coldest such period in the middle and lower Atlantic Coastal States since 1917-18.

In the Far West, where temperatures generally averaged well above normal, this was the warmest January on record at San Diego and Los Angeles, Calif., and the second warmest in Seattle, Wash. A high of 71° on the 20th at Medford, Oreg., was a new record for January. The only unusually cold weather in the Far West occurred in the San Joaquin and lower Sacramento Valleys of California, where monthly averages were slightly below normal. Bakersfield, Calif., had 15 days with minimum temperatures below freezing, which is 9 more than average.

PRECIPITATION. --In most of the area between the Cascade and Sierra Nevada Mountains in the Far West and the Appalachians in the East, precipitation was less than 50 percent of normal. In some areas it was less than 25 percent of normal. At many stations in this area, totals for January were the least in many years. Precipitation was the least for January at Winnemucca, Nev., Salt Lake City, Utah, Alpena and Detroit, Mich, and Memphis, Tenn.; equaled the least for January at Kansas City, Mo., and was the least since 1871 at Cleveland, Ohio. Grand Junction, Colo., and Prescott, Ariz., had more than 50 days during December and January without measurable precipitation for their longest winter dry spells on record.

Precipitation was notably heavy in the Rio Grande Valley and central portions of Texas where monthly totals at many stations ranged from 200 to more than 400 percent of normal. Abilene had 3.99 inches which was the most for January since 1886 and Waco had 5.83 inches, the most on record. Some lowland flooding occurred along streams in the eastern part of the State during the middle portion of the month. In western Washington, where precipitation was above normal and monthly totals ranged up to 31.43 inches at Spruce, some flooding also occurred along streams that drain into Puget Sound about midmonth.

SNOW. --At the beginning of the month, snow covered interior sections of the Pacific Northwest, the Rocky Mountain ranges, the upper Great Plains, the Ohio Valley, and the Northeast. The cover was heavy in the Northeast, but lighter than usual in the Great Lakes region. During the first half of the month, the cover in the midcontinent area retreated to the upper Great Lakes region and the eastern Dakotas, and there was also considerable bare ground in the Pacific Northwest, but the heavy cover persisted in the Northeast. The cover from the Great Lakes westward remained below normal the remainder of the month.

Two major snowstorms in the Northeast maintained a heavy cover there during the second half of the month. The first storm on the 15th and 16th off the New England coast deposited several inches of snow in the mountains of Maryland, 7 to 9 inches in southeastern Pennsylvania and New York, 2 to 10 inches in western Massachusetts, and 10 to 15 inches in south-central Massachusetts and northwestern Connecticut. The next major snowstorm in the Northeast moved from the middle Mississippi Valley across Virginia and up the Atlantic coast on the 19th and 20th. Snowfall during this storm measured about 2 inches in southern Maryland and ranged from about 5 to 16 inches in north-central and western portions of the State, with nearly 8 inches in Washington, D. C. In New Jersey 10- to 12-inch falls were measured over most of the State with 24 to 30 inches in the extreme northwestern portion. Falls ranged from 4 to 12 inches in most of Pennsylvania with 19 inches in the Susquehana Valley, 6 to 12 inches in southeastern New York, and 10 to 20 inches in southern New England.

Heavy snow fell in mountainous areas of the Far Southwest during the last week, with falls of over a foot reported in the mountains of New Mexico. At the end of the month the snowpack in the western mountain ranges generally was below to much below normal.

DESTRUCTIVE STORMS. --Losses from severe local storms were insignificant. The northeastern storm on the 19th and 20th, with gale-force winds, caused widespread flooding of coastal lowlands in New England and forced 25 families to evacuate in the Massachusetts Bay area. Snow removal in the Northeast cost large sums, and many deaths were due to overexertion and traffic accidents.

A glaze storm from Louisiana to the Carolinas on the 25th, damaged lines in northern Georgia.

Sunshine was abundant in central interior portions of the Country, with Topeka, Kans., Lincoln, Nebr., and Burlington, Iowa, reporting the sunniest January on record.

CONDENSED CLIMATOLOGICAL SUMMARY

JANUARY 1961

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	2 Stations	75	18	3 Stations	4	22	Mobile	6.49	Muscle Shoals FAA AP	1.20
Arizona	Yuma WB AP	83	16	2 Stations	-7	29+	Fort Grant	2.60	Winslow WB AP	T
Arkansas	3 Stations	73	18	Mammoth Springs	-6	28	Devils Knob	3.34	Berryville 4NW	.14
California	do	90	18+	White Mountain 1	-5	28	Honeydew 2WSW	17.57	Eagle Mtn.	.00
Colorado	Boulder	70	23	Fraser	-38	28	Mancos	1.23	5 Stations	.00
Connecticut	Norwich Pub Util Pl	55	15	Coventry	-32	22	Norfolk 2SW	4.23	Storrs	1.50
Delaware	Selbyville	59	7	Newark University Farm	-9	22	Selbyville	D4.32	Wilmington Porter Resvr	2.43
Florida	2 Stations	85	26+	2 Stations	15	22	South Miami 3W	8.52	Cape Sable Ranger Sta.	.93
Georgia	Ashburn	77	12	Blairsville Exp Sta	-8	22	Valdosta WB Airport	5.93	Atlanta WB Airport	1.74
Idaho	Slate Creek RS	61	15+	Island Park Dam	-28	27	Wallace	4.72	3 Stations	.00
Illinois	Harrisburg	66	13	2 Stations	-13	27+	Golconda Dam 51	2.34	Morris 5N	.03
Indiana	Johnson Exp Farm	63	13	New Castle	-24	25	W. Baden Spgs Col	2.42	Rochester	.02
Iowa	2 Stations	62	31+	2 Stations	-23	24	Donnellson 4N	.89	Humboldt No. 2	T
Kansas	do	71	31+	Washington	-16	27	Mound Valley 3WSW	.66	Numerous Stations	.00
Kentucky	Princeton	69	13	Cynthiana 2	-21	28	Jeremiah	4.90	Munfordville	1.25
Louisiana	2 Stations	78	19+	2 Stations	10	29	Colfax	11.85	Marion	1.53
Maine	Bridgton 1NNW	50	14	Squa Pan Dam	-35	31+	Bar Harbor	4.44	Sanford 2NNW	1.03
Maryland	Crisfield Hammock Pt	63	14	Unionville	-19	22	Cambridge 4W	D4.45	Benson Police Barracks	1.73
Massachusetts	Rochester	57	15	South Egremont	-31	22	Ashburnham	4.34	Adams	1.03
Michigan	Monroe Sewage Plant	56	14+	2 Stations	-27	30+	Whitefish Point	2.45	Howell Sewage Plant	.06
Minnesota	Canby	53	12	Bigfork	-43	22	Tower Ranger Station	.74	7 Stations	T
Mississippi	Pelahatchie	79	18	Houston 2NE	8	22	Prentiss 2NNE	9.46	Ripley	.77
Missouri	Ozark Beach	68	18	Festus 2NW	-22	28	Fisk	2.50	Carthage	.00
Montana	3 Stations	63	15+	West Yellowstone	-43	27	Heron 2NW	4.06	10 Stations	.00
Nebraska	Greeley	68	31	2 Stations	-22	24	Bloomfield	.76	Numerous Stations	.00
Nevada	2 Stations	73	17+	Geyser Ranch	-13	29	Goldfield	1.18	2 Stations	.00
New Hampshire	Blackwater Dam	52	15	First Conn Lake	-39	11	Greenville	3.97	Lancaster	.48
New Jersey	5 Stations	58	14+	Layton 3NW	-29	22	Toms River	4.90	High Point Park	1.39
New Mexico	Hobbs	72	17	Eagle Nest	-28	29	Sandia Crest	2.14	3 Stations	.00
New York	2 Stations	56	7	Poughkeepsie FAA AP	-30	21	Pulaski	6.10	Ovid	.28
North Carolina	Williamston 1ESE	70	14	Oconalufty	-10	22	Coweeta 8	6.43	Mount Gilead 4W	1.01
North Dakota	Mandan Ft. Lincoln P	55	16	Belcourt Indian Res	-41	24	Arvilla State Park	.64	Numerous Stations	T
Ohio	Chilo Dam 34	60	13	2 Stations	-21	26+	Proctorville Dam 27	3.93	Montpelier	.05
Oklahoma	Tishomingo Natl WLR	73	17	Kenton	-7	28	Checotah	1.97	10 Stations	.00
Oregon	Cascadia RS	73	21	La Grande 16WSW	-14	4	Valsetz	18.94	Mitchell	.07
Pennsylvania	Norristown	59	7	Mercer 2NNE	-32	22	Johnstown	5.56	Greenville	.56
Puerto Rico	4 Stations	91	31+	Cayey 1NW	52	31	Rio Blanco Upper	11.39	Mona Island	.00
Rhode Island	Providence WB AP	56	14	Kingston	-14	22	Providence WB AP	3.52	Kingston	1.80
South Carolina	3 Stations	72	12	Caesars Head	-1	22	Sassafras Mountain	4.90	Loris	D1.09
South Dakota	Orman Dam	65	31	Andover 7N	-35	24	Wagner	1.04	3 Stations	.00
Tennessee	Brownsville	68	13	Oneida	-13	29	Haw Knob	4.11	Memphis WB City	.71
Texas	Rio Grande City 2ESE	82	19	Stratford	-1	28	Beaumont	11.52	Bravo	.00
Utah	2 Stations	67	17+	Flaming Gorge	-20	27	Beaver Canyon PH	1.09	54 Stations	.00
Vermont	do	51	15+	2 Stations	-32	22	Mays Mill	3.63	Enosburg Falls	.39
Virginia	St. Paul	65	13	Timberville 2N	-16	28	Dunbar	5.71	Newport 2NW	1.00
Washington	Kosmos	70	20	Stockdill Ranch	-9	2	Spruce	31.43	Priest Rapids Dam	.22
West Virginia	2 Stations	65	14+	Kumbrabow State Forest	-26	25	Birch River 6SSW	5.88	Wellsburg 3NE	1.09
Wisconsin	3 Stations	56	13	Gordon 2ESE	-34	22	Gurney	1.05	Breed	T
Wyoming	Metz Ranch	64	5	Bondurant	-41	27	Moran	.54	21 Stations	.00

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

\+ And also on an earlier date or dates.

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ♁	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max. 90 F. or above	No of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	Ft.	Mb.	Mb.	F	F.	F.	F.	F.		F.				F	%	In.	In.	In.			In.	In.	M.p.h.		M p h							%
ALABAMA																																
BIRMINGHAM	610	997.1	1023.4	50	28	39.0	- 6.2	66	18	13	22	0	22	35	73	1.49	-3.49	0.65	7	0	T	T	7.6	NNW	33	NW	19	10	5	16	6.3	50
HUNTSVILLE	605	999.2	1023.3	47	26	36.3		63	12	10	22	0	26	32	70	1.76		0.62	6	1	T	T	6.2	NW	24*	NW	21+	7	9	15	6.5	
MOBILE	211	1020.8	1023.1	55	36	45.4	- 7.3	72	18	21	22	0	13	41	72	6.14	1.12	2.45	9	0	T	0	11.0	N	30*	NW	19	9	6	16	6.2	
MONTGOMERY	195	1014.7	1023.2	51	31	40.6	- 8.6	66	12	15	22	0	20	36	72	2.18	-2.42	0.66	9	0	T	0	8.5	NW	31	NW	19	10	5	16	6.2	50
ALASKA																																
ANCHORAGE	90	998.0	1003.1	27	15	20.9	7.9	50	19	- 6	9	8	29	16	80	1.51	0.75	1.19	7	0	1.7	3	6.5	NNE	25*	SSE	20	9	2	20	6.8	36
ANNETTE	110	1005.1	1009.2	45	33	39.1	4.5	61	19	23	27	0	11	33	80	9.69	0.29	1.64	19	0	4.4	3	10.5	ESE	37*	SE	11	7	6	18	7.0	
BARROW	22	1021.7	1022.1	- 7	-16	-11.0	4.1	30	22	-32	18	0	31	-21	62	0.27	0.11	0.21	5	0	2.5	13	13.4	E	35*	SE	19	2V	0V	5V		
BARTER ISLAND	39	1021.0	1022.7	- 6	-16	-11.0	4.5	26	22	-31	18+	0	31	-21	60	0.07	-0.32	0.05	4	0	0.9	8	11.9	ENE	29*	E	19	5X	2X	8X		
BETHEL	125	997.3	998.6	17	5	11.1	4.3	38	24+	-20	11	0	30	4	73	0.08	-0.82	0.03	7	0	0.6	14	15.4	NE	38*	NE	11	5	4	22	7.0	
COLD BAY	90	987.5	990.7	36	26	31.0	1.9	43	27	7	14	0	21	27	83	1.93	-0.59	0.45	20	0	11.1	3	19.3	SE	60*	ESE	19+	2	8	21	8.1	
CORDOVA	40	1001.4	1003.5	40	25	32.6	7.6	58	21	0	9	0	22	27	83	7.59	0.54	2.13	20	0	10.2	8	6.0	ESE	40*	ESE	20	8	2	21	7.1	
FAIRBANKS	436	991.9	1009.9	8	-12	- 2.0	7.8	47	21	-34	8	0	31	-10	66	0.25	-0.74	0.17	4	0	7.4	15	4.5	NNE	18*	SE	20	13	8	10	5.1	
JUNEAU	17	1007.8	1008.6	35	26	30.5	4.3	46	27	17	23	0	27	26	86	3.76	-0.72	0.89	15	0	18.9	7	7.9	ESE	35*	ESE	1	5	4	22	7.7	37
KING SALMON	44	993.9	996.0	29	14	21.3	7.2	45	28+	- 6	16	0	27	17	80	0.83	-0.22	0.49	9	0	4.3	4	10.0	N	46*	E	18	6	9	16	6.9	
KOTZEBUE	10	1016.2	1010.8	13	1	6.6	13.2	39	20	-24	10	0	31	0	73	0.26	-0.21	0.08	9	0	3.2	15	12.2	E	37*	ESE	20	6	5	20	7.5	
MC GRATH	334	992.9	1006.1	7	-11	- 1.7	7.0	46	20	-37	9	0	31	-10	69	0.10	-1.04	0.05	4	0	4.0	18	3.2	W	24*	ENE	20	11	11	9	4.7	
NOME	13	1004.1	1004.6	20	9	14.8	9.2	38	25+	-14	14	0	30	8	75	0.92	-0.33	0.29	14	0	10.0	24	12.0	ENE	39*	NE	10	2	4	25	8.4	20
SHEMYA	122	986.1	990.0	34	29	31.0		38	30+	24	12	0	27	28	87	1.46		0.23	22	0	19.4	7	10.7	NE	54*	SSE	5	0	7	24	8.7	
ST. PAUL ISLAND	22	996.5	991.5	31	24	27.3	0.9	39	20+	9	11	0	25	24	88	3.32	1.50	1.02	22	0	30.1	25						0	2	29	9.4	
YAKUTAT	28	1004.4	1005.4	39	25	31.7	5.2	49	20	5	8	0	26	27	85	7.56	-4.04	2.57	19	0	40.7	15	6.5	ENE	39*	E	30	7	4	20	7.5	
ARIZONA																																
FLAGSTAFF	6993			46	14	30.2	4.9	56	12+	- 2	29	0	31			1.15	-0.54	1.13	2	0	11.2	10						15	6	10	4.3	
PHOENIX	1109	979.0	1019.3	69	40	54.2	4.5	78	16	31	7+	0	3	29	45	0.23	-0.37	0.18	5	0	0.0	0	4.3	E	16*	SW	27	14	6	11	4.0	64
PRESCOTT	5014	850.3	1022.3	56	24	40.1	4.8	65	18	14	3	0	27	17	46	0.60	-0.50	0.59	2	1	T	0	4.5	SSW	28	SW	27	16	6	9	4.1	79
TUCSON	2584	928.9	1018.2	64	41	52.5	2.8	74	16	32	7	0	1	31	50	0.95	0.32	0.77	4	0	0.0	0	9.0	ESE	33	SE	9+	15	2	14	5.1	71
WINSLOW	4880	857.1	1020.8	43	17	29.6	- 3.1	59	25	4	3	0	29	20	72	T	-0.37	T	0	0	T	T	6.6	SW	26*	SW	27	16	5	10	4.4	
YUMA	199	1014.2	1019.5	73	46	59.7	4.4	83	16	37	1	0	0	25	32	0.24	-0.09	0.18	3	0	0.0	0	8.5	N	21	N	19+	18	3	10	3.7	80
ARKANSAS																																
FORT SMITH	449	1007.5	1024.6	48	24	35.7	- 4.3	63	18	9	21	0	28	25	69	0.44	-2.45	0.33	5	0	0.4	T	7.2	NE	29	NW	20	12	4	15	5.5	64
LITTLE ROCK	257	1010.8	1024.5	48	24	35.9	- 5.9	68	18	11	25	0	27	26	70	0.75	-4.37	0.46	7	0	T	1	8.0	WSW	31	W	20	12	6	13	5.7	50
TEXARKANA	361		1023.8	52	31	41.3	- 4.6	71	18	16	21	0	20	31	69	1.46	-3.66	1.13	8	0	1.9	2	5.7	NE								
CALIFORNIA																																
BAKERSFIELD	494	1004.7	1023.3	54	34	43.7	- 3.2	72	23	25	1	0	15	37	82	0.39	-0.63	0.33	2	0	0.0	0	3.9	E	17*	N	20	6	4	21	7.3	
BISHOP	4108	879.1	1022.7	66	21	40.5	2.6	71	18+	13	3	0	29			0.17	-0.95	0.17	1	0	0.0	0						18	7	6	3.7	
BLUE CANYON	5280	841.9	1019.6	53	38	45.5	9.3	69	18	28	28	0	5			3.83	-5.34	1.97	7	0	5.3	2	6.8	ENE	31	SSE	7	1	6	15	5.4	
BURBANK	699	992.6	1019.1	73	45	59.3	6.7	84	18+	38	3+	0	0	31	41	1.64	-0.71	1.53	2	0	0.0	0	4.8	WNW	21*	N	15	18	4	9	3.8	
EUREKA U	43	1018.0	1020.3	58	43	50.5	3.3	69	22	34	2+	0	0			4.54	-1.66	2.58	13	0	0.0	0	5.0	E#	36	SE	7	4	5	17	6.0	50
FRESNO	331	1010.2	1022.7	56	34	42.4	- 2.3	69	22	22	7	0	14	37	87	1.52	-0.05	1.23	4	0	0.0	0	4.7	ESE	20	SW	20	3	5	23	8.1	50
LONG BEACH	34	1018.3	1019.6	72	44	58.0		85	16	34	3	0	0	36	51	1.28		1.18	2	0	0.0	0	5.2	WNW	21*	SW	31	14	10	7	4.3	
LOS ANGELES	99	1015.2	1019.2	70	48	58.9	5.7	83	16	40	7	0	0	36	48	1.27	-0.74	1.22	2	1	0.0	0	5.6	W	14*	NE	20	17	4	10	4.2	
LOS ANGELES U	312			73	51	62.0	7.0	84	18	41	2	0	0	38	48	1.28	-1.10	1.04	2	0	0.0	0	6.5	N#	17	E	20+	19	5	7	3.5	75
MT SHASTA R	3544	896.4	1022.7	51	28	39.6	6.8	65	20	17	4+	0	26			2.73	-1.81	1.67	8	0	0.6	1						11	4	16	5.9	
OAKLAND	3	1021.3	1021.8	56	39	47.2	0.0	64	31	28	5	0	9	40	79	2.63	-0.67	1.69	7	0	0.0	0	6.4	ENE	22*	SSE	31	7	9	15	6.4	
POINT ARGUELLO	367	1005.4	1018.9	66	40	53.0		80	11	30	5	0	1			1.10		1.02	5	0	0.0	0	6.5		25*	SSE	25	18	7	6	3.9	
RED BLUFF	341	1009.5	1022.5	52	37	44.5	- 0.6	66	10	26	4+	0	11	38	83	2.62	-1.11	0.79	11	0	0.0	0	8.2	N	40	SE	31	4	9	18	7.3	44
SACRAMENTO	17	1021.7	1022.9	47	37	42.4	- 1.9	61	31+	26	2	0	10	40	94	3.47	0.81	1.52	6	0	0.0	0	4.0	SE	20	SE	31	6	4	27	9.2	43
SANDBERG R	4517	865.4	1020.0	52	41	46.4	6.6	62	17	34	28+	0	0			1.24	-1.06	1.24	2	0	0.0	0	15.3	ENE	38*	E	19	18	7	6	3.3	
SAN DIEGO	19	1014.9	1018.3	71	50	60.7	5.8	82	17	43	3+	0	0	39	51	1.21	-0.48	1.09	3	0	0.0	0	4.1	N	22	SE	20	16	5	10	4.2	73
SAN FRANCISCO	8	1021.0	1021.8	54	41	47.7	- 0.2	65	31	32	4+	0	2	43	84	2.63	-0.84	1.80	7	0	0.0	0	5.5	ESE	22	SSE	30	5	10	16	6.8	
SAN FRANCISCO U	52			54	44	49.1	- 1.0	64	10	35	6+	0	0			2.79	-1.24	1.76	8	0	0.0	0	6.0	N#	21	SE	31					65
SANTA MARIA	238	1011.2	1020.2	70	38	54.1	3.7	83	19+	29	5+	0	7	37	60	0.91	-1.80	0.81	3	0	0.0	0	5.3	WNW	26*	ESE	25	18	6	7	3.0	
COLORADO																																
ALAMOSA	7536	773.5	1030.3	33	- 7	12.9	- 4.0	42	31+	-23	4	0	31			0.09	-0.14	0.09	2	0	2.1	2						18	9	4	3.5	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1962

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 90 F or above	Min 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 0.1 inch or more	With thunderstorms	Snow, sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
II	Ft	Mb	Mb	F	F	F	F	F		F				F	%	In	In	In			In	In	Mph		Mph							%
COLORADO																																
COLORADO SPRINGS	6173	812.7	1025.5	46	14	30.1	1.3	62	8	0	27	0	31	0	44	0.14	-0.08	0.11	3	0	3.0	2	9.4	N	30*	NNW	18	16	10	5	3.7	
DENVER	5292	840.2	1023.8	44	19	31.7	3.0	64	23	-3	27	0	30	14	54	0.07	-0.43	0.04	3	0	1.0	1	8.7	SSW	24	NW	1	17	7	7	3.8	65
GRAND JUNCTION	4849	865.9	1028.6	43	15	29.4	5.4	49	25+	6	4	0	31	9	45	T	-0.60	T	0	0	T	T	7.8	ESE	24	NE	27+	19	7	5	3.1	95
PUEBLO	4639	866.1	1024.8	48	14	30.9	1.5	67	23	0	28	0	31	15	59	0.04	-0.34	0.04	2	0	1.8	2	5.8	W	56	N	16	18	5	6	3.7	80
CONNECTICUT																																
BRIDGEPORT	7	1016.7	1017.7	32	17	24.5	-4.7	49	7	-1	22	0	29	22	66	2.37	-1.06	0.99	7	0	18.0	12	11.6	NW	34	NNE	20	11	11	9	5.2	
HARTFORD	169	1010.1	1016.4	28	5	16.9	-10.1	46	7	-26	22	0	31	16	66	2.56	-0.59	1.08	8	0	30.6	25	8.6	N	35	NW	4	10	10	11	5.5	76
NEW HAVEN	6	1016.6		32	15	23.7	-5.4	49	7	-7	22	0	30			2.23	-1.66	0.98	8	0	20.0	14	8.7		33	NW	20	14	7	10	5.2	72
DELAWARE																																
WILMINGTON	78	1015.0	1018.3	35	17	25.6	-7.7	55	7	-3	22	0	29	23	66	2.84	-0.72	1.08	7	0	16.5	11	10.0	WNW	32	NW	24	7	13	11	5.8	
FLORIDA																																
APALACHICOLA U	13	1020.0		58	42	49.8	-5.4	65	26+	26	22	0	3			4.39	0.78	1.81	11	1	0.0	0	8.4		29	NW	19	9	9	13	6.1	71
DAYTONA BEACH	31	1019.4	1021.3	64	44	54.0	-5.5	78	26	27	22	0	5	49	74	1.96	-0.14	1.18	7	1	0.0	0	9.3	NW	23*	N	25+	7	9	15	6.3	
FORT MYERS	15	1019.8		72	51	61.5	-3.1	80	8+	34	22	0	0		75	3.31	1.79	2.02	5	2	0.0	0	8.2		24*	SSW	29	11	7	13	5.6	
JACKSONVILLE	24	1020.4	1021.8	60	41	50.5	-5.4	70	24+	24	22	0	5	45	71	2.87	0.19	1.30	10	0	T	0	9.9	NW	33	E	13+	10	7	14	5.8	56
KEY WEST	5	1018.4	1019.7	72	62	67.0	-3.8	83	1	52	23	0	0	62	78	1.25	-0.29	0.49	6	0	0.0	0	11.3	NE	33	N	20	7	15	9	6.1	66
LAKELAND U	214			66	48	56.8	-5.2	80	26	30	22	0	1			1.70	-0.46	0.92	8	1	0.0	0	8.1					12	8	11	5.4	66
MIAMI BEACH	9			74	61	67.2	-2.8	80	15+	42	22	0	0			2.53	0.49	1.11	9		0.0	0			25	E	10+	13	6	12	5.2	64
MIAMI	7	1018.5	1019.8	73	57	64.9	-3.4	82	1	39	22	0	0	59	72	5.12	3.06	2.20	7	2	0.0	0	8.8	NNW	25	NW	29	9	8	14	6.0	
ORLANDO	106	1016.4	1021.3	67	47	56.9	-5.0	83	26	29	22	0	1	51	72	1.75	-0.30	1.16	6	0	0.0	0	8.6	NNE	21*	NW	21	9	11	11	6.0	
PENSACOLA U	13			56	40	48.0	-6.0	65	12	25	22	0	6			3.19	-1.36	1.03	10	0	0.0	0	10.9		25	NW	19					40
TALLAHASSEE	64	1019.0	1021.9	58	38	47.8	-5.8	69	12	18	22	0	10	43	73	2.85	-1.27	0.96	9	1	0.0	0	6.7	NNW	25*	NW	19	10	5	16	5.9	
TAMPA	19	1019.9	1021.5	67	48	57.7	-3.8	79	11	31	22	0	1	52	71	1.45	-0.54	0.62	8	1	0.0	0	11.4	NNE	29*	NNW	21+	8	7	16	6.2	63
WEST PALM BEACH	15	1018.9	1020.2	73	54	63.6	-3.4	80	26+	36	22	0	0	58	73	3.17	0.69	2.20	6	0	0.0	0	11.2	NNW	27*	E	11	7	8	16	6.1	
GEORGIA																																
ATHENS	798	991.4	1021.3	51	28	39.3	-5.4	67	12	11	22	0	21	35	65	2.25	-2.76	0.75	7	0	1.0	1	9.4	W	28*	NW	19	12	9	10	4.7	
ATLANTA	975	979.4	1022.3	48	29	38.5	-6.1	65	12	10	22	0	23	33	60	1.74	-2.93	0.93	7	0	0.1	1	13.7	WNW	46*	NW	19	11	9	11	5.2	60
AUGUSTA	143	1014.1	1021.2	54	29	41.4	-6.0	70	12	10	22	0	22	30	66	2.70	-0.76	1.50	6	0	0.2	1	6.5	WSW	25*	NW	19	13	6	12	5.2	
COLUMBUS	385	1008.0		53	30	41.5	-5.9	68	18+	12	22	0	21			2.34	-2.24	0.77	10	0	T	0	8.9		29*	W	1	10	6	15	6.0	
MACON	356	1007.9	1021.9	54	32	42.7	-6.8	72	12	15	22	0	18	37	64	2.73	-1.28	1.05	9	0	0.0	T	8.8	NW	32	W	19	11	6	14	5.6	69
ROME	637	998.3		48	24	35.8	-6.9	64	12	5	22	0	27			2.19	-3.36	0.73	6	1	1.1	1						11	8	12	5.6	
SAVANNAH	48	1019.0	1021.9	57	35	45.6	-6.0	69	12+	17	22	0	15	41	71	2.15	-0.30	1.07	8	1	T	T	9.4	WNW	31	NW	19	11	8	12	5.4	56
THOMASVILLE U	283			57	38	47.4	-6.8	70	12	20	22	0	10			3.83	-0.18	1.24	11	0	0.0	0										
HAWAII																																
HILO	31	1012.9	1014.2	81	63	71.7	1.3	86	17+	55	24	0	0	62	76	2.34	-11.79	0.84	12	0	0.0	0	9.2	SW	30*	S	1	6	19	6	5.5	55
HONOLULU	7	1013.5	1014.0	81	66	73.6	1.4	85	14	59	1	0	0	62	70	4.17	-0.48	2.49	8	0	0.0	0	10.0	NE	40	SW	17	19	7	5	3.8	72
LIHUE	115	1008.5	1013.5	79	64	71.3	1.2	83	29+	56	18	0	0	62	77	1.27	-4.96	0.41	15	1	0.0	0	10.0	NE	31	SE	25	13	13	5	4.3	57
IDAHO																																
BOISE	2842	928.2	1027.6	43	23	32.9	5.6	55	15	12	5+	0	28	25	77	0.42	-0.91	0.29	5	0	T	T	5.2	SE	20	SE	29	9	4	18	6.4	68
IDAHO FALLS 42NW R	4790			34	0	17.2	4.9	47	30	-20	27	0	31			T	-0.53	T	0				2.9	NNE	24A	S	31					
IDAHO FALLS 46W R	4933	854.7	1030.1	36	3	19.5	3.8	47	30	-12	27	0	31			T	-0.66	T	0	0	T	T	3.1	NNE	19A	SW	31					
LEWISTON	1413	971.6	1024.7	42	30	35.7	4.9	54	14	15	4+	0	28			0.84	-0.21	0.28	9	0	2.9	3						2	4	25	8.7	
POCATELLO	4444	869.6	1029.3	38	13	25.6	3.6	54	17	-8	3	0	28	17	73	0.24	-0.97	0.09	6	0	1.9	2	7.5	S	27	S	30+	8	5	18	6.7	76
ILLINOIS																																
CAIRO U	314	1009.8		41	25	33.0	-4.4	62	13	5	21	0	24			1.51	-2.97	1.13	6	1	3.2	3	8.7	SW#	28	N	19	12	10	9	4.8	65
CHICAGO O HARE	656	994.9	1021.0	29	11	20.3		52	13	-8	25	0	31	13	75	0.27		0.13	4	0	3.0	2	10.9	WSW	30*	NNW	24	6	9	16	6.5	
CHICAGO MIDWAY	610	997.3	1021.3	30	17	23.3	-1.6	51	13	-2	25	0	28	15	71	0.26	-1.58	0.13	7	0	6.3	4	11.7	NW	34	W	7	7	8	16	6.4	48
MOLINE	589	998.6	1022.1	30	12	21.1	-2.1	58	13	-9	27+	0	30	13	70	0.31	-1.19	0.15	6	0	3.4	2	8.7	WSW	31	NW	24+	7	9	15	6.3	60
PEORIA	652	998.6	1023.0	30	13	21.3	-3.7	49	17	-8	25	0	30	14	76	0.32	-1.65	0.11	6	0	3.5	2	9.6	S	29	NW	24+	13	4	14	5.6	66
ROCKFORD	728	992.9	1021.6	28	11	19.5	-4.2	54	13	-7	25	0	31	12	75	0.18	-1.76	0.11	3	0	1.9	2	9.5	WNW	23*	SW	23	5	12	14	6.3	
SPRINGFIELD	588	998.6	1023.3	34	15	24.5	-2.9	53	13	-5	25	0	28	15	70	0.35	-1.68	0.09	6	0	3.4	1	12.4	SW	35	N	24	13	6	12	5.2	65

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1961

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max. 90 F. or above	No of days: Min 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	Ft	Mb.	Mb	F	F.	F.	F	F.		F				F	%	In	In	In.			In	In.	M.p.h		M p.h								%
INDIANA																																	
EVANSVILLE	383	1006.4	1022.9	39	19	29.4	- 5.3	60	13	-13	28	0	25	21	72	0.97	-2.96	0.53	7	0	4.4	3	10.1	SW	32	NW	24	12	6	13	5.5	66
FORT WAYNE	801	987.8	1021.1	30	14	21.9	- 4.4	49	13	- 9	25	0	31	15	76	0.40	-2.14	0.11	10	0	4.5	2	12.8	WSW	42	NW	8	5	12	14	6.7	49
INDIANAPOLIS	793	990.5	1021.8	33	15	23.6	- 5.2	56	13	-10	28	0	31	16	73	1.22	-1.93	0.90	7	0	3.6	3	8.3	WSW	30	NW	24	10	9	12	5.7	57
SOUTH BEND	768	990.9	1020.3	30	14	21.8	- 2.8	50	13	-16	25	0	31	16	76	0.95	-1.05	0.36	14	0	20.7	10	11.2	SW	26*	NW	24+	2	8	21	7.9	
IOWA																																	
BURLINGTON	694	996.3	1023.3	33	12	22.6	- 1.4	56	13	-10	27	0	31	14	70	0.51	-1.23	0.16	5	0	5.3	2	11.3	NW	35	NW	7	11	6	14	5.6	74
DES MOINES	948	991.2	1024.3	33	11	22.0	- 0.1	56	12	-12	27	0	31	13	71	0.33	-0.90	0.15	8	0	5.5	3	12.2	NW	41	NW	20	9	11	11	5.9	75
DUBUQUE	1065	985.6	1022.1	26	9	17.4	- 2.0	48	13	-10	27+	0	31	10	71	0.32	-1.05	0.13	4	0	3.6	5						6	8	17	6.6	
SIOUX CITY	1095	98.4	1024.2	29	7	18.2	- 0.9	48	31	-16	24	0	31	10	71	0.30	-0.44	0.27	4	0	4.0	4	10.7	NW	35	NW	19	8	9	14	6.0	79
WATERLOO	870	988.8	1022.7	26	6	16.0	- 2.7	50	12	-15	24	0	31	9	74	0.31	-0.85	0.10	7	0	5.2	2	7.4	NW	27*	NNW	20	4	13	14	6.3	
KANSAS																																	
CONCORDIA	1375	872.6		42	17	29.8	1.7	66	31	- 3	27+	0	29		61	0.06	-0.53	0.06	1	0	0.8	1	6.5	W*	34	N	20	20	5	6	3.1	86
DODGE CITY	2544	842.6	1023.8	48	19	33.2	2.9	67	23	4	25	0	31	17	58	T	-0.49	T	0	0	T	T	15.1	WSW	50	N	18	17	8	6	3.8	88
GOODLAND	3645	841.6	1024.2	45	16	30.4	4.6	65	31+	- 4	27	0	31	16	63	0.01	-0.30	0.01	1	0	0.3	2	12.0	WSW	37*	N	18	17	4	10	4.0	
TOPEKA	877	980.8	1024.4	43	15	28.8	0.1	62	31	- 4	27	0	31	17	65	0.07	-1.00	0.06	2	0	0.9	1	11.0	SSW	42	N	24+	18	3	10	3.8	82
WICHITA	1321	872.6	1023.4	44	19	31.4	- 0.6	59	17	4	21	0	31	21	72	0.02	-1.03	0.02	1	0	0.3	T	11.9	N	43	N	18	16	6	9	4.1	77
KENTUCKY																																	
LEXINGTON	979	984.8	1022.1	36	20	27.9	- 6.1	58	13	- 8	28	0	24	20	77	1.71	-2.79	0.91	8	0	6.2	4	8.6	SSW				10	7	14	5.8	
LOUISVILLE	474	[illegible]	1022.3	39	19	28.8	- 6.1	57	12	- 8	28	0	25	26	74	1.57	-2.53	0.91	7	0	3.8	3	7.9	WSW	25	NW	24+	1	10	11	5.5	64
LOUISIANA																																	
ALEXANDRIA	92	[illegible]	1023.8	54	31	42.5		72	18	18	30	0	20	35	78	8.72		5.37	10	1	T	T	6.7	NE				8	9	14	6.1	
BATON ROUGE	64	[illegible]	1024.5	54	34	44.3	- 8.1	72	18	21	29	0	14	36	72	5.20	-0.29	2.12	9	0	0.0	0	9.6	NE				6	7	18	6.9	
LAKE CHARLES	12	[illegible]	1024.2	55	31	46.7	- 5.9	73	17	25	29	0	12	39	78	4.39	-0.43	1.90	11	2	T	T	6.3	NNE	21*	NNE	19	6	7	18	7.1	
NEW ORLEANS	[illegible]			56	43	49.3	- 6.6	72	18	30	29	0	3		73	7.56	2.78	2.67	11	2	0.0	0	7.2		19	N	19+	8	9	14	6.5	45
SHREVEPORT	3	[illegible]	1023.2	57	35	47.4	- 7.5	72	18	22	22	0	7	41	83	6.94	2.26	2.48	10	1	T	0	9.4	NNE	24*	ENE	7	6	8	17	6.7	
MONROE	252	[illegible]	1024.3	54	33	43.4	- 4.4	74	17	21	29+	0	16	34	74	3.79	-0.93	1.68	10	1	0.8	1	10.0	NNE				11	7	13	5.8	50
MAINE																																	
CARIBOU	624	988.3	1015.2	23	- 6	8.8	- 4.9	35	14	-29	24	0	31	3	63	1.08	-1.16	0.44	15	0	31.0	26	11.5	WNW	32*	NW	14	7	12	12	5.9	
PORTLAND	61	[illegible]	1014.7	27	4	15.3	- 5.4	47	14	-17	22	0	31	15	67	1.46	-2.97	0.84	6	0	15.8	8	9.7	WSW	35	N	20	11	8	12	5.7	65
MARYLAND																																	
BALTIMORE	146	[illegible]	1019.4	37	18	27.6	- 6.6	58	7	- 1	29+	0	28	24	66	2.91	-0.75	0.88	7	0	14.3	8	10.0	WNW	37	NW	1	11	12	8	4.9	61
BALTIMORE [illegible]	14			38	25	31.[illegible]	- 5.4	58	7	8	25	0	24			3.15	-0.51	1.22	7													
FREDERICK	244			34	15	24.6	- 8.7	52	7	- 8	22	0	31			2.07	-0.81	0.73	5	0	15.0	8										
MASSACHUSETTS																																	
BLUE HILL OBS	624	989.5		30	14	21.7		51	14	- 3	25	0	29		62	3.61	-0.48	1.16	7		21.1	17	17.4	W	48	NE	20					67
BOSTON	15	[illegible]	1014.7	32	20	25.6	- 4.1	56	14	4	25	0	29	22	58	2.92	-0.58	1.22	8	0	18.7	13	15.3	W	41	NNE	20	11	9	11	5.5	73
NANTUCKET	43	1014.1		34	21	27.6	- 4.5	49	7	7	25	0	28			4.06	0.19	1.65	12	0	21.9	17	14.6	WSW	48	NW	20	12	8	11	5.0	61
PITTSFIELD	1170			26	4	15.1	- 6.1	49	14	-17	23	0	31			1.27	-1.83	0.42	9		20.4	17										
WORCESTER	986	[illegible]	1014.1	27	11	18.7	- 5.3	50	14	- 6	25	0	30	15	59	3.02	-0.31	1.23	6	0	32.4	28	11.3	WSW	39*	NNE	20+	12	9	10	5.3	
MICHIGAN																																	
ALPENA	689	991.[illegible]		24	2	13.0	- 8.1	51	13	-18	20	0	31	7	70	0.16	-1.96	0.05	6	0	5.1	7	7.1	SW*	28	NW	7	2	14	15	7.4	45
DETROIT	619	991.4	1015.[illegible]	30	17	23.1	- 3.1	53	13	- 1	25	0	29	14	70	0.23	-1.85	0.07	8	0	3.3	2	12.0	W	35	NW	7	3	12	16	7.5	42
DETROIT METRO AIRPORT	640	994.[illegible]	1019.5	30	14	21.7		52	13	- 5	25	0	31	14	72	0.27		0.14	6	0	3.7	2	11.5	SW				4	9	18	7.0	
DETROIT WILLOW RUN	722	989.8	1019.5	30	15	22.5	- 2.8	53	13	- 4	25	0	31	15	71	0.25	-1.55	0.12	4	0	4.7	3	12.2	SW	31*	W	7	3	10	18	7.3	
ESCANABA	594	995.5		22	5	15.1	- 2.2	42	17	-11	23	0	31		70	0.23	-1.30	0.10	7	0	2.9	2	9.7		38	NW	7	6	6	19	7.2	30
FLINT	766	[illegible]	1019.[illegible]	28	11	19.2	- 4.0	52	13	- 9	25	0	31	13	76	0.32	-1.26	0.08	11	0	6.3	3	9.5	SW	25*	W	27	3	8	20	7.7	
GRAND RAPIDS	681	[illegible]	1020.[illegible]	28	14	20.9	- 2.6	50	13	-14	25	0	31	15	77	1.35	-0.55	0.27	18	0	30.0	11	9.7	SSW	29	W	7	4	4	23	8.1	35
LANSING	852	[illegible]	1019.7	28	12	19.9	- 3.9	54	13	-10	25	0	31	13	75	0.45	-1.42	0.12	10	0	5.6	4	12.4	SW	49	W	7	3	6	22	7.7	45
MARQUETTE	677	[illegible]		23	9	16.0	- 2.7	45	13	- 6	23	0	31		70	0.97	-1.20	0.28	12	0	18.6	11	8.3	W*	33	NW	7	1	7	23	8.2	45
MUSKEGON	627	[illegible]	1019.[illegible]	28	16	22.0	- 2.9	42	13	- 3	25	0	31	17	79	1.36	-0.59	0.21	16	0	20.6	11	10.9	W	35*	W	7	2	5	24	8.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY [illegible]

State and Station	Elevation (ground)	Pressure: Station ⌀	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 0.1 inch or more	With thunderstorms	Snow, sleet: Total	Snow, sleet: Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days sunrise to sunset: Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths: Normal at sunset	Possible sunshine
II	Ft.	Mb	Mb	F.	F.	F	F	F		F				F	%	In	In	In			In	In	Mph		Mph							
MICHIGAN																																
SAULT STE MARIE	721	993.9	1018.1	19	2	10.7	- 3.1	40	13	-18	24	0	31	4	75	0.51	-1.65	0.12	16	0	8.3	17	8.0	E	52*	NW	17	5	4	22	7.5	[illegible]
MINNESOTA																																
DULUTH	1409	977.0	1020.8	19	- 3	7.9	- 0.4	40	10+	-28	24	0	31	- 2	84	0.14	-1.09	0.07	6	0	2.8	11	13.2	WNW	41	NW	17	1	5	16	6.1	[illegible]
INTERNATIONAL FALLS	1179	977.3	1021.8	13	-10	1.7	- 1.3	41	16	-35	24	0	31	- 7	87	0.46	-0.43	0.33	7	0	4.8	12	8.0	W	25*	NW	17	8	9	14	[illegible]	
MINNEAPOLIS	830	986.8	1022.7	23	2	12.5	- 2.6	46	16	-21	24	0	31	4	70	0.28	-0.52	0.14	4	0	4.6	[illegible]	9.3	WSW	35	NNW	23	7	12	12	5.0	[illegible]
ROCHESTER	1297	971.6	1022.0	24	7	15.1	0.8	44	12	-20	24	0	31	8	74	0.07	-0.86	0.03	4	[illegible]	1.7	[illegible]	11.4	NNW				4	13	14	6.5	
ST CLOUD	1034	982.1	1022.7	22	- 1	10.9	0.4	47	16	-24	24	0	31	3	69	0.07	-0.68	0.05	3	0	2.7	[illegible]						8	14	9	5.7	
MISSISSIPPI																																
JACKSON	305	1011.4	1023.9	51	30	40.6	- 7.7	72	18	19	29+	0	20	37	72	3.07	-2.02	0.97	9	0	T	0	5.1	NNW	36	N	19	11	4	16	6.1	[illegible]
MERIDIAN	292	1009.5	1023.8	52	29	40.4	- 7.1	73	18	13	22	0	22	30	77	2.57	-2.52	0.72	9	0	T	T	7.2	NE	26*	NW	21	9	9	13	5.9	
VICKSBURG U	234	1014.2		50	34	42.1	- 7.1	70	18	19	29	0	15			4.29	-1.15	1.47	10	1	T	T	8.0		34	NW	19	9	8	14	6.0	[illegible]
MISSOURI																																
COLUMBIA	778	992.6	1022.8	40	19	29.4	- 0.4	59	12	- 4	27	0	27	18	68	0.24	-1.56	0.10	7	0	2.7	1	10.4	NW	32	NW	20	15	5	11	4.5	[illegible]
KANSAS CITY	741	987.5	1023.9	43	21	31.7	1.7	62	31	- 5	27	0	26	15	55	0.05	-1.38	0.03	2	0	0.7	1	9.0	SW	30	NW	20	16	6	9	4.3	[illegible]
ST JOSEPH	809	987.5		40	15	27.4	0.3	59	31	- 8	27	0	31			0.09	-1.06	0.06	3	0	1.0	1	11.8	S	37*	NNW	20	17	4	10	4.[illegible]	
ST LOUIS	560	1001.7	1023.5	39	18	28.3	- 3.9	58	6	- 6	25	0	26	18	69	0.39	-1.53	0.14	6	0	5.3	4	8.6	WSW	26	NW	20+	13	5	13	5.0	60
ST LOUIS RFC	465			40	23	31.9	- 1.4	60	12+	- 1	21	0	19			0.57	-1.75	0.20	6		6.0	3										
SPRINGFIELD	1265	974.3	1023.8	44	19	31.2	- 1.5	61	31	1	28+	0	30	18	63	0.08	-2.23	0.08	2	0	0.8	1	11.9	SSE	42	NW	20	12	10	9	4.7	75
MONTANA																																
BILLINGS	3567	894.0	1021.6	42	22	32.2	9.3	61	23	2	29+	0	23	14	52	0.15	-0.38	0.08	2	0	1.7	1	13.8	WSW	33	W	6	5	10	16	6.9	71
GLASGOW	2277	944.8	1022.5	28	10	18.8	8.3	46	16+	-14	26	0	31	13	80	0.09	-0.31	0.07	4	0	1.5	[illegible]						5	11	15	7.0	
GREAT FALLS	3664	891.0	1020.9	42	24	32.8	10.1	55	16	2	30+	0	22	13	49	0.22	-0.33	0.19	4	0	2.9	2	14.5	SW	47	SW	15	5	8	18	7.4	62
HAVRE U	2488	929.6	1021.7	37	18	27.5	11.3	54	15	-13	26	0	27			0.18	-0.28	0.18	2	0	2.3	2	10.3	SWR	34	SW	5	7	9	15	6.3	53
HELENA	3893	877.4	1024.9	39	16	27.4	9.8	57	15	- 6	27	0	30	13	64	0.12	-0.39	0.08	3	0	1.8	1	6.9	W	34	S	6	8	5	18	6.9	62
KALISPELL	2965			32	16	23.9	3.6	47	16	-11	2	0	29			0.75	-0.57	0.26	7	0	5.5	7						5	7	21	6.0	
MILES CITY	2629	935.3	1023.3	34	15	24.4	8.3	56	16	- 9	27	0	30	16	72	0.08	-0.39	0.05	4	0	1.4	1	9.0	NW	32*	NW	19	4	9	18	7.1	
MISSOULA	3200	908.2	1027.8	30	13	21.6	2.2	48	16	-14	4	0	30	19	89	0.53	-0.28	0.37	6	0	7.9	10	4.2	NNW	22	NW	8	2	4	25	8.0	24
NEBRASKA																																
GRAND ISLAND	1841	954.3	1023.5	41	11	26.0	3.0	63	31	-11	24	0	31	12	62	T	-0.58	T	0	0	T	T	11.9	WSW				14	8	9	4.3	
LINCOLN U	1150			39	13	26.1	1.1	62	12	-12	27	0	31			0.24	-0.58	0.15	2	0	2.0	1	9.0	NWR	34	NE	13	15	8	8	4.3	52
NORFOLK	1544	964.8	1023.3	33	8	20.3	1.0	53	31	-16	24	0	31	11	65	0.20	-0.59	0.20	1	0	2.7	4						11	11	9	5.0	
NORTH PLATTE	2779	919.7	1023.0	43	11	26.6	2.6	63	31	- 9	27	0	31	13	61	T	-0.39	T	0	0	T	2	10.6	NNW	46	N	16	14	9	8	4.9	66
OMAHA	978	981.7	1024.0	36	13	24.6	1.6	59	12	-12	24	0	31	14	67	0.23	-0.62	0.14	3	0	4.7	3	10.5	NNW	47	N	20	10	13	8	5.0	77
OMAHA N OMAHA APT	1323	972.9		33	11	22.2	1.6	58	12	-16	27	0	30			0.19	-0.66	0.12	2	0	4.4	3						9	13	9	5.1	
SCOTTSBLUFF	3950	882.2	1023.7	42	13	27.4	3.9	59	31	- 6	27	0	31	15	63	T	-0.33	T	0	0	0.1	1	11.7	NW	39*	NNW	20	11	6	14	5.5	
VALENTINE	2587	927.9		37	11	24.1	4.1	60	31	-14	24	0	31		73	T	-0.56	T	0	0	0.3	1	9.4	WR	35	SW	8	10	9	12	5.5	65
NEVADA																																
ELKO	5075	850.3	1027.0	44	10	27.2	5.3	54	30	- 3	28	0	31	14	61	0.04	-1.03	0.02	2	0	0.3	T	4.0	ENE	17*	NNW	9	12	9	10	5.0	
ELY	6257	813.1	1025.8	46	8	27.0	4.0	60	17+	- 8	28	0	31	7	46	0.15	-0.79	0.15	1	0	0.5	T	9.4	S	32	N	20	13	9	9	4.8	69
LAS VEGAS	2162	955.6	1022.6	58	32	45.1	0.9	66	18+	24	2	0	17	18	39	0.22	-0.22	0.22	1	0	0.0	0	6.6	WSW	23*	SSW	27+	16	8	7	4.1	84
RENO	4404	866.6	1024.4	52	15	33.4	2.2	61	7	3	5	0	30	18	59	0.80	-0.24	0.51	4	0	2.6	1	3.0	SW	30	S	31	11	8	12	5.4	76
WINNEMUCCA	4299	873.7	1026.1	51	11	31.0	3.2	60	17	- 4	28	0	31	16	55	0.04	-0.92	0.02	3	0	T	0	5.4	NE	31	W	31	11	3	17	5.5	66
NEW HAMPSHIRE																																
CONCORD	339	1005.2	1015.5	28	1	14.5	- 5.6	50	14	-27	24	0	31	13	60	1.07	-1.84	0.49	5	0	11.4	14	6.1	NW	30	NW	2	13	7	11	5.3	69
MT WASHINGTON OBS	6262	791.1		5	-10	- 2.3	- 7.7	26	17	-34	25	0	31		75	3.00	-2.10	0.90	14	0	23.9	4	43.1	NW	131Y	NW	25	5	7	19	7.4	66
NEW JERSEY																																
ATLANTIC CITY	30	1016.0	1018.7	36	18	26.9	- 7.7	58	7	- 8	22+	0	27	24	68	4.06	0.58	1.89	9	0	15.9	10	12.9	W	36	ENE	19	8	14	9	5.4	62
ATLANTIC CITY U	8			36	22	28.8	- 7.0	52	7	8	28+	0	27			3.04	-0.74	1.35	9				14.0		44	NW	20					
NEWARK	58	1016.5	1017.9	34	19	26.6	- 4.9	56	7	4	25+	0	28	24	59	3.34	-0.26	1.46	8	0	22.2	15	10.0	WSW	37*	NNE	20	13	7	11	5.2	
TRENTON U	56	1010.4		33	20	26.4	- 6.2	55	7	5	25	0	28			2.80	-0.36	1.17	9	0	16.1	10	9.6	W	36	N	20	13	9	9	4.9	66

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 01 inch or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	Ft.	Mb.	Mb.	F.	F.	F.	F.	F		F.				F.	%	In.	In.	In			In	In.	M p h		M.p.h.							%
NEW MEXICO																																
ALBUQUERQUE	5310	852.7	1023.6	46	21	33.9	0.2	54	18	15	4	0	31	16	52	0.23	-0.05	0.22	2	[illegible]	[illegible].6	T	5.8	N	37	SE	24	17	4	10	4.1	62
CLAYTON	4969	848.0	1021.0	50	19	34.5	1.6	65	30+	5	28	0	31			.04	-0.23	0.04	1	[illegible]	[illegible].7	1						17	4	10	4.3	
RATON	6379	807.3	1023.4	43	10	26.7	0.5	56	9	0	3	0	31			0.18	-0.24	0.15	3	0	2.5	2						16	0	9	4.1	
ROSWELL	3612	897.4	1022.4	52	17	34.3	- 5.3	69	22	4	29	0	31	20	63	0.68	0.26	0.46	2	0	5.4	3	6.1		28	N	24	12	8	11	5.0	
SILVER CITY	5453	836.8	1020.0	53	46	39.9		61	16	21	8+	0	28			0.75		0.40	6	[illegible]	1.3	1						14	0	11	4.0	
NEW YORK																																
ALBANY	277	1013.5	1017.2	26	5	15.3	- 7.2	45	14+	-17	22	0	31	15	72	1.47	-0.80	0.85	7	1	17.2	15	8.8	WNW	39	NW	25	9	8	14	6.1	67
BINGHAMTON	1590	954.8	1016.5	23	10	16.8	- 4.9	44	7	- 5	25+	0	31	14	66	1.40	-0.98	0.88	15	[illegible]	21.1	15	10.3	SSW	28	NW	9+	2	14	15	7.4	54
BUFFALO	693	988.9		24	13	18.5	- 7.0	44	13	- 6	25	0	31			1.41	-1.37	0.31	15	0	23.5	14	10.7		36	SW	7	0	11	20	8.2	49
NEW YORK	19	1015.7	1017.6	34	22	27.9	- 5.1	56	7	0	25	0	27	25	61	3.20	0.01	1.17	8		15.5	13	15.5	WNW	47	[illegible]	20+	10	11	10	5.0	
NEW YORK J	132			34	22	27.7	- 5.0	55	7	5	25	0	27			1.88	-1.69	0.78	[illegible]	[illegible]	10.7	13	10.5	NW	33	NE	19	14	6	9	4.9	64
ROCHESTER	543	998.4	1018.6	27	12	19.4	- 5.3	50	7	- 5	25	0	31	19	78	1.10	-1.26	0.36	15	0	23.6	9	13.7	WSW	50	W	17	3	9	19	7.2	59
SCHENECTADY	217			26	6	16.2	- 5.3	44	14	-15	22	0	31			1.00	-1.42	0.68	6		13.5	15						18	9	4	5.7	
SYRACUSE	424	994.8	1018.1	26	11	18.8	- 6.7	46	7	- 4	24	0	30	18	70	2.30	-0.49	1.16	12	[illegible]	37.3	22	10.9	WSW	34	W	6	2	12	17	7.4	42
NORTH CAROLINA																																
ASHEVILLE U	2203	938.6		44	23	33.5	- 5.9	63	12	3	22	0	26			1.45	-1.53	1.17	6		0.8	T	9.2		35	NW	20	15	6	10	4.7	0[illegible]
CAPE HATTERAS F	7	1018.4	1019.2	51	34	42.1	- 5.9	67	1	23	31+	0	14	39	71	3.93	-0.17	1.94	5	[illegible]	T	T	12.7	WSW	42	NNE	24	11	10	10	5.2	[illegible]
CHARLOTTE	725	991.1	1020.3	49	27	38.2	- 4.1	65	24	8	22	0	25	32	60	2.21	-1.47	1.40	5	0	1.2	1	6.7	SW	26	SW	23+	15	8	10	4.0	[illegible]
GREENSBORO	891	986.5	1020.7	46	23	34.7	- 4.3	60	7	8	22	0	28	30	64	2.35	-1.02	1.12	6	[illegible]	0.7	1	8.1	SW	27	NW	19	15	8	8	4.2	7[illegible]
RALEIGH	433	1005.8	1020.2	48	25	36.5	- 4.9	61	12	7	22	0	26	32	60	2.88	-0.46	1.54	7	[illegible]	2.[illegible]	1	7.9	SSW	29*	NNW	24+	17	5	9	4.2	75
WILMINGTON	30	1017.0	1020.0	53	31	41.9	- 5.9	67	1	18	22	0	17	38	70	2.12	-1.00	1.15	4		T	T	8.9	NW	35	SW	1	12	10	9	4.5	[illegible]
WINSTON SALEM	967	983.5	1020.1	46	26	35.8	- 3.5	62	7	8	22	0	26	30	52	2.23	-1.46	[illegible]	6		[illegible].8	1	9.5	NW	40*	NW	20	15	7	9	4.2	
NORTH DAKOTA																																
ELIMARCK	1660	958.3	1023.2	29	5	18.4	9.2	54	16	-24	24	0	31	7	64	0.35	-0.31	[illegible].3	3	[illegible]	0.6	2	10.2	WNW	40	NW	6	1	14	16	7.4	64
DEVILS LAKE	1471	965.5		17	- 3	7.1	2.3	42	16	-33	24	0	31		79	0.35	- [illegible].5	0.21	6	[illegible]	6.0	12	7.8	NW	24	N	23	5	10	16	6.0	67
FARGO	[illegible]	987.1	1023.9	17	4	6.8	- 0.3	39	16+	-27	24	0	31	0	73	0.39	-0.51	0.27	[illegible]	[illegible]	1.8	5	13.1	[illegible]	57	SE	23	2	13	14	6.0	50
GRAND FORKS	1877	951.2	1022.4	28	11	19.2	9.2	48	16	-18	24	0	30	11	71	0.09	-0.40	0.05	5	[illegible]	0.4	2	6.3	NW	21	NW	6	6	7	18	6.3	00
OHIO																																
AKRON	1211	980.5	1020.4	29	14	21.5	- 5.9	48	13	-10	25	0	29	20	70	0.71	-2.03	0.22	12	[illegible]	17.3	8	11.0	SW				4	12	15	7.2	
CINCINNATI [illegible]	761			30	21	25.1	- 5.0	52	13	- 3	25	0	27			1.80	-1.64	1.22	5	[illegible]	7.0	0	0.0		23	NW	24					57
CINCINNATI	868	988.4	1021.8	35	[illegible]	27.8	- 4.0	[illegible]	13	- 3	28+	0	20	25	71	1.87	-1.53	1.31	10	[illegible]	0.4	0	7.5	W	23*	WNW	24	8	8	15	6.2	
CLEVELAND	787	991.2	1019.9	28	15	21.0	- 6.4	50	13	- 7	25	0	29	20	72	0.36	-2.02	0.10	1[illegible]		0.[illegible]	2	12.2	SW	52	SW	7	3	10	18	7.1	4[illegible]
COLUMBUS	815	989.[illegible]	1021.5	31	15	23.5	- 6.1	51	14+	-13	25	0	28	22	71	.65	-2.24	0.18			7.6	0	7.7	[illegible]	32	NW	24	8	8	15	6.2	5[illegible]
COLUMBUS U	724			32	17	24.5	- 6.5	51	13	- 8	25	0	27			0.95	-1.86	0.28	1		1.3	0										
DAYTON	1[illegible]	983.4	1021.5	31	16	23.5	- 6.1	52	13	- 8	25	0	28	22	74	1.13	-1.83	0.45	1[illegible]		4.3	4	10.7	[illegible]	34	NW	24	7	12	14	6.2	5[illegible]
MANSFIELD	1240			28	14	21.0		49	13	-10	25	0	31			0.65		0.16	11		7.9	4						7	8	16	7.0	
SANDUSKY	[illegible]	990.6		30	17	23.3	- 5.8	54	13	- 7	25	0	29			0.19	-2.10	0.11	5		4.3	3	9.8		35	SW	17	10	5	16	6.6	2[illegible]
TOLEDO	676	994.1	1020.7	30	14	22.4	- 4.[illegible]	53	13	-11	25	0	30	20	70	0.27	-1.98	0.06	11		5.4	1	10.2	SW	26	NW	24+	3	12	16	7.3	00
YOUNGSTOWN	1178	975.1	1019.7	28	15	21.5	- 6.2	50	13	-10	25	0	29	19	71	0.82	-2.50	0.35	1[illegible]		14.3	7	11.0	NW	27*	NW	24	5	6	20	7.0	
OKLAHOMA																																
OKLAHOMA CITY	1285	979.0	1022.6	48	24	36.3	- 0.8	67	17	8	21	0	27	23	63	0.15	-1.35	0.1[illegible]	[illegible]		1.4	2	11.0	SSW	47	N	18	16	0	9	4.4	7[illegible]
TULSA	1672	988.6	1024.3	47	21	34.3	- 3.1	61	13+	5	21	0	29	23	69	0.66	-1.32	0.60	3	[illegible]	T	T	1[illegible]	[illegible]	38	NW	19	15	7	9	4.5	00
OREGON																																
ASTORIA	[illegible]	1017.3	1017.9	54	41	47.3	7.2	62	20	27	3	0	3	41	79	4.13	-1.63	1.73	2[illegible]	[illegible]	[illegible]	[illegible]	11.5	ESE	37*	SSW	30	7	5	19	7.5	
BURNS	4142	875.1	1020.5	41	[illegible]	1[illegible].4	6.4	[illegible]	[illegible]	5	4	0	31	23	77	0.69	-0.78	0.57	[illegible]		1.5	[illegible]						7	7	17	6.4	
EUGENE	441	1000.4	1020.4	51	34	43.2	5.4	62	31+	24	22	0	14			5.25	-0.16	1.64	16		5.0	[illegible]	7.5		38*	SSW	7	3	8	20	7.4	
MEDFORD	4[illegible]			38	27	32.[illegible]	[illegible]	47	24	15	2	0	20			1.91	-2.33	0.45	[illegible]		5.3	[illegible]						6	4	21	7.4	
[illegible]	1312	978.2	1021.1	36	20	46.3	3.1	71	2[illegible]	15	3	0	20	34	82	1.12	-1.39	0.7[illegible]	[illegible]		[illegible]	T	7.4	SE	35*	SE	7	3	8	20	7.7	
[illegible]	1442	968.[illegible]	1021.4	43	21	32.[illegible]	6.2	[illegible]	14	21	4+	0	18	31	79	0.47	-1.01	0.21	7		7	T	7.5	[illegible]	35*	SW	7	2	2	27	7.[illegible]	
[illegible]	21	1014.[illegible]	1021.[illegible]	[illegible]	[illegible]	4[illegible].2	[illegible]	[illegible]	30	3	3	0	3	30	75	4.5[illegible]	-0.[illegible]	1.0[illegible]	[illegible]		[illegible]	[illegible]	[illegible].7	[illegible]	5[illegible]	SW	7	8	[illegible]	20	1.0	[illegible]
[illegible]	[illegible]	1011.4	1020.3	32	[illegible]	43.5	[illegible]	63	31	23	4	0	10			2.22	-2.38	1.18	[illegible]		[illegible]	0	7.4	NE*	28	SW	7	1	0	2[illegible]	[illegible]	[illegible]
SALEM	1[illegible]	1012.[illegible]	1020.[illegible]	51	[illegible]	43.[illegible]	4.[illegible]	[illegible]	[illegible]	[illegible]	7	0	15	37	81	4.79	-0.93	1.14	[illegible]		[illegible]	0	[illegible]	[illegible]	38*	SSW	7	7	5	19	7.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	Ft.	Mb	Mb	F	F	F	F	F		F.				F.	%	In.	In.	In			In	In	M.p.h		M.p.h							%
OREGON																																
SEXTON SUMMIT R	3836	885.5	1019.6	49	37	43.0	7.2	62	20	27	1	0	4			4.84	0.82	2.86	15	0	1.0	1	10.6	S				9	0	10	0.2	
PACIFIC AREA																																
CANTON ISLAND	8	1007.5	1007.9	89	79	84.1	1.1	91	15+	75	16	14	0	73	73	1.34	0.26	0.34	8	0	0.0	0	15.8	ENE	30*	E	9	0	0	31	9.9	
ENIWETOK	13	1009.5	1010.2	86	78	81.7		88	3	75	9+	0	0	73	74	1.19		0.39	11	0	0.0	0	17.8									
JOHNSTON	7	1012.2	1012.8	82	73	77.2		83	29+	68	14	0	0	67	72	0.64		0.49	9	0	0.0	0	12.0		31	NE	1	16	13	2	5.8	04
KWAJALEIN	8	1008.1	1009.0	86	77	81.5		88	7+	72	2	0	0	74	77	3.29		1.30	17	0	0.0	0	18.6	ENE	32*	ENE	9	2	4	25	8.4	
KOROR R	94	1009.1	1008.9	85	75	80.4	0.2	89	31+	71	21	0	0	76	89	15.79	3.76	4.06	26	2	0.0	0	7.8	NE	29	NW	19	0	0	31	9.9	44
MAJURO	10	1008.5	1008.8	85	77	81.3		88	11	72	28	0	0	75	80	21.97		9.57	22	0	0.0	0	13.2	E	30	E	8	0	5	26	9.0	
TAGUAC GUAM R	361			83	74	78.5	0.8	85	31+	69	22	0	0			7.66	4.47	1.23	27	0	0.0	0	8.8	NE#	26	NE	8					34
PONAPE R	123	1003.1	1008.4	86	75	80.5	- 0.7	88	23+	70	30	0	0	75	85	16.60	4.86	4.00	25	1	0.0	0	5.8	NE	23	E	10	0	1	30	9.7	30
TRUK MOEN ISLAND	8	1008.1	1008.4	86	78	81.7	0.8	87	23+	73	19	0	0	75	81	9.12	1.53	3.01	18	1	0.0	0	6.7	NE	27	SE	30	0	3	28	9.4	04
WAKE ISLAND	11	1013.5	1013.9	84	74	78.7	1.2	85	23+	71	1	0	0	69	72	0.83	-0.43	0.38	9	0	0.0	0	14.2	ENE	31*	ENE	10+	11	12	8	5.1	
YAP R	55	1006.4	1008.4	85	76	80.6	- 0.2	87	31+	74	10	0	0	76	85	11.65	4.82	2.56	27	0	0.0	0	9.8	NE	32	SW	18	0	2	29	9.0	0
PENNSYLVANIA																																
ALLENTOWN	376	1003.7	1018.7	30	12	21.1	- 7.4	50	7	-12	22	0	31	20	71	3.32	0.11	1.50	8	0	22.1	15	10.9	WSW	46*	NW	1	10	12	9	5.5	
ERIE	732	991.6	1019.0	28	17	22.8	- 4.4	49	13	0	28	0	27	21	74	1.13	-1.21	0.35	15	0	23.7	8	13.2	SW	32*	SW	7	2	7	22	8.5	
HARRISBURG	335	1004.6	1019.2	33	17	25.1	- 0.0	54	7	- 3	22	0	31	22	63	3.46	0.84	1.46	9	0	34.0	20	7.5	W	33	NW	24	9	10	12	6.0	01
PHILADELPHIA	7	1013.5	1018.3	33	17	25.0	- 0.2	53	7	- 4	21	0	29	23	68	3.16	-0.21	1.10	7	0	19.7	12	10.0	WNW	35	N	20	8	12	11	5.9	00
PHILADELPHIA U	35			36	24	29.8	- 5.1	57	7	7	25	0	20																			
PITTSBURGH	1151	988.8	1020.4	29	15	22.2	- 6.8	51	13	-10	25	0	29	20	72	1.95	-0.82	0.59	17	0	22.7	10	10.8	WSW	38*	NNW	24	3	10	18	7.5	54
PITTSBURGH U	749			33	21	26.9	- 6.1	54	13	0	25	0	25			2.04	-0.79	0.69	17		16.8											
READING U	266	1000.0		34	19	26.5	- 5.7	55	7	0	22	0	29			2.82	-0.33	1.03	7	0	24.3	13	10.3		49	E	1	7	12	12	6.0	02
SCRANTON	940	982.4	1018.5	26	11	18.9	- 8.0	48	7	-10	22	0	31	17	65	1.82	-0.44	0.93	8	0	19.0	13	9.2	SW	26	NW	8	8	11	12	6.2	04
WILLIAMSPORT	527	999.3		30	11	20.6	- 7.9	50	7	-13	22	0	31			2.35	-0.24	1.12	8		20.5	11						8	10	13	6.4	
RHODE ISLAND																																
BLOCK ISLAND	110	1010.5		32	21	26.6	- 5.3	50	1	7	22	0	29			2.35	-1.32	1.05	9	0	9.0	5						13	8	10	5.1	
PROVIDENCE	55	1009.3	1015.8	32	15	23.7	- 5.0	56	14	- 6	22	0	29	21	60	3.52	-0.23	1.89	8	0	17.4	14	12.1	NNW	38*	N	20	14	9	8	4.7	70
SOUTH CAROLINA																																
CHARLESTON	41	1018.7	1020.6	57	32	44.3	- 0.0	70	12	18	22	0	20	39	68	1.77	-0.71	0.68	7	1	T	T	9.8	WSW	46	W	19	11	7	13	5.5	75
CHARLESTON U	9			55	38	46.5	- 4.9	67	7	22	22	0	8			1.96	-0.52	0.83	9		T	T	9.9		42	SW	19					
COLUMBIA	217	1007.6	1021.0	54	29	41.3	- 5.7	68	12	14	22	0	23	36	65	2.93	-0.21	1.44	5	0	1.4	1	6.5	SW	27	W	21+	12	8	11	4.9	00
FLORENCE	146	1013.9	1020.0	53	30	41.7	- 4.6	69	24	14	22	0	22	36	60	1.24	-1.61	0.75	6	0	0.8	1	8.2	SW	23*	SW	24+	12	9	10	4.8	
GREENVILLE	1018	981.8	1020.4	51	28	39.6	- 3.7	64	24	8	22	0	22	33	55	2.39	-2.07	1.50	7	0	1.1	1	8.3	WSW	30	W	23	16	5	10	4.3	75
SPARTANBURG	801	989.3	1020.1	50	28	38.9	- 4.5	63	12	10	22	0	24	33	58	2.44	-2.07	1.61	6	0	1.1	1	6.5	SW	25*	NW	19	17	5	9	4.2	
SOUTH DAKOTA																																
HURON	1282	973.6	1024.4	21	- 2	9.3	- 4.2	40	6	-27	24	0	31	6	83	0.19	-0.38	0.16	4	0	3.1	7	11.0	SSE	35	SE	8	5	11	15	6.8	76
RAPID CITY	3165	904.2	1022.6	39	16	27.3	6.2	60	31+	- 8	27+	0	31	15	63	0.10	-0.38	0.18	1	0	1.0	2	10.8	NNW	47	N	25	6	8	17	0.7	09
SIOUX FALLS	1420	968.8	1023.5	26	3	14.2	0.0	45	12	-23	24	0	31	4	65	0.25	-0.47	0.25	1	0	3.4	6	8.0	NW	32*	NNW	20+	8	9	14	6.3	
TENNESSEE																																
BRISTOL	1519	964.8	1021.2	42	22	31.6	- 7.0	61	13	- 2	22	0	26	28	70	2.27	-1.23	0.74	9	0	4.3	2	7.5	SW	23*	W	24+	11	5	15	5.6	
CHATTANOOGA	670	994.0	1022.7	46	24	34.6	- 6.8	60	12	7	22	0	26	31	70	1.13	-4.10	0.47	5	0	0.2	T	7.1	NNE	33	NW	19	10	7	14	5.9	55
KNOXVILLE	950	1019.5	1022.4	44	24	34.2	- 6.3	61	12	5	22	0	24	30	66	2.55	-1.99	0.91	10	1	5.4	2	8.4	WSW	31	NW	19	11	5	15	5.7	50
MEMPHIS	263	1008.6	1023.9	47	25	36.1	- 5.5	66	18+	11	28	0	26	32	67	0.84	-4.71	0.48	6	1	T	T	9.3	SSW	32	NW	20+	8	8	15	6.0	59
MEMPHIS U	271			46	30	38.0	- 3.9	66	18	11	21	0	18			0.71	-4.67	0.47	5		T	1										
NASHVILLE	577	1002.2	1022.8	44	23	33.2	- 6.7	61	12	- 1	28	0	25	30	69	1.44	-3.49	0.46	9	1	3.0	2	7.4	NNW	33	NW	19	10	9	12	5.5	55
OAK RIDGE	905	987.8		43	23	33.3	- 5.7	55	13+	3	22	0	25			1.86	-4.20	0.61	7	1	3.5	1	3.5		29*		19	13	5	13	5.1	
TEXAS																																
ABILENE	1759	960.4	1023.4	52	29	40.6	- 2.7	73	18	11	29	0	20	29	68	3.99	3.11	2.18	8	0	3.9	3	8.6	S	36	N	19	9	7	15	5.9	63
AMARILLO	3590	892.7	1022.3	50	20	34.6	- 0.7	67	16	6	28	0	31	16	50	0.12	-0.52	0.12	1	0	10.8	2	12.3	SW	38	N	18	16	6	9	4.2	85
AUSTIN	615	1001.0	1023.7	56	36	46.0	- 3.9	74	17	25	28	0	9	37	75	1.27	-1.36	0.93	8	0	T	T	9.2	N	35	N	24	7	7	17	6.7	51
BROWNSVILLE	16	1020.0	1022.7	64	47	55.5	- 5.0	78	24	34	28	0	0	49	82	1.95	0.52	0.93	12	1	0.0	0	10.0	NNW	37	NW	19	6	4	21	7.6	33

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Q	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 01 inch or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
II	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In	In.	M.p.h		M p h							%
TEXAS																																
CORPUS CHRISTI	43	1022.4	1023.4	60	43	51.6	- 5.3	77	24	29	28	0	4	44	77	2.38	[illegible]	[illegible]	[illegible]	[illegible]	T	T	10.4	[illegible]	34	[illegible]	13	6	5	22	[illegible]	40
DALLAS	481	1005.1	1024.6	52	32	42.0	- 3.7	74	18	16	29	0	16	31	69	3.39	[illegible]	2.03	[illegible]	[illegible]	3.2	3	9.4	[illegible]	30	[illegible]	13	12	5	14	[illegible]	58
DEL RIO U	957			57	38	47.6	- 4.3	77	24	30	25	0	2			1.56	[illegible]	[illegible]	7	1	T	T										
EL PASO	3920	890.6	1022.1	54	28	41.0	- 2.4	63	31	21	13	0	26	25	57	[illegible]	-0.61	[illegible]	[illegible]		T	T	8.3	[illegible]	[illegible]	[illegible]	27	13	[illegible]	16	[illegible]	[illegible]
FORT WORTH	544	1003.1	1024.6	52	30	40.9	- 4.4	74	17	11	29	0	20	32	74	3.29	[illegible]	2.36	11	[illegible]	3.0	4	11.3	3	[illegible]	[illegible]	18	11	6	14	[illegible]	[illegible]
GALVESTON U	7			55	44	49.2	- 5.3	66	7	31	29+	0	5			4.02	-0.[illegible]7	2.38	1[illegible]		T	0	12.0		36	[illegible]	25					50
GALVESTON	5	1021.3	1023.6	55	43	49.0	- 5.3	66	18+	30	29	0	5	40	74	3.34	1.00	2.77	11	1	T	T	10.3	[illegible]				7	7	17	[illegible]	
HOUSTON U	41	1018.0		58	42	49.6	- 4.2	73	17	28	29	0	5			3.50	-0.48	1.71	1[illegible]	1	T	0	8.8	[illegible]	45	[illegible]	19	9	4	18	[illegible]	[illegible]
HOUSTON	50	1021.0	1024.1	59	40	49.5	- 3.8	76	18	28	29	0	7	41	76	4.44	0.28	2.56	11	1	0.0	0	8.4	[illegible]				8	5	18	[illegible]	
LAREDO	500	1007.8	1023.5	62	43	52.1	- 5.5	80	24	31	28	0	1	40	69	2.04	1.[illegible]	1.44	1	1	0.0	0	7.1	[illegible]	30	[illegible]	24	8	4	19	[illegible]	
LUBBOCK	3243	908.2	1023.6	51	20	35.6	- 3.2	68	18+	7	29	0	31	21	61	1.56	-0.11	1.59	4	0	3.9	3	12.4	1	47*	[illegible]	1[illegible]	13	9	9	[illegible]	
MIDLAND	2854	920.8	1022.1	53	27	40.2	- 4.0	68	17	15	29	0	25	27	60	1.33	.71	0.[illegible]	[illegible]	0	2.0	2	9.0	[illegible]	35	[illegible]	18	10	4	[illegible]	[illegible]	
PORT ARTHUR	16	1021.7	1023.0	57	38	47.3	- 3.6	74	17	25	30+	0	12	39	78	4.57	0.43	4.21	11	1	2.0	0	9.7	[illegible]	35	[illegible]	19	6	5	18	[illegible]	[illegible]
SAN ANGELO	1903	954.3	1023.5	55	30	42.2	- 5.1	72	23+	18	25	0	19	32	70	3.65	2.60	2.44	7	1	1.2	1	12.4	30	43	[illegible]	24	11	7	[illegible]	[illegible]	
SAN ANTONIO	792	997.6	1023.5	59	37	47.9	- 2.7	77	24	28	30+	0	10	37	71	3.68	-1.15	0.[illegible]			T	T	2.3	[illegible]	35	[illegible]	[illegible]	8	6	[illegible]	[illegible]	
VICTORIA	110	1018.3	1023.4	59	41	49.7	- 5.5	76	17	29	30+	0	6	41	73	1.83	-1.73	0.72			T	0	11.0	[illegible]	45*	[illegible]	19	6	4	[illegible]	[illegible]	
WACO	500	1002.7	1024.4	53	33	43.3	- 4.0	75	17	17	29	0	15	35	70	3.43	3.49	2.[illegible]	[illegible]	1	2.0	2	12.[illegible]	[illegible]	40*	[illegible]	19	9	[illegible]	14	[illegible]	
WICHITA FALLS	994	985.8	1024.0	51	27	39.3	- 1.3	70	17	11	29	0	23	28	70	1.34	-0.47	0.15	[illegible]	0	1.1	1	[illegible]	[illegible]	[illegible]	[illegible]	18	[illegible]	[illegible]	16	[illegible]	
UTAH																																
MILFORD	5028	849.3	1027.4	45	8	26.6	2.8	61	17	-14	28	0	31			[illegible]	- .15	0.42	[illegible]		3.2	3						17	7	7	[illegible]	
SALT LAKE CITY	4220	874.0	1027.4	42	16	28.7	2.2	56	31	6	28	0	31	18	68	[illegible]	-1.11	0.04	1	[illegible]	0.1	T	0.0	[illegible]	[illegible]	[illegible]	31	13	[illegible]	16	[illegible]	
WENDOVER	4237	878.1	1028.1	36	13	24.4		44	31+	3	28	0	31			T		T	[illegible]	0	0.0	0						16	7	8	[illegible]	
VERMONT																																
BURLINGTON	331	1001.2	1016.9	19	-10	9.2	- 8.7	43	7	-15	22	0	31	8	64	[illegible]	- .96	.81	6	[illegible]	12.[illegible]	17	7.[illegible]	[illegible]	31	[illegible]	10	8	[illegible]	13	[illegible]	
VIRGINIA																																
LYNCHBURG	947	984.5		42	23	32.4	- 5.3	58	11+	7	22	0	25			1.30	-2.37	0.[illegible]	7	[illegible]	7.8	4	8.4		34	W	24	10	6	[illegible]	[illegible]	[illegible]
NORFOLK	26	1018.6	1019.9	44	27	35.0	- 6.5	61	7+	12	27	0	23	31	71	3.52	0.35	2.08	[illegible]	1	3.1	[illegible]	1[illegible].7	[illegible]	40	[illegible]	20	14	[illegible]	[illegible]	[illegible]	[illegible]
RICHMOND	162	1013.7	1020.3	45	22	33.5	- 4.8	61	14	- 1	28	0	26	28	60	2.57	-1.[illegible]7	0.84	[illegible]	[illegible]	7.2	3	[illegible]	[illegible]	[illegible]	[illegible]	20	15	[illegible]	[illegible]	[illegible]	[illegible]
ROANOKE	1174	976.0	1020.0	42	24	33.2	- 4.7	60	11	4	22	0	22	28	55	1.61	-1.78	0.[illegible]4	[illegible]	0	1[illegible].0	4	12.[illegible]	[illegible]				15	7	[illegible]	[illegible]	
WASHINGTON U	72			39	24	31.5	- 5.0	54	6	9	25	0	25			2.73	-0.68	0.85	6													
WASH NATL AP	14	1015.0	1019.6	37	23	29.8	- 6.4	53	6	5	29	0	27	20	63	3.12	-0.12	1.14	[illegible]	[illegible]	12.6	[illegible]	[illegible]	[illegible]	32	[illegible]	24	10	11	10	[illegible]	[illegible]
WASHINGTON																																
OLYMPIA	190	1011.5	1018.8	44	35	41.6	4.8	58	19	18	27	0	14	38	87	8.69	2.[illegible]	1.73	[illegible]	[illegible]	[illegible]	0	[illegible]	[illegible]	3[illegible]	[illegible]	7	4	4	[illegible]	[illegible]	
SEATTLE TACOMA	386	1004.7	1019.1	5[illegible]	32	43.6	6.4	[illegible]	19	25	3+	0	7	37	78	7.71	2.[illegible]	1.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7	6	4	[illegible]	[illegible]	
SEATTLE	14	1019.7	1018.6											38	80								7.[illegible]	[illegible]								
SEATTLE U	14			51	42	46.5	5.8	61	19	29	3	0	3			5.76	2.27	1.[illegible]	[illegible]		[illegible]	[illegible]			3[illegible]	[illegible]	7					37
SPOKANE	2357	953.3	1024.0	40	[illegible]	30.3	5.4	49	14	6	3	0	23	20	83	1.61	-0.11	[illegible]	[illegible]	1	7.[illegible]	3	[illegible]	[illegible]	[illegible]	[illegible]	10	5	5	[illegible]	[illegible]	34
STAMPEDE PASS	3[illegible]	885.0	1024.5	32	23	27.8	4.1	41	15+	9	3	0	30			1.[illegible]3	-2.1[illegible]	[illegible]	[illegible]		[illegible]	[illegible]						5	3	[illegible]	[illegible]	
TATOOSH ISLAND	1[illegible]	1012.9	1015.9	5[illegible]	43	46.5	4.5	57	19	38	3+	0	0	40	78	14.39	[illegible]	3.1[illegible]	1[illegible]	[illegible]	7	0	[illegible]	[illegible]	7[illegible]	[illegible]	10	8	1	[illegible]	[illegible]	50
WALLA WALLA	944	980.8	1023.7	4[illegible]	33	38.7	6.7	65	11	19	4	0	18			[illegible].88	-0.7[illegible]	0.30	[illegible]	[illegible]	[illegible]	T	[illegible]	[illegible]	34	[illegible]	[illegible]	0	5	[illegible]	[illegible]	[illegible]
YAKIMA	1061	984.1	1024.5	40	21	32.7	5.8	58	31+	15	27+	0	28	28	65	[illegible].55	- .41	0.1[illegible]	[illegible]	[illegible]	[illegible]	1	[illegible]	[illegible]	3[illegible]	[illegible]	[illegible]	4	5	[illegible]	[illegible]	
WEST INDIES																																
SAN JUAN P.R.	47			81	72	76.4	1.5	84	21	69	31+	0	0			3.37	-1.3[illegible]	[illegible]			[illegible]	[illegible]										
SAN JUAN P.R.	[illegible]	1014.3	1017.4	83	6[illegible]	76.0	1.8	86	30	64	20	0	0	71	80	3.51	-[illegible]	[illegible]			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7	[illegible]	[illegible]	[illegible]
SWAN ISLAND	34	1[illegible]		83	75	79.1	1.2	85	30+	71	30+	0	0			1.41	-[illegible]	[illegible]	[illegible]		[illegible]	[illegible]						[illegible]	[illegible]	[illegible]	[illegible]	
WEST VIRGINIA																																
CHARLESTON	[illegible]	954.4	1021.7	3[illegible]	[illegible]	27.5	- 8.9	[illegible]	13	- 5	25	0	25	25	70	3.79	- [illegible]	1.[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	27	[illegible]	24	4	10	17	[illegible]	
HUNTINGTON	587			38	22	29.8	- 8.2	60	13	1	28+	0	25			3.52	-[illegible]	1.[illegible]			7.7	4										
PARKERSBURG	615			36	[illegible]	28.2	- 8.2	59	13	- 1	25	0	24			1.45	-1.22	0.7+	[illegible]		[illegible]	0	[illegible]		22	[illegible]	8	8	7	16	[illegible]	[illegible]
WISCONSIN																																
GREEN BAY	5[illegible]	[illegible]	1020.5	24	[illegible]	15.8	- 0.3	[illegible]	13	-13	25+	0	31	9	73	.31	-[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7	8	7	16	[illegible]	[illegible]

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JANUARY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max. 90 F. or above	No of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	Ft.	Mb.	Mb.	F.	F.	F.	F.	F		F				F.	%	In	In.	In.			In.	In.	M.p.h.		M.p.h.							°.
WISCONSIN																																
LA CROSSE	652	995.9	1022.4	25	8	16.4	0.7	46	13	-13	24	0	31	8	70	0.27	-0.95	0.11	7	0	5.1	2	9.4	S	28*	N	20+	9	7	15	6.4	
MADISON	857	983.7	1021.2	27	7	16.9	- 2.2	53	13	-12	25	0	31	8	67	0.19	-1.12	0.09	7	0	2.1	1	9.4	NW	27	NW	7	8	7	16	6.7	76
MILWAUKEE	672	994.9	1021.4	28	11	19.4	- 2.5	55	13	- 8	25+	0	31	11	69	0.31	-1.27	0.10	8	0	3.9	1	11.7	WSW	34	NW	7	7	10	14	6.1	66
WYOMING																																
CASPER	5319	839.5	1022.6	39	19	28.7	6.4	53	31	- 5	27	0	29	12	54	0.04	-0.65	0.04	1	0	1.6	1	16.9	SW	37*	SW	29	8	8	15	6.1	
CHEYENNE	6131	812.7	1022.4	41	17	29.0	3.5	57	31+	-20	27	0	30	5	41	0.06	-0.50	0.06	2	0	1.2	1	16.6	WNW	51	NW	14	15	8	8	4.4	76
LANDER	5563	838.1	1025.8	34	10	22.1	5.3	49	30	-13	27	0	31	9	59	0.13	-0.37	0.08	2	0	2.5	4	4.2	SE#	17	W	30	12	8	11	5.4	85
SHERIDAN	3942	887.6	1023.6	39	15	27.0	6.9	54	30	- 7	27	0	31	17	69	0.12	-0.63	0.11	2	0	2.8	4	6.5	S	37	NW	19	9	7	15	6.4	71

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

A Maximum hourly average.

\+ And also on an earlier date or dates.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

B Number of days maximum 70°F. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

V Sun below horizon January 1 to January 24 inclusive.

X Sun below horizon January 1 to January 16 inclusive.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm	M.p.s.		M.p.s							%
ALABAMA																																
BIRMINGHAM	186	997.1	1023.4	10.0	- 2.2	3.9	-3.4	18.9	18	-10.6	22	0	22	1.7	73	38	- 89	17	7	0	T	T	3.4	NNW	14.8	NW	19	10	5	16	6.3	50
HUNTSVILLE	184	999.2	1023.3	8.3	- 3.3	2.4		17.2	12	-12.2	22	0	26	0.0	70	45		16	6	1	T	T	2.8	NW	10.7*	WNW	21+	7	9	15	6.5	
MOBILE	64	1020.8	1023.1	12.8	2.2	7.4	-4.1	22.2	18	- 6.1	22	0	13	5.0	72	156	28	62	9	0	T	0	4.9	N	13.4*	NW	19	9	6	16	6.2	
MONTGOMERY	59	1014.7	1023.2	10.6	- 0.6	4.8	-4.8	18.9	12	- 9.4	22	0	20	2.2	72	55	- 61	17	9	0	T	0	3.8	NW	13.9	NW	19	10	5	16	6.2	50
ALASKA												B																				
ANCHOPAGE	27	998.0	1003.1	- 2.8	- 9.4	- 6.2	4.4	10.0	19	-21.1	9	0	29	- 8.9	80	38	19	30	7	0	43	76	2.9	NNE	11.2*	SSE	20	9	2	20	6.8	36
ANNETTE	34	1005.1	1009.2	7.2	0.6	3.9	2.5	16.1	19	- 5.0	27	0	11	0.6	80	246	7	42	19	0	112	76	4.7	ESE	16.5*	SE	11	7	6	18	7.0	
BARROW	7	1021.7	1022.1	-21.7	-26.7	-23.9	2.3	- 1.1	22	-35.6	18	0	31	-29.4	62	7	3	5	5	0	64	330	6.0	E	15.6*	SE	19	2V	0V	5V		
BARTER ISLAND	12	1021.0	1022.7	-21.1	-26.7	-23.9	2.5	- 3.3	22	-35.0	18+	0	31	-29.4	60	2	- 8	1	4	0	23	203	5.3	ENE	13.0*	E	19	5X	2X	8X		
BETHEL	38	997.3	998.6	- 8.3	-15.0	-11.6	2.4	3.3	24+	-28.9	11	0	30	-15.6	73	2	- 21	1	7	0	15	356	6.9	NE	17.0*	NE	11	5	4	22	7.6	
COLD BAY	27	987.5	990.7	2.2	- 3.3	- 0.6	1.1	6.1	27	-13.9	14	0	21	- 2.8	83	49	- 15	11	20	0	282	76	8.6	SE	20.8*	ESE	19+	2	8	21	8.1	
CORDOVA	12	1001.4	1003.5	4.4	- 3.9	0.3	4.2	14.4	21	-17.9	9	0	22	- 2.8	83	193	14	54	20	0	411	203	2.7	ESE	17.9*	ESE	20	8	2	21	7.1	
FAIRBANKS	133	991.9	1009.9	-13.3	-24.4	-18.9	4.3	8.3	21	-36.7	8	0	31	-23.3	66	6	- 19	4	4	0	188	381	2.0	NNE	8.0*	SE	20	13	8	10	5.1	
JUNEAU	5	1007.8	1008.6	1.7	- 3.3	- 0.8	2.4	7.8	27	- 8.3	23	0	27	- 3.3	80	96	- 18	23	15	0	480	178	3.5	ESE	15.6*	ESE	1	5	4	22	7.7	37
KING SALMON	13	993.9	996.0	- 1.7	-10.0	- 5.9	4.0	7.2	28+	-21.1	16	0	27	- 8.3	80	21	- 6	12	9	0	109	102	4.5	N	20.6*	E	18	6	9	16	6.9	
KOTZEBUE	3	1010.2	1010.8	-10.6	-17.2	-14.1	7.3	3.9	20	-31.1	10	0	31	-17.8	73	7	- 5	2	9	0	81	381	5.5	E	16.5*	ESE	20	6	5	20	7.5	
MC GRATH	102	992.9	1006.1	-13.9	-23.9	-18.7	3.9	7.8	20	-38.3	9	0	31	-23.3	69	3	- 26	1	4	0	102	457	1.4	NW	10.7*	ENE	20	11	11	9	4.7	
NOME	4	1004.1	1004.6	- 6.7	-12.8	- 9.6	5.1	3.3	25+	-25.6	14	0	30	-13.3	75	23	- 8	7	14	0	269	610	5.6	ENE	17.4*	NE	10	2	4	25	8.4	20
ST. PAUL ISLAND	7	990.5	991.5	- 0.6	- 4.4	- 2.6	0.5	3.9	20+	-12.8	11	0	25	- 4.4	88	84	38	26	22	0	765	635						0	2	29	9.4	
SHEMYA	37	986.1	990.0	1.1	- 1.7	- 0.6		3.3	30+	- 4.4	12	0	27	- 2.2	87	37		6	22	0	493	178	9.3	NE	28.8*	SSE	5	0	7	24	8.7	
YAKUTAT	9	1004.4	1005.4	3.9	- 3.9	- 0.2	2.9	9.4	20	-15.0	8	0	26	- 2.8	85	192	-103	65	19	0	1034	381	2.9	ENE	13.0*	E	30	7	4	20	7.3	
ARIZONA																																
FLAGSTAFF	2131			7.8	-10.0	- 1.0	2.7	13.3	12+	-18.9	29	0	31			29	- 14	29	2	0	284	254						15	6	10	4.3	
PHOENIX	338	979.0	1019.3	20.6	4.4	12.3	2.5	25.6	16	- 0.6	7+	0	3	- 1.7	45	6	- 9	5	5	0	0	0	1.9	E	7.2*	WSW	27	14	6	11	4.6	84
PRESCOTT	1528	850.3	1022.3	13.3	- 4.4	4.5	2.7	18.3	18	-10.0	3	0	27	- 8.3	46	15	- 13	15	2	1	T	0	2.0	SSW	12.5	SW	27	16	6	9	4.1	79
TUCSON	788	928.9	1018.2	17.8	5.0	11.4	1.6	23.3	16	0.0	7	0	1	- .6	50	24	8	20	4	0	0	0	4.0	ESE	14.8	SE	9+	15	2	14	5.1	71
WINSLOW	1487	857.1	1026.8	6.1	- 8.3	- 1.3	-1.7	15.0	25	-15.6	3	0	29	- 0.7	72	T	- 9	T	0	0	T	T	3.0	SW	11.6*	WSW	27	16	5	10	4.4	
YUMA	61	1014.2	1019.5	22.8	7.8	15.4	2.4	28.3	16	2.8	1	0	0	- 3.9	32	6	- 2	5	3	0	0	0	3.8	N	9.4	N	19+	18	3	10	5.7	80
ARKANSAS																																
FORT SMITH	137	1007.5	1024.6	8.9	- 4.4	2.1	-2.4	17.2	18	-12.8	21	0	28	- 3.9	69	11	- 62	8	5	0	10	T	3.2	NE	13.0	NW	20	12	4	15	5.5	64
LITTLE ROCK	78	1010.8	1024.5	8.9	- 4.4	2.2	-3.3	20.0	18	-11.7	25	0	27	- 3.3	70	19	-111	12	7	0	T	25	3.6	WSW	13.9	W	20	12	6	13	5.7	50
TEXARKANA	110		1023.8	11.1	- 0.6	5.2	-2.6	21.7	18	- 8.9	21	0	20	- 0.6	69	37	- 93	29	8	0	48	51	2.5	NE								
CALIFORNIA																																
BAKERSFIELD	151	1004.7	1023.3	12.2	1.1	6.5	-1.8	22.2	23	- 3.9	1	0	15	2.8	82	10	- 16	8	2	0	0	0	1.7	E	7.6*	N	26	6	4	21	7.3	
BISHOP	1252	879.1	1022.7	15.6	- 6.1	4.7	1.4	21.7	18+	-10.6	3	0	29			4	- 24	4	1	0	0	0						18	7	6	3.7	
BLUE CANYON	1609	841.9	1019.6	11.7	3.3	7.5	5.2	20.6	18	- 2.2	28	0	5			97	-136	50	7	0	135	51	3.0	ENE	13.9	SSE	7	10	6	15	5.9	
BURBANK	213	992.6	1019.1	22.8	7.2	15.2	3.7	28.9	18+	3.3	3+	0	0	- 0.6	41	42	- 18	39	2	0	0	0	2.1	NNW	9.4*	N	15	18	4	9	3.8	
EUREKA U	13	1018.0	1020.3	14.4	6.1	10.3	1.8	20.6	22	1.1	2+	0	0			115	- 42	66	13	0	0	0	2.2	E#	16.1	SE	7	9	5	17	6.8	55
FRESNO	101	1010.2	1022.7	10.0	1.1	5.8	-1.3	20.6	22	- 5.0	7	0	14	2.8	87	39	- 1	31	4	0	0	0	2.1	ESE	8.9	SW	26	3	5	23	6.1	35
LONG BEACH	10	1018.3	1019.6	22.2	6.7	14.4		29.4	16	1.1	3	0	0	2.2	51	33		30	2	0	0	0	2.3	WNW	9.4*	WSW	31	14	10	7	4.3	
LOS ANGELES	30	1015.2	1019.2	21.1	8.9	14.9	3.2	28.3	16	4.4	7	0	0	2.2	48	32	- 19	31	2	1	0	0	2.5	W	6.3*	SE	26	17	4	10	4.2	
LOS ANGELES U	95			22.8	10.6	16.7	3.9	28.9	18	5.0	2	0	0	3.3	48	33	- 28	26	2	0	0	0	2.9	N#	7.6	E	20+	19	5	7	3.6	79
MT SHASTA R	1080	896.4	1022.7	10.6	- 2.2	4.2	3.8	18.3	20	- 8.3	4+	0	26			69	- 46	42	8	0	15	25						11	4	16	5.9	
OAKLAND	1	1021.3	1021.8	13.3	3.9	8.4	0.0	17.8	31	- 2.2	5	0	9	4.4	79	67	- 17	43	7	0	0	0	2.9	ENE	9.8*	SSE	31	7	9	15	6.4	
POINT ARGUELLO	112	1005.4	1018.9	18.9	4.4	11.7		26.7	11	- 1.1	5	0	1			28		26	5	0	0	0	2.9		11.2*	SSE	26	18	7	6	3.9	
RED BLUFF	104	1009.5	1022.5	11.1	2.8	6.9	-0.3	18.9	10	- 3.3	4+	0	11	3.3	83	67	- 28	20	11	0	0	0	3.7	N	17.9	SE	31	4	9	18	7.3	44
SACRAMENTO	5	1021.7	1022.9	8.3	2.8	5.8	-1.1	16.1	31+	- 3.3	2	0	10	4.4	94	88	21	39	6	0	0	0	1.8	SE	8.9	SE	31	0	4	27	9.2	18
SANDBERG R	1377	865.9	1020.0	11.1	5.0	8.0	3.7	16.7	17	1.1	28+	0	0			31	- 27	31	2	0	0	0	6.8	ENE	17.0*	E	19	18	7	6	3.3	
SAN DIEGO	6	1014.9	1018.3	21.7	10.0	15.9	3.2	27.8	17	6.1	3+	0	0	3.9	51	31	- 12	28	3	0	0	0	1.8	N	9.8	SE	26	16	5	10	4.2	75
SAN FRANCISCO	2	1021.0	1021.8	12.2	5.0	8.7	-0.1	18.3	31	0.0	4+	0	2	0.1	84	67	- 21	46	7	0	0	0	2.5	ESE	9.8	SSE	30	5	10	16	6.8	
SAN FRANCISCO U	16			12.2	6.7	9.5	-0.6	17.8	10	1.7	0+	0	0			71	- 31	45	8	0	0	0	2.7	N#	9.4	SE	31					68
SANTA MARIA	73	1011.2	1020.2	21.1	3.3	12.3	2.1	28.3	19+	- 1.7	5+	0	7	2.8	60	23	- 46	21	3	0	0	0	2.4	WNW	11.6*	ESE	25	18	6	7	3.6	
COLORADO																																
ALAMOSA	2297	773.5	1030.3	0.6	-21.7	-10.6	-2.2	5.6	31+	-30.6	4	0	31			2	- 4	2	2	0	53	51						18	9	4	3.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1961

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile 1.6 kilometers: Speed	Wind: Fastest mile 1.6 kilometers: Direction	Wind: Fastest mile 1.6 kilometers: Date	No of days (sunrise to sunset): Clear, 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	M	Mb	Mb	C	C	C	C	C		C				C	%	Mm.	Mm	Mm.			Mm	Mm	M p.s		M p s							%
COLORADO																																
COLORADO SPRINGS	1882	812.7	1025.5	7.8	-10.0	- 1.1	0.7	16.7	8	-17.8	27	0	31	-14.4	44	4	- 2	3	3	0	76	51	4.2	N	13.4*	NNW	18	16	10	5	5.7	
DENVER	1613	840.2	1023.8	6.7	- 7.2	- 0.2	1.7	17.8	23	-19.4	27	0	30	-10.0	54	2	- 11	1	3	0	25	25	3.9	SSW	10.7	NW	1	17	7	7	3.8	85
GRAND JUNCTION	1478	865.9	1028.6	6.1	- 9.4	- 1.4	3.0	9.4	25+	-14.4	4	0	31	-12.8	45	T	- 15	T	0	0	T	T	3.5	ESE	10.7	NE	27+	19	7	5	3.1	95
PUEBLO	1414	860.1	1024.8	8.9	-10.0	- 0.6	0.8	19.4	23	-17.8	28	0	31	- 9.4	59	1	- 9	1	2	0	46	51	2.6	W	25.0	N	18	18	5	8	3.7	80
CONNECTICUT																																
BRIDGEPORT	2	1016.7	1017.7	0.0	- 8.3	- 4.2	-2.6	9.4	7	-18.3	22	0	29	- 5.6	66	60	- 27	25	7	0	457	305	5.2	NW	17.4	NNE	20	11	11	9	5.2	
HARTFORD	52	1010.1	1016.4	- 2.2	-15.0	- 8.4	-5.6	7.8	7	-32.2	22	0	31	- 8.9	66	65	- 15	27	8	0	777	635	3.8	N	15.6	NW	4	10	10	11	5.5	76
NEW HAVEN	2	1016.6		0.9	- 9.4	- 4.6	-3.0	9.4	7	-21.7	22	0	30			57	- 42	25	8	0	508	356	3.9		14.8	NW	20	14	7	10	5.2	72
DELAWARE																																
WILMINGTON	24	1015.0	1018.5	1.7	- 8.3	- 3.6	-4.3	12.8	7	-19.4	22	0	29	- 5.0	68	72	- 18	27	7	0	419	279	4.5	WNW	14.3	NW	24	7	13	11	5.8	
FLORIDA																																
APALACHICOLA U	4	1020.0		14.4	5.6	9.9	-3.0	18.3	26+	- 3.3	22	0	3			112	20	46	11	1	0	0	3.8		13.0	NW	19	9	9	13	6.1	71
DAYTONA BEACH	9	1019.4	1021.3	17.8	6.7	12.2	-3.1	25.6	26	- 2.8	22	0	5	9.4	74	50	- 4	30	7	1	0	0	4.2	NW	10.3*	N	25+	7	9	15	6.3	
FORT MYERS	5	1019.8		22.2	10.6	16.4	-1.7	26.7	8+	1.1	22	0	0		75	84	45	51	5	2	0	0	3.7		10.7*	SSW	29	11	7	13	5.0	
JACKSONVILLE	7	1020.4	1021.8	15.6	5.0	10.3	-3.0	21.1	24+	- 4.4	22	0	5	7.2	71	73	5	33	10	0	T	0	4.4	NW	14.8	E	13+	10	7	14	5.8	58
KEY WEST	2	1018.4	1019.7	22.2	16.7	19.4	-2.1	28.3	1	11.1	23	0	0	16.7	78	32	- 7	12	6	0	0	0	5.1	NE	14.6	N	20	7	15	9	6.1	68
LAKELAND U	65			18.9	8.9	13.8	-2.9	26.7	26	- 1.1	22	0	1			43	- 12	23	8	1	0	0	3.6					12	8	11	5.4	66
MIAMI BEACH	3			23.3	16.1	19.6	-1.6	26.7	15+	5.6	22	0	0			64	12	28	9		0	0			11.2	E	10+	13	6	12	5.2	64
MIAMI	2	1018.5	1019.8	22.8	13.9	18.3	-1.9	27.8	1	3.9	22	0	0	15.0	72	130	78	56	7	2	0	0	3.9	NNW	11.2	WNW	29	9	8	14	6.0	
ORLANDO	32	1016.4	1021.3	19.4	8.3	13.8	-2.8	28.3	26	- 1.7	22	0	1	10.6	72	44	- 8	29	6	0	0	0	3.8	NNE	9.4*	NW	21	9	11	11	6.0	
PENSACOLA U	4			13.3	4.4	8.9	-3.3	18.3	12	- 3.9	22	0	6			81	- 35	26	10	0	0	0	4.9		11.2	NW	19					48
TALLAHASSEE	20	1019.0	1021.9	14.4	3.3	8.8	-3.2	20.6	12	- 7.8	22	0	10	6.1	73	72	- 32	24	9	1	0	0	3.0	NNW	11.2*	NW	19	10	5	16	5.9	
TAMPA	6	1019.9	1021.5	19.4	8.9	14.3	-2.1	26.1	11	- 0.6	22	0	1	11.1	71	37	- 14	16	8	1	0	0	5.1	NNE	13.0*	NNW	21+	8	7	16	6.2	63
WEST PALM BEACH	5	1018.9	1020.2	22.8	12.2	17.6	-1.9	26.7	26+	2.2	22	0	0	14.4	73	81	18	56	6	0	0	0	5.0	NNW	12.1*	E	11	7	8	16	6.1	
GEORGIA																																
ATHENS	243	991.4	1021.3	10.6	- 2.2	4.1	-3.0	19.4	12	-11.7	22	0	21	1.7	65	57	- 70	19	7	0	25	25	4.2	W	12.5*	WNW	19	12	9	10	4.7	
ATLANTA	297	979.4	1022.3	8.9	- 1.7	3.6	-3.4	18.3	12	-12.2	22	0	23	0.6	60	44	- 74	24	7	0	3	25	6.1	WNW	20.6*	WNW	19	11	9	11	5.2	60
AUGUSTA	44	1014.1	1021.2	12.2	- 1.7	5.2	-3.3	21.1	12	-12.2	22	0	22	2.2	66	69	- 19	38	6	0	5	25	2.9	WSW	11.2*	WNW	19	13	6	12	5.2	
COLUMBUS	117	1008.0		11.7	- 1.1	5.3	-3.3	20.0	18+	-11.1	22	0	21			59	- 57	20	10	0	T	0	4.0		13.0*	W	1	10	6	15	6.0	
MACON	109	1007.9	1021.9	12.2	0.0	5.9	-3.8	22.2	12	- 9.4	22	0	18	2.6	64	69	- 33	27	9	0	15	T	3.9	NW	14.3	W	19	11	6	14	5.6	69
ROME	194	998.3		8.9	- 4.4	2.1	-3.8	17.8	12	-15.0	22	0	27			56	- 85	19	6	1	28	25						11	8	12	5.6	
SAVANNAH	15	1019.0	1021.9	13.9	1.7	7.6	-3.3	20.6	12+	- 8.3	22	0	15	5.0	71	55	- 8	27	8	1	T	0	4.2	WNW	13.9	NW	19	11	8	12	5.4	58
THOMASVILLE U	86			13.9	3.3	8.6	-3.8	21.1	12	- 6.7	22	0	10			97	- 5	31	11	0	0	0										
HAWAII																																
HILO	9	1012.9	1014.2	27.2	17.2	22.1	0.7	30.0	17+	12.8	24	0	0	16.7	76	59	-299	21	12	0	0	0	4.1	SW	13.4*	S	1	6	19	6	5.5	55
HONOLULU	2	1013.5	1014.0	27.2	18.9	23.1	0.8	29.4	14	15.0	1	0	0	16.7	70	106	- 12	63	8	0	0	0	4.5	NE	17.9	SW	17	19	7	5	3.8	72
LIHUE	35	1008.5	1013.5	26.1	17.8	21.8	0.7	28.3	29+	13.3	18	0	0	16.7	77	32	-126	10	15	1	0	0	4.5	NE	13.9	SE	25	13	13	5	4.3	57
IDAHO																																
BOISE	866	928.2	1027.6	6.1	- 5.0	0.5	3.1	12.8	15	-11.1	5+	0	28	- 3.9	77	11	- 23	7	5	0	T	T	2.3	SE	8.9	SE	29	9	4	18	6.4	68
IDAHO FALLS 42NW R	1460			1.1	-17.8	- 8.2	2.7	8.3	30	-28.9	27	0	31			T	- 13	T	0				1.3	NNE	10.7A	S	31					
IDAHO FALLS 46W R	1504	854.7	1030.1	2.2	-16.1	- 6.9	2.1	8.3	30	-24.4	27	0	31			T	- 17	T	0	0	T	T	1.4	NNE	8.5A	SW	31					
LEWISTON	431	971.6	1024.7	5.6	- 1.1	2.1	2.7	12.2	14	- 9.4	4+	0	28			21	- 5	7	9	0	74	76						2	4	25	8.7	
POCATELLO	1355	869.6	1029.3	3.3	-10.6	- 3.6	2.0	12.2	17	-22.2	3	0	28	- 8.3	73	6	- 25	2	6	0	48	51	3.4	S	12.1	S	30+	8	5	18	6.7	76
ILLINOIS																																
CAIRO U	96	1009.8		5.0	- 3.9	0.6	-2.4	16.7	13	-15.0	21	0	24			38	- 75	29	6	1	81	76	3.9	SW#	12.5	N	19	12	10	9	4.8	68
CHICAGO O HARE	200	994.9	1021.0	- 1.7	-11.7	- 6.5		11.1	13	-22.2	25	0	31	-10.6	75	7		3	4	0	76	51	4.9	WSW	13.4*	NNW	24	6	9	16	6.5	
CHICAGO MIDWAY	186	997.3	1021.3	- 1.1	- 8.3	- 4.8	-0.9	10.6	13	-18.9	25	0	28	- 9.4	71	7	- 40	3	7	0	160	102	5.2	NW	15.2	W	7	7	8	16	6.4	48
MOLINE	180	998.6	1022.1	- 1.1	-11.1	- 6.1	-1.2	14.4	13	-22.8	27+	0	30	-10.6	70	8	- 30	4	6	0	86	51	3.9	WSW	13.9	NW	24+	7	9	15	6.3	60
PEORIA	199	998.6	1023.0	- 1.1	-10.6	- 5.9	-2.1	9.4	17	-22.2	25	0	30	-10.0	76	8	- 42	3	6	0	89	51	4.3	S	13.0	NW	24+	13	4	14	5.0	66
ROCKFORD	222	992.9	1021.6	- 2.2	-11.7	- 6.9	-2.3	12.2	13	-21.7	25	0	31	-11.1	75	5	- 45	3	3	0	48	51	4.2	WNW	10.3*	WSW	23	5	12	14	6.3	
SPRINGFIELD	179	998.6	1023.3	1.1	- 9.4	- 4.2	-1.6	11.7	13	-20.6	25	0	28	- 9.4	70	9	- 43	2	6	0	86	25	5.5	SW	15.6	N	24	13	6	12	5.2	65

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min 0 C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb.	C	C.	C.	C	C		C				C	%	Mm.	Mm	Mm			Mm	Mm	M p.s		M p.s							%
INDIANA																																
EVANSVILLE	117	1000.4	1022.9	3.9	- 7.2	- 1.4	-2.9	15.6	13	-25.0	28	0	25	- 6.1	72	25	- 75	13	7	0	112	76	4.5	SW	14.3	NW	24	12	6	13	5.5	66
FORT WAYNE	244	987.8	1021.1	- 1.1	-10.0	- 5.6	-2.4	9.4	13	-22.8	25	0	31	- 9.4	76	10	- 54	3	10	0	114	51	5.7	WSW	18.8	NW	8	5	12	14	6.7	49
INDIANAPOLIS	242	990.5	1021.8	0.6	- 9.4	- 4.7	-2.9	13.3	13	-23.3	28	0	31	- 8.9	73	31	- 49	23	7	0	91	76	3.7	WSW	13.4	NW	24	10	9	12	5.7	57
SOUTH BEND	234	990.9	1020.3	- 1.1	-10.0	- 5.7	-1.6	10.0	13	-26.7	25	0	31	- 8.9	76	24	- 27	9	14	0	526	254	5.0	SW	11.6*	NW	24+	2	8	21	7.9	
IOWA																																
BURLINGTON	212	996.3	1023.3	0.6	-11.1	- 5.2	-0.8	13.3	13	-23.3	27	0	31	-10.0	70	13	- 31	4	5	0	135	51	5.1	NW	15.0	NW	7	11	6	14	5.6	74
DES MOINES	289	991.2	1024.3	0.6	-11.7	- 5.6	-0.1	13.3	12	-24.4	27	0	31	-10.6	71	8	- 23	4	8	0	140	76	5.5	NW	18.3	NW	20	9	11	11	5.9	75
DUBUQUE	325	995.6	1022.1	- 3.3	-12.8	- 8.1	-1.1	8.9	13	-23.3	27+	0	31	-12.2	71	8	- 27	3	4	0	91	127						6	8	17	6.6	
SIOUX CITY	334	980.4	1024.2	- 1.7	-13.9	- 7.7	-0.5	8.9	31	-26.7	24	0	31	-12.2	71	8	- 11	7	4	0	102	102	4.8	NW	15.0	NW	19	8	9	14	6.0	79
WATERLOO	265	988.8	1022.7	- 3.3	-14.4	- 8.9	-1.5	10.0	12	-26.1	24	0	31	-12.8	74	8	- 22	3	7	0	132	51	3.3	NW	12.1*	NNW	20	4	13	14	6.3	
KANSAS																																
CONCORDIA U	419	972.6		5.6	- 8.3	- 1.2	0.9	18.9	31	-19.4	27+	0	29		61	2	- 13	2	1	0	20	25	2.9	W#	15.2	N	20	20	5	6	3.1	88
DODGE CITY	791	932.6	1023.8	8.9	- 7.2	0.7	1.6	19.4	23	-15.6	25	0	31	- 8.3	56	T	- 12	T	0	0	T	T	6.8	WSW	22.4	N	18	17	8	6	3.8	88
GOODLAND	1111	891.6	1023.2	7.2	- 8.9	- 0.9	2.6	18.3	31+	-20.0	27	0	31	- 8.9	63	T	- 8	0	1	0	8	51	5.4	WSW	16.5*	N	18	17	4	10	4.0	
TOPEKA	267	986.8	1024.4	6.1	- 9.4	- 1.8	0.1	16.7	31	-20.0	27	0	31	- 8.3	65	2	- 25	2	2	0	23	25	4.9	SSW	18.8	N	24+	16	3	10	3.8	82
WICHITA	403	972.6	1023.9	6.7	- 7.2	- 0.3	-0.3	15.0	17	-15.6	21	0	31	- 6.1	72	1	- 26	1	1	0	8	T	5.3	N	19.2	N	18	16	6	9	4.1	77
KENTUCKY																																
LEXINGTON	298	984.8	1022.2	2.2	- 6.7	- 2.3	-3.4	14.4	13	-22.2	28	0	24	- 3.3	77	43	- 71	23	8	0	157	102	3.8	SSW				10	7	14	5.8	
LOUISVILLE	144	1002.0	1022.3	3.3	- 6.7	- 1.8	-3.4	13.9	12	-22.2	28	0	25	- 3.3	74	40	- 64	23	7	0	97	76	3.5	WSW	11.2	NW	24+	10	10	11	5.5	64
LOUISIANA																																
ALEXANDRIA	28	1019.0	1023.8	12.2	- 0.6	5.8		22.2	18	- 7.8	30	0	20	1.7	78	221		136	10	1	T	T	3.0	NE				6	9	14	6.1	
BATON ROUGE	20	1020.3	1023.5	12.2	1.1	6.8	-4.5	22.2	18	- 6.1	29	0	14	2.2	75	132	- 7	54	9	0	0	0	4.3	NE				6	7	18	6.9	
LAKE CHARLES	4	1021.7	1023.2	12.8	3.3	8.2	-3.3	22.8	17	- 3.9	29	0	12	3.9	78	112	- 11	48	11	2	T	T	2.8	NNE	9.4*	NNE	19	6	7	18	7.1	
NEW ORLEANS U	3			13.3	6.1	9.6	-3.7	22.2	18	- 1.1	29	0	3		73	192	71	68	11	2	0	0	3.2		8.5	N	19+	8	9	14	6.5	43
NEW ORLEANS	1	1020.7	1023.0	13.9	3.3	8.6	-4.2	22.2	18	- 5.0	22	0	7	5.0	83	176	57	63	10	1	T	0	4.2	NNE	10.7*	ENE	7	0	8	17	6.7	
SHREVEPORT	77	1014.6	1024.3	12.2	0.0	6.1	-2.4	23.3	17	- 6.1	29+	0	16	1.1	74	96	- 24	43	10	1	20	25	4.5	NNE				11	7	13	5.8	58
MAINE																																
CARIBOU	190	988.3	1015.2	-10.0	-21.1	-15.7	-2.7	1.7	14	-33.9	24	0	31	-10.1	63	27	- 29	11	15	0	803	660	5.1	WNW	14.3*	NW	14	7	12	12	5.9	
PORTLAND	19	1010.2	1014.5	- 2.8	-15.6	- 9.3	-3.0	8.3	14	-27.2	22	0	31	- 9.4	67	37	- 75	21	0	0	401	203	4.3	WSW	15.0	N	20	11	8	12	5.7	62
MARYLAND																																
BALTIMORE	45	1014.4	1019.4	2.5	- 7.8	- 2.4	-3.7	14.4	7	-18.3	29+	0	28	- 4.4	60	74	- 19	22	7	0	303	203	4.5	WNW	16.5	NW	1	11	12	8	4.9	61
BALTIMORE U	4			3.3	- 3.9	- 0.4	-3.0	14.4	7	-13.3	25	0	24			80	- 13	31	7													
FREDERICK	90			1.1	- 9.4	- 4.4	-4.8	11.1	7	-22.2	22	0	31			53	- 21	19	5	0	457	203										
MASSACHUSETTS																																
BLUE HILL OBS R	192	989.5		- 1.1	-16.0	- 5.7		10.6	14	-19.4	25	0	29		62	92	- 12	29	7		536	432	7.8	W	21.5	NE	20					67
BOSTON	5	1009.7	1014.7	0.0	- 7.8	- 3.9	-2.3	13.3	14	-15.0	25	0	29	- 5.0	58	74	- 15	31	8	0	475	533	6.8	W	18.3	NNE	20	11	9	11	5.3	73
NANTUCKET	13	1014.1		1.1	- 6.1	- 2.4	-2.5	9.4	7	-13.9	25	0	28			103	5	42	12	2	550	432	6.3	WNW	21.5	NW	20	12	8	11	5.0	61
PITTSFIELD	357			- 3.3	-15.0	- 9.4	-3.4	9.4	14	-27.2	23	0	31			32	- 46	11	9		518	432										
WORCESTER	301	975.8	1013.1	- 2.8	-11.7	- 7.4	-2.9	10.0	14	-21.1	25	0	30	- 9.4	59	77	- 8	31	0	2	823	711	5.1	WSW	17.4*	NNE	20+	12	9	10	5.3	
MICHIGAN																																
ALPENA	210	991.5		- 4.4	-16.7	-10.6	-4.5	10.0	13	-27.8	20	0	31	-13.9	70	4	- 50	1	0	0	130	178	3.2	SW#	12.5	NW	7	2	14	15	7.4	45
DETROIT	189	991.9	1020.0	- 1.1	- 8.3	- 4.9	-1.7	11.7	13	-18.3	25	0	29	-10.0	70	6	- 47	2	8	0	84	51	5.4	W	15.0	NW	7	3	12	16	7.5	42
DETROIT M WAYNE CO	192	994.2	1019.6	- 1.1	-10.0	- 5.7		11.1	13	-20.0	25	0	31	-10.0	72	7		4	6	0	94	51	5.1	SW				4	9	18	7.0	
DETROIT WILLOW RUN	223	989.8	1019.5	- 1.1	- 9.4	- 5.3	-1.6	11.7	13	-20.0	25	0	31	- 9.4	71	6	- 39	3	4	0	114	76	5.5	SW	13.9*	W	7	3	10	18	7.3	
ESCANABA U	181	995.3		- 5.6	-13.3	- 9.3	-1.2	5.6	17	-23.9	23	0	31		70	6	- 33	3	7	0	74	51	4.3		17.0	NW	7	6	6	19	7.2	38
FLINT	233	990.5	1019.8	- 2.2	-11.7	- 7.1	-2.2	11.1	13	-22.8	25	0	31	-10.6	76	8	- 32	2	11	0	160	76	4.2	SW	11.2*	W	27	3	8	20	7.7	
GRAND RAPIDS	208	993.2	1020.0	- 2.2	-10.0	- 6.2	-1.4	10.0	13	-25.6	25	0	31	- 9.4	77	34	- 14	7	18	0	702	279	4.3	SSW	13.0	W	7	4	4	23	8.1	38
LANSING	260	988.1	1019.7	- 2.2	-11.1	- 6.7	-2.2	12.2	13	-23.3	25	0	31	-10.6	75	11	- 36	3	10	0	142	102	5.5	SW	21.9	W	7	3	0	22	7.7	45
MARQUETTE U	206	990.2		- 5.0	-12.8	- 8.9	-1.5	7.2	13	-21.1	23	0	31		70	25	- 30	7	12	0	472	279	3.7	W#	14.8	NW	7	1	7	23	8.2	45
MUSKEGON	191	995.6	1019.9	- 2.2	- 8.9	- 5.6	-1.6	5.6	13	-19.4	25	0	31	- 8.3	79	35	- 15	5	16	0	676	279	4.9	W	15.6*	W	7	2	5	24	8.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1961

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min 0 °C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No of days (sunrise to sunset): Clear, 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb	C	C.	C.	C	C		C				C	%	Mm.	Mm.	Mm			Mm	Mm	Mps		Mps							%
MICHIGAN																																
SAULT STE MARIE	220	993.9	1018.1	- 7.2	-16.7	-11.8	-1.7	4.4	13	-27.8	24	0	31	-15.6	75	13	- 42	3	16	0	211	432	3.6	E	14.3*	WNW	17	5	4	22	7.5	45
MINNESOTA																																
DULUTH	429	977.0	1020.8	- 7.2	-19.4	-13.4	-0.2	4.4	10+	-33.3	24	0	31	-18.9	64	4	- 28	2	6	0	71	279	5.9	WNW	18.3	NW	17	10	5	16	6.1	63
INTERNATIONAL FALLS	359	977.3	1021.8	-10.6	-23.3	-16.8	-0.7	5.0	16	-37.2	24	0	31	-21.7	67	12	- 11	8	7	0	122	330	3.6	W	11.2*	WNW	17	8	9	14	5.9	
MINNEAPOLIS	253	986.8	1022.7	- 5.0	-16.7	-11.1	-1.4	7.8	16	-29.4	24	0	31	-15.6	70	7	- 13	4	4	0	117	51	4.2	WSW	15.6	NNW	23	7	12	12	6.0	72
ROCHESTER	395	971.6	1022.0	- 4.4	-13.9	- 9.4	0.4	6.7	12	-28.9	24	0	31	-13.3	74	2	- 22	1	4	0	43	25	5.1	NNW				4	13	14	6.2	
ST CLOUD	315	982.1	1022.7	- 5.6	-16.3	-11.7	0.2	8.3	16	-31.1	24	0	31	-16.1	69	2	- 17	1	3	0	69	51						8	14	9	5.7	
MISSISSIPPI																																
JACKSON	93	1011.4	1023.9	10.6	- 1.1	4.8	-4.3	22.2	18	- 7.2	29+	0	20	2.8	72	78	- 51	25	9	0	T	0	2.3	NNW	16.1	N	19	11	4	16	6.1	47
MERIDIAN	89	1009.5	1023.8	11.1	- 1.7	4.7	-3.9	22.8	18	-10.6	22	0	22	2.2	77	65	- 64	18	9	0	T	T	3.2	NE	11.6*	NW	21	9	9	13	5.9	
VICKSBURG U	71	1014.2		10.0	1.1	5.6	-3.9	21.1	18	- 7.2	29	0	15			109	- 29	37	10	1	T	T	3.6		15.2	NW	19	9	8	14	6.0	54
MISSOURI																																
COLUMBIA	237	992.6	1022.8	4.4	- 7.2	- 1.4	-0.2	15.0	12	-20.0	27	0	27	- 7.8	66	6	- 40	3	7	0	69	25	4.9	NW	14.3	NW	20	15	5	11	4.5	67
KANSAS CITY	226	987.5	1023.9	6.1	- 6.1	- 0.2	0.9	16.7	31	-20.6	27	0	26	- 9.4	55	1	- 35	1	2	0	18	25	4.0	SW	13.4	NW	20	16	6	9	4.3	79
ST JOSEPH	247	987.5		4.4	- 9.4	- 2.6	0.2	15.0	31	-22.2	27	0	31			2	- 27	2	3	0	25	25	5.3	S	16.5*	NNW	20	17	4	10	4.2	
ST LOUIS	171	1001.7	1023.5	3.9	- 7.8	- 2.1	-2.2	14.4	6	-21.1	25	0	26	- 7.8	69	10	- 39	4	6	0	135	102	3.8	WSW	11.6	NW	20+	13	5	13	5.0	60
ST LOUIS RFC	142			4.4	- 5.0	- 0.1	-0.8	15.6	12+	-18.3	21	0	19			14	- 44	5	6		152	76										
SPRINGFIELD	386	974.3	1023.8	6.7	- 7.2	- 0.4	-0.8	16.1	31	-17.2	28+	0	30	- 7.8	63	2	- 57	2	2	0	20	25	5.3	SSE	18.8	NW	20	12	10	9	4.7	75
MONTANA																																
BILLINGS	1087	894.0	1021.6	5.6	- 5.6	0.1	5.2	16.1	23	-16.7	29+	0	23	-10.0	52	4	- 10	2	2	0	43	25	6.2	WSW	14.8	W	6	5	10	16	6.9	71
GLASGOW	694	944.8	1022.5	- 2.2	-12.2	- 7.3	4.6	7.8	16+	-25.6	26	0	31	-10.6	80	2	- 8	2	4	0	38	51						5	11	15	7.0	
GREAT FALLS	1117	891.0	1020.9	5.6	- 4.4	0.4	5.6	12.8	16	-16.7	30+	0	22	-10.6	49	6	- 8	5	4	0	74	51	6.5	SW	21.0	SW	15	5	8	18	7.4	61
HAVRE U	758	929.6	1021.7	2.8	- 7.8	- 2.5	6.3	12.2	15	-25.0	26	0	27			5	- 7	5	2	0	51	51	4.6	SW#	15.2	SW	5	7	9	15	6.3	53
HELENA	1187	877.4	1024.9	3.9	- 8.9	- 2.6	5.4	13.9	15	-21.1	27	0	30	-10.6	64	3	- 10	2	3	0	46	25	3.1	W	15.2	S	6	8	5	18	6.9	65
KALISPELL	904			0.0	- 8.9	- 4.5	2.0	8.3	16	-23.9	2	0	29			19	- 14	7	7	0	140	178						3	7	21	8.0	
MILES CITY	801	935.3	1023.3	1.1	- 9.4	- 4.2	4.6	13.3	16	-22.8	27	0	30	- 8.9	72	2	- 10	1	4	0	36	25	4.0	NW	14.3*	NW	19	4	9	18	7.1	
MISSOULA	975	908.2	1027.8	- 1.1	-10.6	- 5.8	1.2	8.9	16	-25.6	4	0	30	- 7.2	89	13	- 7	9	6	0	201	254	1.9	WNW	9.8	NW	8	2	4	25	8.6	24
NEBRASKA																																
GRAND ISLAND	561	954.3	1023.5	5.0	-11.7	- 3.3	1.7	17.2	31	-23.9	24	0	31	-11.1	62	T	- 15	T	0	0	T	T	5.3	WSW				14	8	9	4.3	
LINCOLN U	351			3.9	-10.6	- 3.3	0.6	16.7	12	-24.4	27	0	31			6	- 15	4	2	0	51	25	4.0	NW#	15.2	NE	18	15	8	8	4.3	82
NORFOLK	471	964.8	1023.3	0.6	-13.3	- 6.5	0.0	11.7	31	-26.7	24	0	31	-11.7	65	5	- 15	5	1	0	69	102						11	11	9	5.0	
NORTH PLATTE	847	919.7	1023.0	6.1	-11.7	- 3.0	1.4	17.2	31	-22.8	27	0	31	-10.6	61	T	- 10	T	0	0	T	51	4.7	NNW	20.6	N	18	14	9	8	4.9	80
OMAHA	298	981.7	1024.0	2.2	-10.6	- 4.1	0.9	15.0	12	-24.4	24	0	31	-10.0	67	6	- 16	4	3	0	119	76	4.7	NNW	21.0	N	20	10	13	8	5.0	77
OMAHA N OMAHA APT	403	972.9		0.6	-11.7	- 5.4	0.9	14.4	12	-26.7	27	0	30			5	- 17	3	2	0	112	76						9	13	9	5.1	
SCOTTSBLUFF	1204	882.2	1023.7	5.6	-10.6	- 2.6	2.2	15.0	31	-21.1	27	0	31	- 9.4	63	T	- 8	T	0	0	3	25	5.2	NW	17.4*	NNW	20	11	6	14	5.5	
VALENTINE	789	927.9		2.8	-11.7	- 4.4	2.3	15.6	31	-25.6	24	0	31		73	T	- 14	T	0	0	8	25	4.2	W#	15.6	SW	8	10	9	12	5.5	85
NEVADA																																
ELKO	1547	850.3	1027.0	6.7	-12.2	- 2.7	2.9	12.2	30	-19.4	28	0	31	-10.0	61	1	- 26	1	2	0	8	T	1.8	ENE	7.6*	NNW	9	12	9	10	5.0	
ELY	1907	813.1	1025.8	7.8	-13.3	- 2.8	2.2	15.6	17+	-22.2	28	0	31	-13.9	46	4	- 20	4	1	0	13	T	4.2	S	14.3	N	20	13	9	9	4.8	89
LAS VEGAS	659	955.6	1022.6	14.4	0.0	7.3	0.5	18.9	18+	- 4.4	2	0	17	- 7.8	39	6	- 6	6	1	0	0	0	3.0	WSW	10.3*	SSW	27+	16	8	7	4.1	84
RENO	1342	866.6	1024.4	11.1	- 9.4	0.8	1.2	16.1	7	-16.1	5	0	30	- 7.8	59	20	- 6	13	4	0	66	25	1.3	SW	13.4	S	31	11	8	12	5.4	76
WINNEMUCCA	1310	873.7	1026.1	10.6	-11.7	- 0.6	1.8	15.6	17	-20.0	28	0	31	- 8.9	55	1	- 23	1	3	0	T	0	2.4	NE	13.9	W	31	11	3	17	5.5	66
NEW HAMPSHIRE																																
CONCORD	103	1005.2	1015.5	- 2.2	-17.2	- 9.7	-3.1	10.0	14	-32.8	24	0	31	-10.6	60	27	- 47	12	5	0	290	356	2.7	NW	13.4	NW	2	13	7	11	5.3	69
MT WASHINGTON OBS	1909	791.1		-15.0	-23.3	-19.1	-4.3	- 3.3	17	-36.7	25	0	31		75	76	- 53	23	14	0	607	102	19.3	NW	58.6Y	NW	25	5	7	19	7.4	68
NEW JERSEY																																
ATLANTIC CITY	9	1016.0	1018.7	2.2	- 7.8	- 2.8	-4.3	14.4	7	- 2.2	22+	0	27	- 4.4	68	103	15	48	9	0	404	254	5.8	W	16.1	ENE	19	8	14	9	5.4	62
ATLANTIC CITY U	2			2.2	- 5.6	- 1.8	-3.9	11.1	7	-13.3	28+	0	27			77	- 19	34	9				6.3		19.7	NW	20					
NEWARK	18	1016.5	1017.9	1.1	- 7.2	- 3.0	-2.7	13.3	7	-15.6	25+	0	28	- 4.4	59	85	- 7	37	8	0	564	381	4.5	WSW	16.5*	NNE	20	13	7	11	5.2	
TRENTON U	17	1010.4		0.6	- 6.7	- 3.1	-3.4	12.8	7	-15.0	25	0	28			71	- 9	30	9	0	409	254	4.3	W	16.1	N	20	13	9	9	4.9	68

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: 25 mm. or more	Precipitation: No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
II	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s		M.p.s							%
NEW MEXICO																																
ALBUQUERQUE	1618	852.7	1023.6	7.8	- 6.1	1.1	0.1	12.2	18	- 9.4	4	0	31	- 8.9	52	6	- 1	6	2	0	15	T	2.6	N	10.5	SE	24	17	4	10	4.1	82
CLAYTON	1515	848.0	1021.0	10.0	- 7.2	1.4	0.9	18.3	30+	-15.0	28	0	31			1	- 6	1	1	0	18	25						17	4	10	4.3	
RATON	1944	807.3	1023.4	6.1	-12.2	- 2.9	0.3	13.3	9	-17.8	3	0	31			5	- 6	4	3	0	64	51						16	6	9	4.1	
ROSWELL	1101	897.4	1022.4	11.1	- 8.3	1.3	-2.9	20.6	22	-15.6	29	0	31	- 6.7	63	17	7	12	2	0	137	76	2.7		12.5	N	24	12	8	11	5.0	
SILVER CITY	1662	836.8	1020.0	11.7	7.8	4.4		16.1	16	- 6.1	8+	0	28			19		10	6	0	33	25						14	6	11	4.8	
NEW YORK																																
ALBANY	84	1013.5	1017.2	- 3.3	-15.0	- 9.3	-4.0	7.2	14+	-27.2	22	0	31	- 9.4	72	37	- 20	22	7	1	437	381	3.9	WNW	17.4	NW	25	9	8	14	6.1	09
BINGHAMTON	485	954.8	1016.5	- 5.0	-12.2	- 8.4	-2.7	6.7	7	-20.6	25+	0	31	-10.0	66	36	- 25	22	15	0	536	381	4.6	SSW	12.5	NW	9+	2	14	15	7.4	51
BUFFALO	211	988.9		- 4.4	-10.6	- 7.5	-3.9	6.7	13	-21.1	25	0	31			36	- 35	8	15	0	597	356	4.8		16.1	SW	7	0	11	20	8.2	49
NEW YORK	6	1015.7	1017.6	1.1	- 5.6	- 2.3	-2.8	13.3	7	-14.4	25	0	27	- 3.9	61	81	0	30	8	0	394	330	6.9	WNW	21.0	N	20+	10	11	10	5.5	
NEW YORK U	40			1.1	- 5.6	- 2.4	-2.8	12.8	7	-15.0	25	0	27			48	- 43	20	9	0	424	330	4.7	NW	14.8	NE	19	14	8	9	4.9	64
ROCHESTER	166	998.4	1018.6	- 2.8	-11.1	- 7.0	-2.9	10.0	7	-20.6	25	0	31	- 7.2	78	28	- 32	9	15	0	599	229	6.1	WSW	22.4	W	17	3	9	19	7.5	64
SCHENECTADY	66			- 3.3	-14.4	- 8.8	-2.9	6.7	14	-26.1	22	0	31			25	- 36	17	6		343	381						18	9	4	3.7	
SYRACUSE	129	994.8	1018.1	- 3.3	-11.7	- 7.3	-3.7	7.8	7	-20.0	24	0	30	- 7.8	70	58	- 12	29	16	0	947	559	4.9	WSW	15.2	W	8	2	12	17	7.4	42
NORTH CAROLINA																																
ASHEVILLE U	671	938.6		6.7	- 5.0	0.8	-3.3	17.2	12	-16.1	22	0	26			37	- 39	30	6	0	20	T	4.1		15.6	NW	20	15	6	10	4.7	06
CAPE HATTERAS R	2	1018.4	1019.2	10.6	1.1	5.6	-3.3	19.4	1	- 5.0	31+	0	14	3.9	71	100	- 4	49	5	0	T	T	5.7	WSW	18.8	NNE	24	11	10	10	5.1	73
CHARLOTTE	221	991.1	1020.3	9.4	- 2.8	3.4	-2.5	17.2	24	-13.3	22	0	25	0.0	60	56	- 37	37	5	0	30	25	3.0	SW	11.6	SW	23+	15	6	10	4.6	72
GREENSBORO	272	986.5	1020.7	7.8	- 5.0	1.5	-2.4	15.6	7	-13.3	22	0	28	- 1.1	64	60	- 26	28	6	0	18	25	3.6	SW	12.1	NW	19	15	8	8	4.3	76
RALEIGH	132	1005.8	1020.2	8.9	- 3.9	2.5	-2.7	16.1	12	-13.9	22	0	26	0.0	60	73	- 12	40	7	0	58	25	3.5	SSW	13.0*	NNW	24+	17	5	9	4.3	75
WILMINGTON	4	1017.0	1020.0	11.7	- 0.6	5.5	-3.3	19.4	1	- 7.8	22	0	17	3.3	70	54	- 25	29	4	0	T	0	4.0	SW	15.6	SW	1	12	10	9	4.8	73
WINSTON SALEM	295	983.5	1020.1	7.8	- 3.3	2.1	-1.9	15.6	7	-13.3	22	0	26	- 1.1	52	57	- 37	23	6	0	20	25	4.2	NW	17.9*	NW	20	15	7	9	4.2	
NORTH DAKOTA																																
BISMARCK	503	958.3	1023.2	- 1.7	-13.3	- 7.6	5.1	12.2	16	-31.1	24	0	31	-13.9	64	1	- 8	1	3	0	15	51	4.6	WNW	17.9	NW	6	1	14	16	7.4	64
DEVILS LAKE U	448	965.5		- 8.3	-19.4	-13.8	1.3	5.6	16	-36.1	24	0	31		79	9	- 1	5	6	0	152	305	3.5	NW	10.7	N	23	5	10	16	6.6	67
FARGO	274	987.1	1023.9	- 8.3	-20.0	-14.[illegible]	-0.2	3.9	10+	-32.8	24	0	31	-17.8	73	2	- 13	2	3	0	41	127	6.8	N	25.5	NE	23	2	15	14	6.8	58
WILLISTON U	572	951.2	1022.4	- 2.2	-11.7	- 7.1	5.1	8.9	16	-26.7	24	0	30	-11.7	71	2	- 10	1	5		23	51	2.8	WW	11.2	NW	6	6	7	18	6.9	60
OHIO																																
AKRON	369	980.5	1020.4	- 1.7	-10.0	- 5.8	-3.3	8.9	13	-23.3	25	0	29	- 6.7	76	18	- 52	6	12	0	439	203	4.9	SW				4	12	15	7.1	
CINCINNATI OBS	232			2.2	- 6.1	- 2.2	-2.8	12.8	13	-19.4	25	0	27			46	- 42	31	9	0	178	152	3.0		10.3	NW	24					59
CINCINNATI	265	988.4	1021.8	2.2	- 6.7	- 2.3	-2.2	13.9	13	-19.4	28+	0	26	- 3.9	71	47	- 39	33	10	0	175	152	3.8	SW	10.3*	NNW	24	8	8	15	6.5	
CLEVELAND	241	991.2	1019.9	- 2.2	- 9.4	- 5.8	-3.8	10.0	13	-21.7	25	0	29	- 6.7	72	9	- 51	3	11	0	152	76	5.4	SW	14.3	SW	7	3	10	18	7.7	48
COLUMBUS	248	990.0	1021.5	- 0.6	- 9.4	- 4.7	-3.4	10.6	14+	-25.0	25	0	28	- 5.6	71	17	- 58	5	9	0	193	152	3.4	SSW	14.3	NW	24	8	8	15	6.5	55
COLUMBUS	221			[illegible]	- 8.3	- 4.1	-3.6	10.6	13	-21.1	28	0	27			24	- 47	7	10		236	203										
DAYTON	3[illegible]	983.4	1021.5	- 0.6	- 8.3	- 4.7	-3.4	11.1	13	-22.2	25	0	28	- 5.6	74	29	- 46	11	13	0	216	102	4.8	SSW	15.2	NW	24	7	10	14	6.5	57
MANSFIELD	395			- 2.2	-1[illegible]	- 6.1		9.4	13	-23.3	25	0	31			17		4	11	0	201	102						7	8	16	7.0	
SANDUSKY	184	996.6		- 1.1	- 8.3	- 4.8	-3.1	12.2	13	-21.7	25	0	29			5	- 53	3	5	0	84	76	4.4		15.6	SW	17	10	5	16	6.2	51
TOLEDO	2[illegible]	994.1	1020.7	- 1.1	-10.0	- 5.[illegible]	-2.2	11.7	13	-23.9	25	0	30	- 6.7	70	7	- 50	2	11	0	86	25	4.6	SW	11.6	NW	24+	3	12	16	7.3	60
YOUNGSTOWN	3[illegible]	975.1	1019.7	- 2.2	- 9.4	- 5.9	-3.4	10.[illegible]	13	-23.3	25	0	29	- 7.2	71	21	- 64	9	13	0	363	178	4.9	WSW	12.1*	NW	24	5	6	20	7.0	
OKLAHOMA																																
OKLAHOMA CITY	3[illegible]	979.[illegible]	1024.6	8.9	- 4.4	2.4	-0.4	18.3	17	-13.3	21	0	27	- 5.0	63	4	- 34	3	2	0	48	51	5.2	SSW	21.0	N	18	16	6	9	4.2	78
TULSA	2[illegible]	998.6	1024.3	8.[illegible]	- 5.6	1.3	-1.7	16.1	13+	-15.[illegible]	21	0	29	- 5.0	69	17	- 34	17	2	0	T	T	4.5	SSE	16.1	NW	13	15	7	9	4.3	68
OREGON																																
ASTORIA	[illegible]	1017.3	1021.9	12.2	[illegible]	8.5	4.0	18.3	22	- 2.8	3	0	3	5.0	79	229	- 41	44	20	[illegible]	0	0	5.1	ESE	16.5*	SSW	30	7	3	21	7.5	
BURNS U	1262	878.1	1021.5	5.2	- 7.2	- 1.1	3.4	11.7	17	-15.[illegible]	4	0	31	- 5.0	77	18	- 20	9	5	0	38	51						7	7	17	6.9	
EUGENE	110	1000.4	1022.4	1.6	2.[illegible]	6.4	3.[illegible]	15.6	31+	- 4.4	22	0	14			133	- 4	43	16	0	0	0	3.5		10.9*	SW	7	3	8	20	7.8	
MEACHAM	1244			3.[illegible]	- 3.8	0.[illegible]	4.1	8.3	14	- 9.4	2	0	20			49	- 59	12	11	0	135	356						6	4	21	7.4	
MEDFORD	[illegible]	973.2	1021.1	[illegible]	- 1.1	4.[illegible]	1.7	21.7	20	- 3.4	3	0	20	1.1	82	28	- 35	23	11	0	0	T	2.7	SE	15.0*	SE	7	3	8	20	7.7	
PENDLETON	455	9[illegible].8	1021.[illegible]	6.1	- [illegible]	2.[illegible]	3.6	18.7	14	- 0.[illegible]	4+	0	18	- 0.0	79	12	- 20	5	7	0	T	T	3.0	SSW	15.0*	WSW	7	2	[illegible]	27	3.1	
PORTLAND	6	1014.6	1021.[illegible]	1[illegible]	3.8	5.4	3.4	1[illegible]	5	5.0	3	0	9	2.2	75	114	- 2	27	17	0	0	[illegible]	1.7	E	13.2	SW	7	8	5	18	7.0	35
ROSEBURG	1[illegible]	1[illegible].4	1[illegible].3	13.1	[illegible]	6.4	[illegible]	17.2	31	5.0	4	0	10			56	- 60	30	14	[illegible]	[illegible]	[illegible]	1.5	NW	12.5	SW	7	1	0	24	8.5	30
SALEM	5[illegible]	1012.9	1021.[illegible]	[illegible].6	1.7	4.[illegible]	2.6	16.1	2[illegible]	- 5.5	27	0	15	2.8	81	122	- 24	29	18	0	0	0	3.6	S	17.0*	SSW	7	7	5	19	7.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm. or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II	M	Mb	Mb	C	C.	C.	C	C		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm	M.p.s		M.p.s							%
OREGON																																
SEXTON SUMMIT R	1169	885.5	1019.6	9.4	2.8	6.1	4.0	10.7	20	- 2.5	1	0	4			123	21	73	15	0	25	25	7.4	S				9	6	16	6.2	
PACIFIC AREA																																
CANTON ISLAND	2	1007.5	1007.9	31.7	26.1	28.9	0.6	32.8	15+	23.9	16	14	0	22.8	73	401	96	103	26	2	0	0	3.5	NE	13.0	NW	19	0	0	31	9.9	44
ENIWETOK	4	1009.5	1010.2	30.0	25.6	27.6		31.1	3	23.9	9+	0	0	22.8	74	558		243	22	0	0	0	5.9	E	13.4	E	8	0	5	26	9.0	
JOHNSTON	2	1012.2	1012.8	27.8	22.8	25.1		28.3	29+	20.0	14	0	0	19.4	72	195	114	31	27	0	0	0	3.9	NE#	11.6	NE	8					34
KWAJALEIN	2	1008.1	1009.0	30.0	25.6	27.5		31.1	7+	22.2	2	0	0	23.3	77	232	39	76	18	1	0	0	3.0	NE	9.8	SE	30	0	3	28	9.4	52
KOROR R	29	1005.1	1008.9	29.4	23.9	26.9	0.1	31.7	31+	21.7	21	0	0	24.4	89	422	123	102	25	1	0	0	2.6	NE	10.3	E	10	0	1	30	9.7	38
MAJURO	3	1008.5	1008.8	29.4	25.0	27.4		31.1	11	22.2	28	0	0	23.9	80	21	- 11	10	9	0	0	0	6.3	ENE	13.9*	ENE	10+	11	12	8	5.1	
TAGUAC GUAM R	110			28.3	23.3	25.8	0.4	29.4	31+	20.6	22	0	0			34	7	9	8	0	0	0	7.1	ENE	13.4*	E	9	0	0	31	9.9	
PONAPE R	37	1003.1	1008.4	30.0	23.9	26.9	-0.4	31.1	23+	21.1	30	0	0	23.9	85	296	122	65	27	0	0	0	4.4	NE	14.3	SW	18	0	2	29	9.0	08
TRUK MOEN ISLAND	2	1008.1	1008.4	30.0	25.6	27.6	0.4	30.6	23+	22.8	19	0	0	23.9	81	30		10	11	0	0	0	8.0									
WAKE ISLAND	3	1013.5	1013.9	28.9	23.3	25.9	0.7	29.4	23+	21.7	1	0	0	20.6	72	16		12	9	0	0	0	5.4		13.9	NE	1	16	13	2	3.8	04
YAP R	17	1006.4	1008.4	29.4	24.4	27.0	-0.1	30.6	31+	23.3	10	0	0	24.4	85	84		33	17	0	0	0	8.3	ENE	14.3*	ENE	9	2	4	25	8.4	
PENNSYLVANIA																																
ALLENTOWN	115	1003.7	1018.7	- 1.1	-11.1	- 6.1	-4.1	10.0	7	-24.4	22	0	31	- 6.7	71	84	3	38	8	0	561	381	4.9	WSW	20.6*	WNW	1	10	12	9	5.5	
ERIE	223	991.6	1019.0	- 2.2	- 8.3	- 5.1	-2.4	9.4	13	-17.8	28	0	27	- 6.1	74	29	- 31	9	15	0	602	203	5.9	SW	14.3*	WSW	7	2	7	22	8.3	
HARRISBURG	102	1004.6	1019.2	0.6	- 8.3	- 3.8	-3.3	12.2	7	-19.4	22	0	31	- 5.6	63	88	21	37	9	0	864	508	3.4	W	14.8	NW	24	9	10	12	6.0	61
PHILADELPHIA	2	1013.5	1018.3	0.6	- 8.3	- 3.9	-4.6	11.7	7	-20.0	21	0	29	- 5.0	68	80	- 5	28	7	0	500	305	4.5	WNW	15.6	N	20	8	12	11	5.9	68
PHILADELPHIA U	11			2.2	- 4.4	- 1.2	-2.8	13.9	7	-13.9	25	0	26																			
PITTSBURGH	351	988.8	1020.4	- 1.7	- 9.4	- 5.4	-3.8	10.6	13	-23.3	25	0	29	- 6.7	72	50	- 21	15	17	0	577	254	4.8	WSW	17.0*	NNW	24	3	10	18	7.5	54
PITTSBURGH U	228			0.6	- 6.1	- 2.8	-3.4	12.2	13	-17.8	25	0	25			52	- 20	18	17		427											
READING U	81	1006.0		1.1	- 7.2	- 3.1	-3.2	12.8	7	-17.8	22	0	29			72	- 8	26	7	0	617	330	4.6		21.9	E	1	7	12	12	6.0	62
SCRANTON	287	982.4	1018.5	- 3.3	-11.7	- 7.3	-4.4	8.9	7	-23.3	22	0	31	- 8.3	65	46	- 11	24	8	0	483	330	4.1	SW	11.6	NW	8	8	11	12	6.2	64
WILLIAMSPORT	161	999.3		- 1.1	-11.7	- 6.3	-4.4	10.0	7	-25.0	22	0	31			60	- 6	28	8		521	279						8	10	13	6.4	
RHODE ISLAND																																
BLOCK ISLAND	34	1010.5		0.0	- 6.1	- 3.0	-2.9	10.0	1	-13.9	22	0	29			60	- 34	27	9	0	229	127						13	8	10	5.1	
PROVIDENCE	17	1009.3	1015.8	0.0	- 9.4	- 4.6	-2.8	13.3	14	-21.1	22	0	29	- 6.1	60	89	- 6	48	8	0	442	356	5.4	NNW	17.0*	N	20	14	9	8	4.7	70
SOUTH CAROLINA																																
CHARLESTON	12	1018.7	1020.6	13.9	0.0	6.8	-3.3	21.1	12	- 7.8	22	0	20	3.9	66	45	- 18	17	7	1	T	T	4.4	WSW	20.6	W	19	11	7	13	5.5	73
CHARLESTON U	3			12.8	3.3	8.1	-2.7	19.4	7	- 5.6	22	0	8			50	- 13	21	9		T	T	4.4		18.8	SW	19					
COLUMBIA	66	1007.6	1021.0	12.2	- 1.7	5.2	-3.2	20.0	12	-10.0	22	0	23	2.2	65	74	- 5	37	5	0	36	25	2.9	SW	12.1	W	21+	12	8	11	4.9	68
FLORENCE	45	1013.9	1020.0	11.7	- 1.1	5.4	-2.6	20.6	24	-10.0	22	0	22	2.2	60	31	- 41	19	6	0	20	25	3.7	SW	10.3*	SW	24+	12	9	10	4.8	
GREENVILLE	310	981.8	1020.4	10.6	- 2.2	4.2	-2.1	17.8	24	-13.3	22	0	22	0.6	55	61	- 53	38	7	0	28	25	3.7	WSW	13.4	W	23	16	5	10	4.3	73
SPARTANBURG	244	989.3	1020.1	10.0	- 2.2	3.8	-2.5	17.2	12	-12.2	22	0	24	0.6	56	62	- 53	41	6	0	28	25	2.9	SW	11.2*	NW	19	17	5	9	4.2	
SOUTH DAKOTA																																
HURON	391	973.6	1024.4	- 6.1	-18.9	-12.6	-2.3	4.4	6	-32.3	24	0	31	-14.4	83	5	- 10	4	4	0	79	178	4.9	SSE	15.6	SE	8	5	11	15	6.8	76
RAPID CITY	965	904.2	1022.6	3.9	- 8.9	- 2.6	3.4	15.6	31+	-22.2	27+	0	31	- 9.4	63	3	- 10	5	1	0	25	51	4.8	NNW	21.0	N	25	6	8	17	6.7	69
SIOUX FALLS	433	968.8	1023.5	- 3.3	-16.1	- 9.9	0.0	7.2	12	-30.6	24	0	31	-15.6	65	6	- 12	6	1	0	86	152	3.6	NW	14.3*	NNW	20+	8	9	14	6.3	
TENNESSEE																																
BRISTOL	463	964.8	1021.2	5.6	- 5.6	- 0.2	-3.9	16.1	13	-18.9	22	0	26	- 2.2	70	58	- 31	19	9	0	109	51	3.4	SW	10.3*	W	24+	11	5	15	5.6	
CHATTANOOGA	204	994.0	1022.7	7.8	- 4.4	1.6	-3.8	15.6	12	-13.9	22	0	26	- 0.6	70	29	-104	12	5	0	5	T	3.2	NNE	14.8	NW	19	10	7	14	5.9	55
KNOXVILLE	290	1019.5	1022.4	6.7	- 4.4	1.2	-3.5	16.1	12	-15.0	22	0	24	- 1.1	66	65	- 51	23	10	1	137	51	3.8	WSW	13.9	NW	19	11	5	15	5.7	50
MEMPHIS	80	1008.6	1023.9	8.3	- 3.9	2.3	-3.1	18.9	18+	-11.7	28	0	26	0.0	67	21	-120	12	6	1	T	T	4.2	SSW	14.3	NW	20+	8	8	15	6.0	59
MEMPHIS U	83			7.8	- 1.1	3.3	-2.2	18.9	18	- 1.7	21	0	18			18	-119	12	5		T	25										
NASHVILLE	176	1002.2	1022.8	6.7	- 5.0	0.7	-3.7	16.1	12	-18.3	28	0	25	- 1.1	69	37	- 89	12	9	1	76	51	3.3	NNW	14.8	NW	19	10	9	12	5.5	55
OAK RIDGE	276	987.8		6.1	- 5.0	0.7	-3.2	12.8	13+	-16.1	22	0	25			47	-107	15	7	1	89	25	1.6		13.0*		19	13	5	13	5.1	
TEXAS																																
ABILENE	536	960.4	1023.4	11.1	- 1.7	4.8	-1.5	22.8	18	-11.7	29	0	20	- 1.7	66	101	79	55	8	0	99	76	3.8	S	16.1	N	19	9	7	15	5.9	63
AMARILLO	1094	892.7	1022.3	10.0	- 6.7	1.4	-0.4	19.4	16	-14.4	28	0	31	- 8.9	50	3	- 13	3	1	0	274	51	5.5	SW	17.0	N	18	16	6	9	4.2	85
AUSTIN	187	1001.0	1023.7	13.3	2.2	7.8	-2.2	23.3	17	- 3.9	28	0	9	2.8	75	32	- 35	24	8	0	T	T	4.1	N	15.6	N	24	7	7	17	6.7	51
BROWNSVILLE	5	1020.0	1022.7	17.8	8.3	13.1	-2.8	25.6	24	1.1	28	0	0	9.4	82	50	13	24	12	1	0	0	4.5	NNW	16.5	NW	19	6	4	21	7.6	33

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No of days (sunrise to sunset): Clear, 0-3	No of days (sunrise to sunset): Partly cloudy 4-7	No of days (sunrise to sunset): Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
II	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm			Mm.	Mm.	M.p.s.		M.p.s							%
TEXAS																																
CORPUS CHRISTI	13	1022.4	1023.4	15.6	6.1	10.9	-2.9	25.0	24	- 1.7	28	0	4	6.7	77	60	25	25	6	2	T	T	4.6	NNE	15.2	N	19	6	3	22	7.5	40
DALLAS	147	1005.1	1024.6	11.1	0.0	5.6	-2.1	23.3	18	- 8.9	29	0	16	- 0.6	69	86	23	52	10	0	81	76	4.2	S	16.1	NW	19	12	5	14	5.5	61
DEL RIO U	292			13.9	3.3	8.7	-2.4	25.0	24	- 1.1	25	0	2			40	19	23	7	1	T	T										
EL PASO	1195	890.6	1022.1	12.2	- 2.2	5.0	-1.3	17.2	31	- 6.1	13	0	26	- 3.9	57	10	0	10	3	0	T	T	3.7	N	13.4	W	27	13	2	16	5.4	71
FORT WORTH	166	1003.1	1024.6	11.1	- 1.1	4.9	-2.4	23.3	17	-11.7	29	0	20	0.0	74	84	22	60	11	0	89	102	5.1	S	17.0*	NNW	18	11	0	14	5.7	
GALVESTON U	2			12.8	6.7	9.6	-2.9	18.9	7	- 0.6	29+	0	5			102	- 2	60	10		T	0	5.4		14.3	NE	25					50
GALVESTON	2	1021.3	1023.6	12.8	6.1	9.4	-2.9	18.9	18+	- 1.1	29	0	5	4.4	74	136	25	70	11	1	T	T	4.6	N				7	7	17	7.0	
HOUSTON U	12	1018.0		14.4	5.6	9.8	-2.3	22.8	17	- 2.2	29	0	5			89	- 12	43	11	1	T	0	3.9	N#	21.9	NW	19	9	4	18	6.8	51
HOUSTON	15	1021.0	1024.1	15.0	4.4	9.7	-2.1	24.4	18	- 2.2	29	0	7	5.0	76	113	7	65	11	1	0	0	3.8	N				6	5	20	7.3	
LAREDO	152	1007.8	1023.5	16.7	6.1	11.2	-3.1	26.7	24	- 0.6	28	0	1	4.4	69	52	26	38	10	1	0	0	3.2	NW	16.1*	NE	24	6	4	21	7.3	
LUBBOCK	988	908.2	1023.6	10.6	- 6.7	2.0	-1.8	20.0	18+	-13.9	29	0	31	- 6.1	61	14	- 3	10	4	0	99	76	5.5	N	21.0*	N	18	13	9	9	4.5	
MIDLAND	870	920.8	1022.1	11.7	- 2.8	4.6	-2.2	20.0	17	- 9.4	29	0	25	- 2.8	66	34	18	17	6	0	51	51	4.0	S	15.6*	N	18	10	4	17	6.1	
PORT ARTHUR	5	1021.7	1023.0	13.9	3.3	8.5	-3.1	23.3	17	- 3.9	30+	0	12	3.9	78	243	113	125	11	2	0	0	4.3	ENE	17.0	NW	19	6	9	16	6.7	43
SAN ANGELO	580	954.3	1023.5	12.8	- 1.1	5.7	-2.8	22.2	23+	- 7.8	25	0	19	0.0	70	93	68	63	7	1	30	25	4.9	SW	19.2*	NNE	24	11	7	13	5.8	
SAN ANTONIO	241	997.6	1023.5	15.0	2.8	8.8	-1.5	25.0	24	- 2.2	30+	0	10	2.8	71	17	- 29	8	6	0	T	T	4.2	N	15.6	N	25+	8	0	17	6.5	46
VICTORIA	34	1018.3	1023.4	15.0	5.0	9.8	-3.1	24.4	17	- 1.7	30+	0	6	5.0	73	51	- 19	16	8	0	T	0	4.9	N	20.1Y	N	19	6	4	21	7.3	
WACO	152	1002.7	1024.4	11.7	0.6	6.3	-2.2	23.9	17	- 8.3	29	0	15	1.7	76	148	88	57	8	1	51	51	6.0	N	20.6*	NW	19	9	8	14	6.2	
WICHITA FALLS	303	985.8	1024.0	10.6	- 2.8	4.1	-0.7	21.1	17	-11.7	29	0	23	- 2.2	70	9	- 25	4	5	0	28	25	4.3	S	17.9*	NNW	18	10	9	12	5.3	
UTAH																																
MILFORD	1533	849.3	1027.4	7.2	-13.3	- 3.0	1.6	16.1	17	-25.6	28	0	31			11	- 4	11	2	0	81	76						17	7	7	4.0	
SALT LAKE CITY	1286	874.0	1027.4	5.6	- 8.9	- 1.8	1.2	13.3	31	-14.4	28	0	31	- 7.8	66	2	- 28	2	1	0	3	T	2.7	SSE	9.8	N	31	13	8	10	4.8	73
WENDOVER	1291	878.1	1028.1	2.2	-10.6	- 4.2		6.7	31+	-16.1	28	0	31			T		T	0	0	0	0						16	7	8	3.8	
VERMONT																																
BURLINGTON	101	1001.2	1016.9	- 7.2	-23.3	-12.7	-4.8	6.1	7	-26.1	22	0	31	-13.3	64	24	- 24	21	6	0	404	432	3.4	SSW	13.9	NW	18	6	0	19	6.9	59
VIRGINIA																																
LYNCHBURG	289	984.5		5.6	- 5.0	0.2	-2.9	14.4	11+	-13.9	22	0	25			27	- 60	8	7	0	224	102	3.8		15.2	W	24	16	0	9	4.4	71
NORFOLK	8	1018.6	1019.9	6.7	- 2.8	1.7	-3.6	16.1	7+	-11.1	27	0	23	- 0.6	71	89	9	53	8	1	79	51	4.8	SW	17.9	NW	20	14	9	8	4.5	73
RICHMOND	49	1013.7	1020.3	7.2	- 5.6	0.8	-2.7	16.1	14	-18.3	28	0	26	- 2.2	60	65	- 27	21	8	0	183	76	3.2	SW	13.0	NW	20	15	4	12	4.8	65
ROANOKE	358	976.0	1020.0	5.6	- 4.4	0.7	-2.6	15.6	11	-15.6	22	0	22	- 2.2	55	41	- 45	14	8	0	254	102	5.8	WNW				15	7	9	4.5	
WASHINGTON U	22			3.9	- 4.4	- 0.3	-2.8	12.2	6	-12.8	25	0	25			69	- 17	22	6													
WASH NATL AP	4	1015.0	1019.6	2.8	- 5.0	- 1.2	-3.6	11.7	6	-15.0	29	0	27	- 3.3	63	79	- 3	29	6	0	345	229	4.1	NW	17.0	WNW	24	10	11	10	5.5	66
WASHINGTON																																
OLYMPIA	58	1011.5	1018.8	9.4	1.7	5.4	2.7	14.4	19	- 7.8	27	0	14	3.3	87	221	51	44	18	0	0	0	3.5	SW	13.4*	SW	7	4	4	23	8.1	
SEATTLE TACOMA	118	1004.7	1019.1	10.0	3.3	6.4	3.6	15.6	19	- 3.9	3+	0	7	2.8	78	196	76	40	18	0	0	0	4.6	S	15.6*	S	7	6	4	21	7.5	
SEATTLE	4	1019.7	1018.6											3.3	80								3.4	SSE								
SEATTLE U	4			10.6	5.6	8.1	3.2	16.1	19	- 1.7	3	0	3			172	58	25	19		0	0			23.2	SW	7					37
SPOKANE	718	953.3	1024.0	2.2	- 3.9	- 0.9	3.0	9.4	14	-14.4	3	0	23	- 3.3	63	41	- 3	18	7	0	198	203	3.5	NE	12.5	SW	15	5	5	21	7.7	34
STAMPEDE PASS R	1206	880.8	1022.5	0.0	- 5.0	- 2.3	2.3	5.0	15+	-12.8	3	0	30			278	- 54	70	20	0	1638	1956						5	3	23	7.9	
TATOOSH ISLAND	31	1012.9	1015.9	10.0	6.1	8.1	2.5	13.9	19	3.3	3+	0	0	4.4	78	381	122	81	19	2	T	0	11.0	E	34.4	E	18	8	1	22	7.3	30
WALLA WALLA U	289	986.8	1023.7	7.2	0.6	3.7	3.7	18.3	11	- 7.2	4	0	18			25	- 18	9	6	0	13	T	1.9	S#	15.2	NW	7	0	3	28	9.5	18
YAKIMA	323	984.1	1024.5	4.4	- 3.9	0.4	3.2	14.4	31+	- 9.4	27+	0	28	- 2.2	85	14	- 10	4	7	0	43	25	2.0	WNW	16.5*	SSW	15	4	5	22	7.8	
WEST INDIES																																
SAN JUAN P.R. U	14			27.2	22.2	24.7	0.8	28.9	21	20.6	31+	0	0			86	- 34	14	20		0	0										
SAN JUAN P.R.	5	1014.3	1017.4	28.3	20.6	24.4	1.0	30.0	30	17.8	20	0	0	21.7	80	89	- 57	17	20	0	0	0	4.9	ENE	11.2	ENE	5	20	7	4	4.8	68
SWAN ISLAND	10	1006.2		28.3	23.9	26.2	0.7	29.4	30+	21.7	30+	0	0			38	- 57	14	11	0	0	0						8	19	4	5.0	
WEST VIRGINIA																																
CHARLESTON	290	984.4	1021.5	1.7	- 6.7	- 2.5	-4.9	13.3	13	-21.1	25	0	25	- 3.9	70	96	- 5	49	12	0	384	152	3.1	WSW	12.1*	WNW	24	4	10	17	7.3	
HUNTINGTON U	173			3.3	- 5.6	- 1.2	-4.6	15.6	13	-17.2	28+	0	25			89	- 2	47	8	0	196	102										
PARKERSBURG U	187			2.2	- 6.7	- 2.1	-3.4	15.0	13	-18.3	25	0	24			50	- 31	19	9	0	241	152	2.8		9.8	W	8	8	7	16	6.4	47
WISCONSIN																																
GREEN BAY	210	996.6	1020.5	- 4.4	-13.3	- 9.0	-0.2	10.0	13	-25.0	25+	0	31	-12.8	73	8	- 25	3	6	0	127	51	5.4	SW	16.5	NW	7	8	7	16	6.6	45

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JANUARY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
B	M.	Mb.	Mb.	C.	C.	C	C.	C		C.				C.	%	Mm.	Mm	Mm			Mm.	Mm	M.p.s		M.p.s							%
WISCONSIN																																
LA CROSSE	199	995.9	1022.4	- 3.9	-13.3	- 8.7	0.4	7.8	13	-25.0	24	0	31	-13.3	70	7	- 24	3	7	0	130	51	4.2	S	12.5*	N	20+	9	7	15	6.4	
MADISON	261	983.7	1021.2	- 2.8	-13.9	- 8.4	-1.2	11.7	13	-24.4	25	0	31	-13.3	67	5	- 28	2	7	0	53	25	4.2	NW	12.1	NW	7	8	7	16	6.7	76
MILWAUKEE	205	994.9	1021.4	- 2.2	-11.7	- 7.0	-1.4	12.8	13	-22.2	25+	0	31	-11.7	69	8	- 32	3	8	0	99	25	5.2	WSW	15.2	NW	7	7	10	14	6.1	66
WYOMING																																
CASPER	1621	839.5	1022.6	3.9	- 7.2	- 1.8	3.6	11.7	31	-20.6	27	0	29	-11.1	54	1	- 17	1	1	0	41	25	7.6	SW	16.5*	SW	29	8	8	15	6.1	
CHEYENNE	1869	812.7	1022.4	5.0	- 8.3	- 1.7	1.9	13.9	31+	-28.9	27	0	30	-15.0	41	2	- 13	2	2	0	30	25	7.4	WNW	22.8	NW	14	15	8	8	4.4	76
LANDER	1696	838.1	1025.8	1.1	-12.2	- 5.5	2.9	9.4	30	-25.0	27	0	31	-12.8	59	3	- 9	2	2	0	64	102	1.9	SE#	7.6	W	30	12	8	11	5.4	85
SHERIDAN	1202	887.6	1023.6	3.9	- 9.4	- 2.8	3.8	12.2	30	-21.7	27	0	31	- 8.3	69	3	- 16	3	2	0	71	102	2.9	S	16.5	NW	19	9	7	15	6.4	71

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

A Maximum hourly average.

\+ And also on an earlier date or dates.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

B Number of days maximum 21.1°C. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

V Sun below horizon January 1 to January 24 inclusive.

X Sun below horizon January 1 to January 16 inclusive.

HEATING DEGREE DAYS

(Base 65°F.)

JANUARY 1961

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	798	1966	1753
Huntsville	885	2225	
Mobile	604	1292	1039
Montgomery	749	1757	1381
ALASKA			
Anchorage	1359	5764	6419
Annette	796	3614	3964
Barrow	2358	11521	10875
Barter Island	2359	10865	
Bethel	1667	7024	7363
Cold Bay	1045	5084	5263
Cordova	999	5043	5430
Fairbanks	2078	8216	8693
Juneau	1062	4735	5169
King Salmon	1347	5945	6505
Kotzebue	1815	8054	8850
McGrath	2068	8204	8663
Nome	1553	7211	7808
St. Paul	1161	5875	5753
Shemya	1048	5273	
Yakutat	1026	4789	5265
ARIZONA			
Flagstaff	1072	3858	4198
Phoenix (U)	245	706	980
Phoenix	326	940	1119
Prescott	766	2458	2641
Tucson	381	1087	1123
Winslow	1088	3243	2904
Yuma	159	487	682
ARKANSAS			
Ft. Smith	902	2209	2048
Little Rock	894	2269	1898
Texarkana	729	1763	1513
CALIFORNIA			
Bakersfield	656	1649	1380
Bishop	751	2402	2515
Blue Canyon	599	2462	2899
Burbank	178	659	976
Eureka (U)	441	2617	2585
Fresno	694	1840	1640
Long Beach	216	781	
Los Angeles (U)	116	467	779
Los Angeles	188	752	1075
Mt. Shasta (R)	782	2887	3324
Oakland	549	1740	1790
Point Arguello (R)	365	2034	
Red Bluff	632	1632	1559
Sacramento (U)	675	1671	1594
Sacramento	695	1670	1714
Sandberg (R)	569	2018	2184
San Diego	136	551	813
San Francisco (U)	486	1913	1709
San Francisco	531	1759	1890
San Jose (U)	470	1297	1348
Santa Maria	330	1625	1566
COLORADO			
Alamosa	1607	5133	5112
Colorado Springs	1075	3553	3513
Denver	1026	3478	3489
Grand Junction	1099	3231	3564
Pueblo	1050	3193	3383
CONNECTICUT			
Bridgeport	1250	3270	3169
Hartford	1487	4033	3458
Middletown	1425	3947	
New Haven	1275	3459	3276
DELAWARE			
Wilmington	1215	3225	2824
DIST. OF COLUMBIA			
Washington (U)	1032	2720	2488
Washington	1081	2837	2523
FLORIDA			
Apalachicola (U)	463	991	827
Daytona Beach	336	694	533
Fort Myers	131	282	250
Jacksonville	39	560	804
Key West	39	72	46
Lakeland (U)	251	532	412
Miami	77	140	118
Miami Beach	46	85	80
Orlando	250	514	410
Pensacola (U)	517	1085	912
Tallahassee	525	1163	991
Tampa	231	487	424
West Palm Beach	99	184	154
GEORGIA			
Athens	792	2061	1738
Atlanta	814	1999	1757
Augusta	722	1843	1356
Columbus	722	1726	1514
Macon	680	1680	1321
Rome	902	2387	1956
Savannah	593	1427	1099
Thomasville (U)	537	1175	945
IDAHO			
Boise	989	3286	3509
Idaho Falls 46W (R)	1404	4778	4991
IDAHO (Cont'd.)			
Idaho Falls 42NW (R)	1475	4995	5239
Lewiston	899	3189	3307
Pocatello	1214	3973	4060
ILLINOIS			
Cairo (U)	986	2558	2321
Chicago (Midway)	1284	3493	3595
Chicago (O'Hare)	1377	3755	
Moline	1355	3738	3730
Peoria	1351	3750	3563
Rockford	1403	3987	
Springfield	1248	3372	3359
INDIANA			
Evansville	1097	2969	2654
Ft. Wayne	1332	3734	3582
Indianapolis	1275	3538	3263
South Bend	1333	3693	3694
IOWA			
Burlington	1307	3534	3605
Des Moines	1328	3666	3802
Dubuque	1466	4209	4215
Sioux City	1443	3867	4156
Waterloo	1515	4291	4193
KANSAS			
Concordia (U)	1084	3000	3192
Dodge City	977	2842	3027
Goodland	1064	3297	3676
Topeka	1113	3015	3152
Wichita	1036	2755	2786
KENTUCKY			
Lexington	1144	3018	2892
Louisville	1115	3039	2666
LOUISIANA			
Alexandria	688	1560	
Baton Rouge	633	1352	1039
Lake Charles	562	1153	1009
New Orleans (U)	480	932	770
New Orleans	539	1107	848
Shreveport	661	1581	1398
MAINE			
Caribou	1897	5493	5663
Greenville (U)	1866	5488	
Portland	1532	4411	4220
MARYLAND			
Baltimore (U)	1043	2661	2417
Baltimore	1153	3100	2773
Frederick	1265	3498	2842
MASSACHUSETTS			
Blue Hill Obs. (R)	1336	3721	
Boston	1231	3271	3128
Nantucket	1154	3185	3098
Pittsfield	1540	4474	4291
Worcester	1427	4134	
MICHIGAN			
Alpena	1607	4866	4320
Detroit (City AP)	1291	3581	3536
Detroit (M. Wayne Co.)	1333	3735	
Detroit (Willow Run)	1312	3662	3614
Escanaba (U)	1538	4608	4686
Flint	1412	4109	3964
Grand Rapids	1359	3839	3927
Lansing	1389	4010	
Marquette (U)	1511	4637	4602
Muskegon	1327	3797	3836
S. Ste. Marie	1677	5077	5162
MINNESOTA			
Duluth	1769	5426	5600
Internat. Falls	1963	6082	6145
Minneapolis	1641	4798	4577
Rochester	1544	4632	4716
St. Cloud	1675	4986	5173
MISSISSIPPI			
Jackson	748	1721	1417
Meridian	758	1787	1517
Vicksburg (U)	704	1611	1282
MISSOURI			
Columbia	1095	2909	3064
Kansas City	1026	2787	2960
St. Joseph	1161	3145	3223
St. Louis (RFC)	1020	2679	2686
St. Louis	1132	2951	2822
Springfield	1041	2775	2842
MONTANA			
Billings	1010	3517	4072
Butte	1299	5193	5604
Glasgow	1429	4763	5141
Great Falls	989	3671	4270
Havre (U)	1157	4271	4811
Helena	1158	4293	4818
Kalispell	1269	4752	4720
Miles City	1249	4097	4584
Missoula	1340	4794	4684
NEBRASKA			
Grand Island	1205	3514	3761
Lincoln (U)	1199	3297	3490
Norfolk	1379	3887	4161
North Platte	1182	3705	3852
Omaha	1245	3404	3675
Omaha N. Omaha AP	1322	3664	
Scottsbluff	1155	3897	3925
Valentine	1264	4012	4091
NEVADA			
Elko	1166	4032	4241
Ely	1170	4032	4232
Las Vegas	611	1661	1622
Reno	970	3430	3474
Tonopah	949	3099	3323
Winnemucca	1049	3623	3765
NEW HAMPSHIRE			
Concord	1562	4437	4299
Mt. Washington Obs. (R)	2089	8146	
NEW JERSEY			
Atlantic City	1174	2956	
Atlantic City (U)	1115	2943	2502
Newark	1185	3010	2951
Trenton (U)	1188	3111	2856
NEW MEXICO			
Albuquerque	956	2719	2727
Clayton	939	2991	2986
Raton	1182	3699	3737
Roswell	942	2739	2202
Silver City	774	2334	
NEW YORK			
Albany	1530	4167	3901
Binghamton	1490	4243	4193
Buffalo	1435	3977	3695
New York (U)	1149	2953	2766
New York (LaGuardia)	1132	2812	2724
Rochester	1410	3918	3765
Schenectady	1504	3966	3965
Syracuse	1427	3896	3594
NORTH CAROLINA			
Asheville (U)	971	2650	2427
Cape Hatteras (R)	700	1682	1315
Charlotte	825	2138	1978
Greensboro	935	2552	2319
Raleigh	878	2355	2036
Wilmington	708	1803	1402
Winston-Salem	900	2427	2255
NORTH DAKOTA			
Bismarck	1437	4800	5254
Devils Lake (U)	1791	5529	5769
Fargo	1803	5343	5399
Grand Forks CAA	1847	5603	
Pembina	1939	5650	
Williston (U)	1414	4678	5271
OHIO			
Akron	1341	3778	3464
Cincinnati (U)	1072	2791	2653
Cincinnati	1146	3091	3028
Cincinnati Obs.	1135	3055	2850
Cleveland	1336	3845	3313
Columbus	1282	3462	3233
Columbus (U)	1247	3324	3046
Dayton	1279	3498	3222
Mansfield	1336	3755	
Sandusky (U)	1287	3465	3238
Toledo	1313	3820	3573
Youngstown	1345	3843	3437
OKLAHOMA			
Oklahoma City	885	2242	2282
Tulsa	943	2238	2238
OREGON			
Astoria	541	2656	2733
Burns (U)	1072	3948	4103
Eugene	658	2611	2770
Meacham	1010	4154	4348
Medford	759	2602	2711
Pendleton	880	3053	3161
Portland (U)	577	2198	2418
Portland	654	2509	2673
Roseburg	657	2398	2603
Salem	675	2484	2640
Sexton Summit (R)	676	3043	3278
PENNSYLVANIA			
Allentown	1353	3677	3337
Erie	1392	3597	3499
Harrisburg	1232	3371	3022
Philadelphia (U)	1085	2724	2557
Philadelphia	1232	3296	2777
Pittsburgh (U)	1176	3151	2882
Pittsburgh	1321	3667	3384
Reading (U)	1184	3174	2888
Scranton	1422	4003	3413
Williamsport	1389	3880	3382
RHODE ISLAND			
Block Island	1182	3102	2989
RHODE ISLAND (Cont'd.)			
Providence	1274	3513	3346
SOUTH CAROLINA			
Charleston (U)	563	1314	1103
Charleston	635	1564	1250
Columbia	728	1858	1544
Florence	713	1816	1603
Greenville	781	2038	1873
Spartanburg	801	2128	1881
SOUTH DAKOTA			
Huron	1725	4960	4626
Pierre	1385	4239	
Rapid City	1158	3803	4219
Sioux Falls	1566	4407	4637
TENNESSEE			
Bristol	1031	2786	2506
Chattanooga	928	2448	2105
Knoxville	947	2490	2214
Memphis (U)	829	2104	1858
Memphis	892	2274	1973
Nashville	977	2565	2150
Oak Ridge (U)	976	2608	2503
TEXAS			
Abilene	749	1807	1721
Amarillo	935	2634	2651
Austin	582	1302	1130
Brownsville	302	574	437
Corpus Christi	408	828	695
Dallas	708	1629	1477
Del Rio (U)	530	1183	
El Paso	735	1984	1756
Ft. Worth	740	1696	1512
Galveston (U)	484	939	758
Galveston	486	941	780
Houston (U)	473	1002	843
Houston	473	984	903
Laredo	392	859	576
Lubbock	906	2342	2256
Midland	761	1892	1705
Port Arthur	542	1132	993
San Angelo	701	1634	1410
San Antonio	523	1135	1062
Victoria	466	984	760
Waco	665	1493	1311
Wichita Falls	790	1932	1937
UTAH			
Milford	1184	3548	3828
Salt Lake City	1116	3388	3473
Wendover	1249	3490	
VERMONT			
Burlington	1728	4772	4385
VIRGINIA			
Lynchburg	1005	2741	2471
Norfolk	921	2305	1986
Richmond	971	2627	2360
Roanoke	981	2721	2472
WASHINGTON			
Olympia	708	3107	3122
Seattle (U)	568	2348	2529
Seattle	793	2658	2756
Seattle-Tacoma	657	2798	3025
Spokane	1067	3895	3993
Stampede Pass (R)	1148	5061	5111
Tatoosh Island (R)	571	3019	3193
Walla Walla	840	2975	
Walla Walla (U)	809	2831	2989
Yakima	996	3626	3657
WEST VIRGINIA			
Charleston	1154	2982	2607
Huntington (U)	1083	2859	2434
Parkersburg (U)	1036	2959	2773
WISCONSIN			
Green Bay	1519	4568	4641
La Crosse	1504	4244	4459
Madison	1484	4325	4269
Milwaukee	1407	4181	3999
WYOMING			
Casper	1118	4061	4345
Cheyenne	1109	3896	4137
Lander	1321	4507	4833
Sheridan	1168	4065	4505

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

JANUARY 1961

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				Ø ALL OTHER			
								† DAMAGE				† DAMAGE				† DAMAGE				† DAMAGE				† DAMAGE				† DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
Alabama																						0	0	5	5				
Alaska																										0	0	1/4	0
Arizona *																													
Arkansas *																													
California										0	0	5	0																
Colorado *																													
Connecticut																		0	0	6	0								
Delaware N																													
Florida *																													
Georgia	1	1	0	0	2																	0	0	5					
Hawaii *																													
Idaho																										1	3	4	
Illinois *																													
Indiana *																													
Iowa *																													
Kansas *																													
Kentucky *																													
Louisiana *																													
Maine																		0	0	5	0								
Maryland N																													
Massachusetts																		2	0	5	0	0	0	6	0				
Michigan *																													
Minnesota *																													
Mississippi *																													
Missouri *																													
Montana										0	0	5	0									0	0	4	0				
Nebraska *																													
Nevada *																													
New Hampshire																		0	0	4	0	0	0	4	0				
New Jersey																		1	S	5	0								
New Mexico *																													
New York																				E5-6						3		E6	
North Carolina																		0	U	4	0	3	U	3	0	2/7	U	5	0
North Dakota *																													
Ohio *																													
Oklahoma										0	0	3	0																
Oregon										10	14	6	3																
Pennsylvania																		4	7	5									
Puerto Rico *																													
Rhode Island																		1	1	5	0								
South Carolina										0	0	4	0									0	0	5	4				
South Dakota *																													
Tennessee *																													
Texas																		1	0	0	0					1	0	0	0
Utah *																													
Vermont																		0	0	4	0								
Virginia																		3	31										
U. S. Virgin Is. *																													
Washington										7	1	5																3/5	4
West Virginia																										12			
Wisconsin *																													
Wyoming *																													

N No report received
* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
S Several.
U Unknown.
E Economic consequences.
1/ Flood damage combined with lesser damages from windstorm and slides.
2/ Deaths caused or contributed to by severe cold. An additional six persons (not included) died of carbon monoxide poisoning during the cold spell.
3/ Heavy precipitation.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

JANUARY 1961

The most important flooding during January occurred in eastern Texas from the middle Brazos Basin to the east and northeast. It was the wettest January on record at Abilene and the wettest since January 1919 at San Angelo, Tex. Some moderate flooding was reported in streams in the Puget Sound Drainage. Flooding reported elsewhere was minor.

ATLANTIC SLOPE DRAINAGE

Heavy rain on New Year's Eve brought some overflow of small streams in the immediate Philadelphia, Pa., area during the early morning hours of New Year's Day.

Moderate rain over western North Carolina on the 15th along with a few localized thunderstorms that occurred over the upper and central Neuse River Basin during the night of the 15th and 16th caused the Neuse River to rise rapidly at Neuse and Smithfield. Some lowland flooding occurred mainly in the Smithfield and Goldsboro, N. C., areas with no damage reported.

EAST GULF OF MEXICO DRAINAGE

Locally heavy rainfall over the Pearl River below Columbia, Miss., produced three brief periods of moderate flooding from above Bogalusa, La., to the coast during January 1961. Some damage from loss of time and of the use of grazing areas has resulted from the flooding.

MISSISSIPPI SYSTEM

Upper Mississippi Basin. --The average stage of the Mississippi River was 1.4 feet below the long-term mean at Minneapolis, Minn., 0.4 foot above the long-term mean at St. Paul, Minn., and 0.3 foot above at La Crosse, Wis. The Wisconsin River at Portage, Wis., was 0.4 foot above the long-term mean and the Chippewa River at Durand, Wis., was 0.2 foot above the long-term mean.

A comparison of snow depths in the Upper Mississippi Basin on January 31 with that of other years is given in the following table:

COMPARATIVE SNOW DEPTHS (INCHES)

Station	1961	1960	1959	1958	1957	1956	1955
(Minnesota)							
Bemidji	4	8	8	5	11	26	8
Internat. Falls	11	8	20	8	11	22	15
Duluth	9	16	11	11	14	29	17
Alexandria	0	5	0	5	2	16	6
New Ulm	T	1	2	3	T	6	4
Minneapolis	2	2	0	2	2	11	6
Rochester	T	2	3	2	1	10	3
(Wisconsin)							
Park Falls	2	14	12	12	13	21	17
Wausaw	T	4	6	5	7	12	--
Portage	1	2	10	4	4	2	--

There was some floating ice in the Mississippi River at Cairo, Ill., from the 24th to the 28th, then it became gorged until the afternoon of the 30th, when the gorge was broken. At the end of the month there was heavy floating ice from Cape Girardeau, Mo., to Cairo Point and a gorge at Dog Tooth Bend about 25 miles upstream from Cairo.

Ohio Basin. --River levels in the upper Ohio Basin remained near to well below seasonal levels throughout the month with no flood stages being reached on the main rivers or major tributaries. Precipitation was mostly in the form of snow with the total accumulation at the Greater Pittsburgh, Pa., Airport of 22.7 inches, the second highest of record for January. The highest January snow accumulation was in 1925, when 26.2 inches was recorded. The total December and January snow accumulation at the Greater Pittsburgh Airport was 43.5 inches, the second highest of record for the 2 months.

Unusually low temperatures during the last 10 days of January produced considerable shore ice in the lower Ohio Basin with some floating ice from up river. There was no disruption of navigation in the lower Ohio Basin.

Red River Basin. --Minor flooding occurred on the Sulphur River at Naples, Tex., from the 4th to the 18th and on the Cypress at Jefferson, Tex., from the 8th to the 11th. Damage was slight and the loss of the use of grazing land in the lowlands was the greatest loss.

WEST GULF OF MEXICO DRAINAGE

The Calcasieu River in Louisiana and the Sabine River in Texas were above flood stage at several points in the beginning of the month. These streams receded below flood stage at most points before the heavy rains of the 6th and 7th, which caused these streams to rise again to above flood stage. The rainfall during this period averaged around 5 inches, except around 3 inches over the middle Calcasieu. These streams were in flood between the 8th and 23d, except at Bon Wier, Tex., where it was above flood stage the entire month. Additional rains ranging from 1 to 2 inches fell over the two basins but had little effect on river stages. The crests on the Sabine at Milam and Bon Wier, Tex., were the highest since May 1958 and at Deweyville, Tex., since the Weather Bureau began taking readings there in April 1954. The crests on the Calcasieu at Hineston, Kinder, and Old Town Bay, La., were the highest since September 1958, and at Oakdale since November 1957. In the Sabine Basin, near Bon Wier, Tex., oil well drilling operations in the lowlands had to be discontinued. The loss of the use of grazing in the lowlands was one of the biggest losses.

Flooding developed along the Trinity from Dallas to Trinidad, Tex., and in the lower reach at Liberty, Tex., on the 8th from excessive rains, ranging from 2 to 5 inches on the 6th to the 9th. The Little and Navidad Rivers also began overflowing on the same day. Additional rains on the 12th and 13th, ranging from 1 to 3 inches, forced the Brazos out of its banks at East Columbia, Tex., on the 12th and the Neches River at Rockland, Tex., on the 13th. This storm prolonged the flooding on the tributaries but had little effect on the upper Trinity and upper Brazos.

Minor flooding continued on the lower Nueces River from the 1st through the 7th from heavy rains during December.

PACIFIC SLOPE DRAINAGE

Sacramento Basin. --Rains during the last few days of January brought a moderate rise to the upper Sacramento which caused overflow at two weirs in the beginning of February. Unseasonably dry weather occurred over the

basin previous to these rains. In Sacramento, measurable rain did not fall during a 36-consecutive day period beginning in mid-December, for a near record-breaking dry spell.

Columbia Basin. --Local flooding occurred on the lower Weiser River near Weiser, Idaho, during the afternoon and evening of the 31st due to rain, melted snow, and an ice jam. The rainfall on the 29th to the 31st ranged from 1.5 to 2.5 inches and melted from 4 to 5 inches of snow. Minor damage resulted. Thirty to 40 acres were inundated with water and ice cakes in the vicinity of the ice jam. The crest stage at Weiser was 12.83 feet at the time of the ice jam, which was 1.77 feet higher than the previous record stage of 11.06 feet in December 1955.

There were no significant rises over the rest of the Columbia Basin. The temperatures ranged from 3° to 6° above average. There was very little precipitation with the greatest deficiencies occurring in eastern Oregon and southern Idaho, where less than 50 percent of average precipitation occurred during January. As a result of the combined mild temperatures and light precipitation, snow accumulations in the Oregon Cascades below 4,000 feet were acutely deficient.

PUGET SOUND DRAINAGE

Sharp rises to above floodstage occurred on the Snoqualmie, Skykomish, Snohomish, and Skagit Rivers in northwestern Washington from the heavy rains on the 14th and 15th. Two to 4 inches fell in some foothill areas in 48 hours. About 6 inches fell in the upper Skagit Basin in 3 days and over 9 inches in the upper Baker Lake area in 24 hours. Moderate flooding occurred on the Snohomish and minor flooding along the lower Skagit. Flood stages were not reached on the Nooksack and Stillaguamish, the other northern streams. Only slight damage to dikes and roads occurred in the lower Skagit Valley.

FLOOD STAGE DATA

(All dates in January unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
	Ft.			Ft.	
ATLANTIC SLOPE DRAINAGE					
Neuse: Smithfield, N. C.	13	16	18	16.0	16
Goldsboro, N. C.	14	20	22	14.1	20-21
EAST GULF OF MEXICO DRAINAGE					
Pearl River: Bogalusa, La.	15	9	11	16.3	10
		15	16	15.3	16
		27	30	16.8	28
Pearl River, La.	12	13	14	12.7	13
		19	19	12.0	19
		30	1/	12.6	31
MISSISSIPPI SYSTEM					
Red River Basin					
Sulphur: Naples, Tex.	22	4	18	25.95	13
Cypress: Jefferson, Tex.	18		3	19.5	
		8	11	18.3	Jan. 9
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	Dec. 31	6	13.95	2,3
		8	19	16.55	9
		26	1/	13.72	28
Oakdale, La.	12	9	9	12.2	9
		11	13	14.4	11
Kinder, La.	16		6	18.65	4
		9	16	19.7	12
Old Town Bay, La.	4	1	3	4.3	2
		8	17	6.0	14
Sabine: Quitman, Tex.	16	10	10	16.65	10
Mineola, Tex.	14	9	16	17.0	12
Gladewater, Tex.	26	15	21	28.5	18
Logansport, La.	25		1	29.7	
			14	25.7	14
Sabine: Milam, Tex.	35	9	18	38.6	10
Bon Wier, Tex.	17	Dec. 30	4	18.4	1
		8	23	20.9	12
Deweyville, Tex.	14	Dec. 15	1/	16.5	11
Neches: Rockland, Tex.	22	13	19	23.0	16
Trinity: Dallas, Tex.	30	8	9	30.8	8
Rockwall, Tex.	10	8	8	10.2	8
		16	27	10.9	22

River and station	Flood stage	Above flood stages -dates		Crest*	
		From—	To—	Stage	Date
	Ft.			Ft	
WEST GULF OF MEXICO DRAINAGE (Cont'd.)					
Trinity: (Cont'd.) Rosser, Tex.	26	8	11	28.3	10
Trinidad, Tex.	28	8	14	33.3	13
Long Lake, Tex.	40	11	19	44.7	13
Midway, Tex.	40	13	22	43.2	18
Liberty, Tex.	24	8	31	28.3	17
Little: Cameron, Tex.	30	8	10	32.9	8
Brazos: East Columbia, Tex.	30	12	18	31.3	17
Navidad: Ganado, Tex.	21	8	9	23.8	8
Nueces: Calallen, Tex.	7	1	7	7.6	4
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Weiser: Weiser (nr.), Idaho	8	31	31	12.8	31
PUGET SOUND DRAINAGE					
Snoqualmie: Carnation, Wash.	51	15	17	54.0	16
Skykomish: Gold Bar, Wash.	15	15	15	15.1	15
Snohomish: Snohomish, Wash.	23	15	17	28.2	16
Skagit: Concrete, Wash.	26	15	16	30.6	16
Mt. Vernon, Wash.	21	15	18	22.5	16

* Estimated
1/ Continued at end of month

RAWINSONDE DATA

Average monthly values

JANUARY 1961

Standard pressure surface (mb.)	ALBANY, N. Y. (1006 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ALBUQUERQUE, N. MEX. (842 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	AMARILLO, TEXAS (896 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	86	-12.4	78	299	2.3	31	1,619	- 3.7	66	20	1.9	31	1,095	- 3.9	68	259	5.8
1,000--	31	132			293	3.5	31	243					31	214				
950----	31	528	- 9.7	65	293	12.0	31	650					31	623				
900----	31	944	-10.9	64	301	15.7	31	1,085					31	1,058				
850 ---	31	1,383	-12.1	64	304	16.7	31	1,544					31	1,515	2.0	38	303	8.4
800----	31	1,846	-12.9	59	296	19.2	31	2,027	- .9	49	326	6.2	31	2,004	1.1	32	311	8.0
750----	31	2,341	-14.3	58	288	22.7	31	2,540	- 1.4	41	313	10.5	31	2,520	- .4		301	11.9
700----	31	2,858	-16.3	55	290	27.2	31	3,091	- 2.9	33	310	14.6	31	3,072	- 2.8		299	13.2
650----	31	3,415	-18.9	52	284	30.5	31	3,670	- 5.5		302	15.2	31	3,654	- 5.8		304	17.7
600----	31	4,006	-22.1	48	280	34.8	31	4,300	- 8.7		297	15.3	31	4,280	- 9.3		298	20.6
550----	31	4,640	-25.8	45	276	39.8	31	4,957	-13.2		297	18.3	31	4,941	-13.7		299	22.9
500----	31	5,327	-29.8	41	275	42.7	31	5,689	-18.2		300	22.0	31	5,666	-18.9		299	24.1
450----	31	6,069	-34.4		272	50.9	31	6,455	-24.1		301	21.0	31	6,432	-24.8		298	25.5
400----	31	6,887	-39.8		272	56.0	31	7,317	-30.8		304	22.3	31	7,288	-31.5		298	29.9
350----	31	7,790	-45.0		272	56.2	31	8,251	-38.1		298	27.2	31	8,218	-38.4		295	32.8
300----	31	8,809	-49.6		272	60.4	31	9,295	-45.9		293	33.6	31	9,262	-46.0		287	43.9
250----	31	9,994	-52.8		271	62.0	31	10,488	-53.5		283	40.8	31	10,455	-52.8		286	52.7
200----	31	11,431	-52.7		269	62.6	31	11,909	-56.7		279	50.1	30	11,878	-56.6		282	55.2
175----	31	12,297	-51.6		271	65.1	31	12,755	-57.2		280	48.6	30	12,724	-57.2		281	57.5
150----	31	13,296	-52.2		271	65.1	31	13,729	-58.3		282	47.2	30	13,699	-58.1		280	58.3
125----	31	14,471	-54.0		268	58.5	31	14,868	-61.6		281	41.8	30	14,840	-61.0		282	50.5
100----	30	15,893	-56.8		266	54.8	31	16,239	-65.7		284	34.6	27	16,212	-65.1		281	40.0
80-----	30	17,305	-56.6		268	49.4	30	17,587	-66.5		285	28.2	21	17,574	-66.3		286	29.1
70-----	30	18,156	-56.9		266	43.7	30	18,401	-65.5		292	21.8	20	18,389	-66.1		292	23.1
60-----	30	19,126	-57.9		263	38.3	30	19,336	-64.5		307	13.4	19	19,325	-64.9		295	19.2
50-----	30	20,275	-57.6		262	32.1	30	20,453	-63.2		324	9.9	17	20,443	-63.8		308	15.3
40-----	29	21,680	-57.4		268	25.5	28	21,832	-61.7		22	7.0	16	21,814	-62.1		320	10.9
30-----	27	23,485	-56.8		277	19.0	28	23,620	-59.8		38	7.8	16	23,600	-60.5		357	7.0
25-----	27	24,642	-56.0		278	17.5	24	24,767	-58.2		36	6.2	15	24,737	-59.4		22	7.4
20-----	26	26,058	-54.9		287	12.6	19	26,179	-55.6		24	8.5	15	26,140	-57.3		29	6.8
15-----	20	27,931	-52.3		297	13.2	10	28,022	-52.4				12	27,968	-55.2			
10-----	6	30,578	-44.2															

Standard pressure surface (mb.)	ANCHORAGE, ALASKA (1000 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ANNETTE, ALASKA (1006 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	30	- 6.5	80	2	3.3	31	37	3.7	80	140	5.2
1,000--	31	25			5	3.7	31	83			123	5.6
950----	31	431	- 3.4	68	32	6.6	31	499	3.8	64	148	15.0
900----	31	858	- 3.0	61	104	6.0	31	939	1.3	63	164	17.7
850 ---	31	1,309	- 5.3	59	115	11.1	31	1,397	- 1.2	62	177	19.4
800----	31	1,783	- 8.2	58	128	16.3	31	1,879	- 3.7	56	187	18.1
750----	31	2,279	-10.9	53	141	17.3	31	2,383	- 6.3	51	192	18.5
700----	31	2,809	-14.0	52	147	18.5	31	2,923	- 9.4	46	196	17.9
650----	31	3,364	-17.4	53	156	18.[illegible]	31	3,488	-13.2	45	205	20.4
600----	31	3,963	-21.0	51	160	18.5	31	4,096	-17.3	43	204	20.0
550----	31	4,598	-25.2	48	161	16.1	31	4,737	-21.5	40	213	23.9
500----	31	5,287	-30.0	46	166	13.0	31	5,440	-26.5	38	219	27.8
450----	31	6,027	-35.3		164	13.6	31	6,188	-31.9		224	29.7
400----	31	6,840	-40.9		167	13.4	31	7,016	-38.0		225	32.4
350----	31	7,738	-46.3		176	14.6	31	7,923	-44.3		226	33.8
300----	31	8,751	-51.3		202	12.0	31	8,941	-51.1		231	39.4
250----	31	9,927	-53.7		199	11.7	31	10,113	-55.6		236	36.3
200----	31	11,372	-50.3		207	15.7	30	11,542	-53.8		239	29.9
175----	30	12,253	-49.0		208	16.7	30	12,403	-52.1		241	28.6
150----	30	13,267	-49.0		204	13.8	29	13,403	-51.7		242	26.4
125----	30	14,461	-49.9		203	16.1	29	14,583	-52.9		248	22.3
100----	30	15,920	-50.3		214	14.2	27	16,010	-54.0		253	18.1
80-----	30	17,370	-51.6		210	13.[illegible]	27	17,440	-54.6		255	14.4
70-----	30	18,238	-51.7		210	13.0	26	18,305	-55.0		258	15.7
60-----	30	19,236	-51.6		221	12.4	26	19,285	-55.0		251	11.1
50-----	30	20,419	-51.7		224	11.1	26	20,450	-54.9		256	6.6
40-----	29	21,866	-51.4		235	9.3	26	21,875	-55.2		307	3.1
30-----	28	23,735	-51.0		256	7.2	26	23,711	-55.1		12	5.6
25-----	26	24,904	-50.6		280	7.2	23	24,901	-54.0		18	6.4
20-----	23	26,337	-50.8		283	8.5	20	26,336	-52.1		45	8.5
15-----	20	28,212	-49.3		280	12.4	14	28,228	-51.5			
10-----												

Standard pressure surface (mb.)	ATHENS, GA. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BARROW, ALASKA (1021 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BARTER IS., ALASKA (1020 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	246	- 0.0	79	274	4.1	31	8	-24.1	61	106	10.5	30	15	-23.6	64	84	7.8
1,000--	31	176					31	163	-20.2	63	99	17.9	30	156	-21.1	67	92	16.1
950----	31	587	2.5	58	292	10.5	31	549	-16.1	62	92	21.4	30	543	-16.8	62	103	22.5
900----	31	1,026	2.4	48	294	12.8	31	954	-15.1	54	93	20.0	30	945	-15.5	56	104	19.4
850----	31	1,487	1.3	44	284	17.7	31	1,387	-15.5	47	94	18.1	30	1,378	-14.7	51	102	16.3
800----	31	1,974	.1	41	282	19.8	31	1,843	-16.6	44	94	15.9	30	1,836	-15.8	47	106	11.1
750----	31	2,486	- 1.5		281	22.9	31	2,326	-18.3	42	93	13.8	30	2,317	-17.8	41	106	8.0
700----	31	3,038	- 3.8		276	26.0	31	2,841	-20.6	40	98	11.1	30	2,833	-20.4	38	93	3.7
650----	31	3,611	- 6.8		277	29.7	31	3,381	-23.3	39	104	7.6	30	3,376	-23.5		49	.8
600----	31	4,241	-10.1		277	37.1	31	3,969	-26.5		104	5.6	30	3,959	-26.8		299	4.7
550----	31	4,899	-14.3		275	39.6	31	4,587	-30.4		77	.8	30	4,578	-30.8		284	8.4
500----	31	5,623	-18.9		274	42.4	31	5,265	-34.9		267	3.3	30	5,252	-35.0		286	12.6
450----	31	6,391	-24.5		271	47.2	31	5,989	-39.7		270	9.1	30	5,976	-39.8		284	18.5
400----	31	7,247	-30.6		268	58.5	31	6,790	-44.9		268	12.6	30	6,776	-44.6		289	21.8
350--	31	8,183	-36.9		266	64.5	31	7,673	-50.1		261	16.7	30	7,659	-49.8		286	27.4
300----	31	9,234	-44.3		267	73.6	31	8,669	-54.6		262	20.2	30	8,657	-54.2		283	33.8
250----	30	10,436	-51.8		269	76.0	31	9,833	-55.2		259	23.5	30	9,825	-54.4		286	27.6
200----	30	11,866	-55.7		269	86.1	31	11,268	-51.9		245	22.9	30	11,265	-51.4		275	26.4
175---	30	12,715	-56.3		269	87.2	31	12,136	-50.7		251	23.3	30	12,135	-50.1		284	24.3
150---	30	13,692	-58.2		270	84.1	31	13,141	-50.8		247	22.2	30	13,142	-49.9		284	27.4
125----	30	14,831	-62.0		269	68.6	31	14,328	-51.0		247	28.1	30	14,332	-50.5		282	28.8
100	30	16,199	-65.7		269	55.6	31	15,779	-51.5		246	28.6	29	15,777	-51.4		281	30.9
80----	29	17,551	-65.8		271	41.0	31	17,226	-52.0		252	29.7	29	17,224	-52.0		278	28.8
70-----	29	18,366	-65.1		271	35.8	31	18,090	-52.3		255	28.8	29	18,089	-52.5		282	29.7
60----	29	19,303	-63.7		271	33.6	31	19,087	-52.1		252	31.5	29	19,083	-52.7		283	30.1
50---	28	20,429	-62.1		275	22.2	30	20,271	-52.6		255	32.1	28	20,260	-53.1		285	32.1
40---	25	21,811	-61.1		289	9.7	29	21,699	-52.4		258	34.2	24	21,675	-53.7		289	36.1
30-----	22	23,609	-58.6		280	9.9	28	23,563	-52.6		266	36.9	24	23,520	-54.5		289	37.5
25---	21	24,760	-56.8		277	8.2	21	24,765	-51.9		258	39.1	23	24,725	-53.6		291	37.5
20---	14	26,178	-56.5				17	26,301	-48.1		250	35.8	21	26,213	-52.0		287	42.0
15---	9	28,013	-54.2				6	28,254	-45.6				19	28,106	-51.0		284	40.0
10 ----													14	30,746	-50.0		267	43.9
7------													9	33,130	-47.7			

Standard pressure surface (mb.)	BETHEL, ALASKA (994 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BISMARCK, N. DAK. (960 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	-11.7	73	39	11.9	30	505	-10.4	68	280	2.5
1,000--	31	-10			50	11.1	30	193				
950----	31	393	- 5.6	66	74	16.3	30	589	-11.0	63	295	5.1
900----	31	814	- 4.7	65	101	13.6	30	1,007	- 8.2	59	310	18.1
850----	31	1,263	- 6.0	61	119	13.2	30	1,452	- 7.2	48	313	23.1
800----	31	1,736	- 8.2	54	131	14.2	30	1,924	- 8.3	45	312	25.3
750----	31	2,233	-11.0	53	133	15.2	30	2,420	-10.1	42	311	30.5
700----	31	2,762	-14.2	51	132	14.8	30	2,954	-12.4	42	311	35.6
650----	31	3,315	-17.5	52	130	16.3	30	3,510	-15.4	43	310	39.2
600----	31	3,915	-21.4	53	133	19.0	30	4,118	-18.3	44	302	41.6
550----	31	4,548	-25.4	50	130	19.6	30	4,757	-22.0	40	307	48.2
500----	31	5,238	-29.9	48	128	18.1	30	5,461	-26.2	40	310	50.1
450----	31	5,975	-35.2		128	16.5	30	6,203	-31.0		310	55.8
400----	31	6,792	-40.8		131	15.7	30	7,041	-37.1		310	60.6
350--	31	7,689	-46.8		136	15.3	30	7,952	-43.7		312	63.0
300----	31	8,698	-52.4		140	16.3	30	8,974	-50.3		312	65.9
250----	31	9,866	-54.9		153	18.5	30	10,148	-56.4		309	65.7
200----	31	11,302	-51.3		167	19.2	29	11,560	-57.9		304	62.2
175---	31	12,174	-49.3		170	21.2	29	12,406	-55.9		302	56.5
150---	31	13,187	-48.5		176	19.4	26	13,393	-54.5		300	52.3
125----	31	14,384	-49.4		177	18.8	25	14,560	-55.1		302	46.6
100	31	15,846	-49.4		180	19.4	24	15,985	-57.1		306	38.7
80----	29	17,309	-50.0		184	18.7	22	17,408	-57.3		309	27.8
70-----	29	18,184	-50.1		187	16.9	21	18,256	-57.2		318	22.7
60----	29	19,189	-50.1		187	16.1	21	19,230	-56.9		329	20.2
50---	28	20,384	-50.0		192	12.8	21	20,385	-57.2		337	19.0
40---	26	21,846	-50.4		195	10.7	21	21,797	-57.1		347	16.5
30-----	23	23,718	-49.8		207	10.7	20	23,612	-57.3		349	16.7
25---	18	24,895	-49.4		223	6.6	20	24,767	-56.8		13	16.7
20---	14	26,368	-48.1		196	7.8	18	26,195	-55.6		15	16.1
15---	11	28,310	-45.6				12	28,092	-51.7		48	24.9
10 ----							5	30,770	-48.5			
7------												

Standard pressure surface (mb.)	BOISE, IDAHO (925 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BROWNSVILLE, TEX. (1022 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BUFFALO, N. Y. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	868	- 2.8	84	128	3.5	30	7	9.9	91	327	4.3	30	218	- 7.7	76	255	5.4
1,000--	28	241					30	188	11.7	80	350	6.4	30	149				
950----	28	651					30	612	11.0	74	30	3.5	30	543	- 9.0	76	254	15.0
900----	28	1,084	.5	64	127	5.6	30	1,068	10.0	69	287	1.7	30	964	-10.1	71	266	17.5
850----	28	1,544	.9	50	162	6.2	30	1,543	8.2	68	269	4.9	30	1,404	-11.4	63	277	18.8
800	28	2,030	- .4	46	235	5.4	30	2,043	6.5	59	240	10.7	30	1,868	-12.9	61	287	22.3
750----	28	2,544	- 2.3	41	270	9.1	30	2,568	5.3	51	242	14.2	30	2,359	-14.5	55	289	26.0
700----	28	3,091	- 4.7	38	277	10.5	30	3,134	2.9	47	249	17.7	30	2,880	-16.8	52	286	28.6
650----	28	3,669	- 7.8	37	274	12.6	30	3,729	- .5	46	255	22.0	30	3,431	-19.7	49	287	31.9
600----	28	4,289	-11.6		276	16.9	30	4,370	- 4.2	45	262	23.7	30	4,024	-22.7	47	287	37.9
550----	28	4,946	-15.6		279	20.2	30	5,043	- 8.4	40	259	29.1	30	4,656	-26.0	42	287	43.7
500----	28	5,666	-20.3		283	21.6	30	5,785	-13.0	37	258	34.8	30	5,344	-29.8	39	286	48.0
450----	28	6,432	-26.0		287	23.7	30	6,575	-18.0	36	261	42.4	30	6,086	-34.4		285	55.8
400----	28	7,281	-32.5		285	24.9	30	7,454	-24.2	39	258	47.8	30	6,905	-40.0		285	59.7
350----	28	8,208	-39.7		287	26.6	30	8,413	-31.2		259	53.4	30	7,807	-45.3		284	68.0
300----	28	9,244	-48.0		288	30.1	30	9,488	-39.4		261	62.0	30	8,825	-49.9		281	72.7
250----	28	10,423	-56.7		292	31.1	30	10,712	-48.2		259	67.4	30	10,007	-53.0		276	75.0
200--	28	11,817	-61.7		296	35.2	29	12,154	-56.2		259	71.3	29	11,445	-53.0		274	70.3
175----	28	12,646	-59.7		296	35.9	29	12,996	-59.4		258	69.6	29	12,309	-52.4		276	70.1
150---	28	13,617	-57.8		294	35.2	29	13,953	-63.2		258	62.0	28	13,297	-53.1		275	62.6
125----	28	14,708	-58.7		295	31.1	29	15,065	-67.0		259	54.2	28	14,469	-54.4		276	57.9
100----	28	16,162	-61.1		298	25.8	29	16,397	-72.2		260	44.5	25	15,898	-55.[illegible]		274	51.1
80-----	28	17,549	-60.7		304	19.2	29	17,700	-74.3		263	35.9	18	17,312	-56.8		278	41.4
70-----	28	18,382	-60.7		310	15.2	29	18,488	-72.2		267	21.4	15	18,205	-57.8		281	32.8
60-----	27	19,341	-60.3		322	11.3	29	19,393	-69.9		269	15.7	13	19,175	-58.6		284	24.7
50----	27	20,478	-59.9		345	11.3	28	20,185	-66.1		264	11.9	11	20,349	-58.5			
40----	26	21,880	-59.3		19	12.2	21	21,849	-62.8		265	8.9	7	21,759	-58.4			
30-----	22	23,691	-58.6		45	11.7	21	23,636	-59.7		270	11.1						
25----	21	24,842	-57.3		48	13.8	23	24,779	-58.2		274	10.3						
20-----	18	26,250	-56.0		54	17.5	21	26,194	-55.3		280	13.6						
15-----	12	28,130	-52.9				15	28,082	-49.6		268	16.9						
10----							8	30,819	-40.8									

Standard pressure surface (mb.)	BURRWOOD, LA. (1021 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CAPE HATTERAS, N. C. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	9.8	86	31	7.6	30	4	4.0	76	314	6.0
1,000--	31	178	10.8	73	28	9.1	30	150	4.5	65	313	9.3
950----	31	604	8.6	72	33	3.1	30	563	2.4	62	299	10.9
900----	31	1,051	7.5	66	277	4.9	30	1,003	.8	54	274	14.8
850----	31	1,521	6.6	53	274	9.7	30	1,462	.1	45	265	20.4
800----	31	2,018	5.4	42	283	16.7	30	1,947	- 1.2	46	266	26.6
750----	31	2,545	3.5	42	276	21.4	30	2,459	- 3.4	47	267	31.9
700----	31	3,102	1.1	41	270	26.0	30	3,004	- 5.1	39	267	37.9
650----	31	3,694	- 1.8		270	30.1	30	3,579	- 7.7	38	267	43.1
600----	31	4,328	- 5.1		271	35.0	30	4,204	-11.2	36	266	49.0
550----	31	4,999	- 9.1		268	38.3	30	4,862	-15.1		265	54.6
500----	31	5,737	-13.9	33	267	45.3	30	5,583	-19.4		265	61.2
450----	31	6,526	-19.4		262	51.3	30	6,355	-24.4		263	68.2
400----	31	7,395	-25.4	34	262	57.3	30	7,208	-30.4		262	73.8
350----	31	8,351	-32.2		261	66.8	30	8,145	-36.8		264	82.[illegible]
300----	31	9,422	-40.2		263	74.2	30	9,197	-44.1		263	81.2
250----	31	10,641	-49.0		265	83.4	30	10,399	-51.8		264	89.4
200--	31	12,082	-55.7		266	90.2	30	11,830	-55.5		268	92.5
175----	31	12,926	-58.8		264	87.2	30	12,682	-55.1		269	83.9
150---	31	13,888	-61.8		266	81.8	30	13,662	-57.3		270	74.4
125----	31	15,004	-65.9		267	71.9	30	14,806	-60.5		267	65.7
100----	29	16,347	-70.0		265	57.3	30	16,184	-63.7		267	58.7
80-----	28	17,664	-71.9		268	40.2	29	17,552	-64.3		268	39.8
70-----	27	18,463	-70.2		269	32.1	29	18,374	-63.7		268	36.3
60-----	27	19,376	-67.9		270	24.1	26	19,318	-62.9		268	28.4
50----	26	20,477	-65.2		270	17.7	23	20,457	-61.2		268	23.9
40----	22	21,852	-62.3		271	13.6	21	21,848	-60.0		274	17.3
30-----	19	23,630	-59.6		269	10.7	19	23,652	-58.2		276	15.2
25----	17	24,782	-57.3		270	12.4	19	24,804	-56.8		284	9.1
20-----	15	26,201	-54.8		268	10.7	17	26,231	-54.2		286	7.2
15-----	9	28,089	-48.9				13	28,103	-49.4			
10----							5	30,798	-42.9			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	CARIBOU, ME. (989 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CHARLESTON, S. C. (1019 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	191	-18.2	66	298	5.1	31	13	3.0	83	296	2.3
1,000--	31	106					31	167	5.4	69	317	4.5
950----	31	491	-16.1	68	313	10.1	31	585	4.9	56	297	7.0
900----	31	898	-15.8	65	321	13.6	31	1,027	4.0	51	277	13.8
850----	31	1,329	-15.5	60	311	14.8	31	1,492	3.2	45	272	18.5
800----	31	1,786	-16.0	59	302	17.3	31	1,983	2.0	41	266	23.5
750----	31	2,271	-17.3	57	298	18.7	31	2,500	- .1	36	267	28.4
700----	31	2,786	-19.5	56	291	20.8	31	3,053	- 2.5	33	270	32.6
650----	31	3,331	-22.0	54	286	22.5	31	3,636	- 5.3		269	36.5
600----	31	3,919	-25.1	53	280	25.5	31	4,263	- 8.9		269	41.4
550----	31	4,545	-28.6	50	274	26.4	31	4,925	-12.9		268	45.9
500----	31	5,225	-32.8	48	269	30.1	31	5,653	-17.6		267	52.5
450----	31	5,956	-38.0		265	31.7	31	6,426	-22.9		265	55.8
400----	31	6,762	-43.4		264	36.5	31	7,289	-29.0		267	60.6
350----	31	7,651	-48.1		260	42.2	31	8,231	-35.9		265	69.9
300----	31	8,661	-51.0		260	47.8	31	9,287	-43.5		262	73.4
250----	30	9,851	-52.3		263	51.9	30	10,496	-51.6		269	80.6
200----	30	11,299	-51.2		264	53.2	28	11,927	-56.7		272	76.0
175----	29	12,156	-51.4		264	51.9	26	12,777	-57.7		272	74.2
150----	29	13,159	-51.4		265	50.7	26	13,748	-59.5		271	70.5
125----	28	14,338	-52.6		263	43.3	24	14,883	-62.7		272	61.2
100----	28	15,776	-54.2		260	40.2	20	16,244	-66.0		270	49.7
80-----	27	17,196	-55.2		264	39.1	17	17,595	-66.4		265	44.5
70-----	27	18,050	-55.3		263	34.2	15	18,412	-65.1		268	35.8
60-----	27	19,032	-55.6		261	30.3	15	19,351	-63.7		269	24.1
50-----	27	20,193	-56.3		265	28.2	13	20,476	-60.7		259	9.9
40-----	25	21,595	-56.0		269	26.6	12	21,870	-59.2			
30-----	24	23,423	-55.6		269	18.3	12	23,683	-57.5		269	7.0
25-----	23	24,581	-55.9		268	21.0	11	24,845	-56.5		255	5.8
20-----	21	25,997	-55.7		266	20.4	11	26,265	-55.2		258	5.8
15-----	14	27,862	-51.9		262	24.3	11	28,113	-51.9		287	4.1

Standard pressure surface (mb.)	COLD BAY, ALASKA (986 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	COLUMBIA, MO. (993 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DAYTON, OHIO (984 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	27	- 0.2	81	127	8.7	31	238	- 5.4	77	268	2.3	31	297	- 7.2	72	279	3.1
1,000--	30	-86					31	182					31	173				
950----	30	327	- 1.1	73	123	14.4	31	585	- 3.4	58	284	10.7	31	573	- 5.7	67	28[illegible]	9.5
900----	30	754	- 3.9	73	130	16.3	31	1,015	- 3.2	49	300	14.2	31	999	- 6.2	60	[illegible]	15.2
850----	30	1,203	- 6.4	68	134	20.2	31	1,467	- 3.6	42	299	15.9	31	1,445	- 7.0	[illegible]	288	17.[illegible]
800----	30	1,676	- 8.5	58	127	18.3	31	1,946	- 4.2	38	296	19.8	31	1,917	- 8.[illegible]	[illegible]	287	[illegible]
750----	30	2,174	-11.4	53	131	16.7	31	2,453	- 5.5	34	294	23.9	31	2,414	- 9.7	45	285	23.7
700----	30	2,700	-14.4	47	136	16.5	31	2,995	- 7.8	35	294	28.2	31	2,948	-11.2	42	[illegible]	29.3
650----	30	3,258	-17.8	48	142	17.1	31	3,565	-10.5	33	293	31.5	31	3,510	-13.7	40	282	35.9
600----	30	3,853	-21.5	46	138	16.3	31	4,181	-13.7	35	292	36.9	31	4,119	-17.0	39	284	41.2
550----	30	4,485	-25.9	44	133	16.3	31	4,832	-17.7	34	292	40.0	31	4,762	-20.6	38	284	[illegible]
500----	30	5,173	-30.3	40	131	17.9	31	5,545	-22.2		292	41.4	31	5,467	-25.0	38	[illegible]	50.3
450----	30	5,911	-32.3		128	16.5	31	6,306	-27.8		290	44.9	31	6,217	-29.7	38	[illegible]	[illegible]
400----	30	6,729	-40.5		129	17.3	31	7,148	-34.2		288	44.1	31	7,056	-35.5		[illegible]	[illegible]
350----	30	7,628	-46.1		128	18.5	30	8,070	-41.0		286	47.1	31	7,974	-42.1		279	62.6
300----	30	8,641	-51.6		135	17.7	30	9,103	-48.2		284	48.1	31	9,002	-48.9		278	65.5
250----	30	9,819	-53.0		145	15.2	30	10,284	-55.3		279	52.7	31	10,182	-55.5		277	66.8
200----	29	11,271	-49.6		165	14.4	30	11,697	-57.8		277	60.4	31	11,603	-55.3		273	70.5
175----	27	12,151	-48.3		162	17.7	29	12,541	-56.0		278	63.[illegible]	31	12,458	-54.1		[illegible]	67.6
150----	27	13,168	-48.2		166	16.9	29	13,522	-56.1		279	62.0	31	13,447	-[illegible].8		274	61.8
125----	27	14,369	-48.3		174	16.5	29	14,677	-57.9		280	[illegible].7	31	14,607	-56.7		[illegible]	56.3
100----	27	15,838	-49.2		178	15.5	28	16,075	-60.3		281	[illegible]	31	16,014	[illegible].3		272	48.2
80-----	26	17,303	-49.4		173	15.7	28	17,461	-61.2		283	35.8	29	17,404	-59.6		275	37.3
70-----	26	18,185	-49.6		174	15.5	28	18,296	-60.9		287	30.3	28	18,239	-59.3		280	[illegible]
60-----	25	19,189	-49.9		175	16.3	25	19,260	-60.1		286	22.9	27	19,206	-59.[illegible]		278	27.2
50-----	25	20,382	-49.8		165	14.1	24	20,395	-60.3		296	17.3	26	20,342	-59.7		283	23.9
40-----	25	21,842	-50.1		158	12.8	21	21,791	-59.9		[illegible]	11.0	21	21,739	-[illegible]		[illegible]	20.4
30-----	23	23,724	-50.1		151	11.7	20	23,594	-58.7		336	[illegible]	21	23,535	-58.6		303	17.1
25-----	23	24,917	-49.7		140	12.0	17	24,736	-57.6		344	8.4	18	24,662	-58.5		311	[illegible]
20-----	22	26,386	-49.1		122	15.0	14	26,164	-55.4		298	8.4	14	26,081	-56.2		[illegible]	7.8
15-----	9	28,369	-44.0				8	28,024	-52.4				10	27,954	-54.9			

Standard pressure surface (mb.)	DENVER, COLO. (840 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DODGE CITY, KANS. (930 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,611	- 5.1	58	222	4.9	31	792	- 5.5	73	286	4.9
1,000--	31	220					31	214				
950----	31	630					31	621				
900----	31	1,061					31	1,050	.3	45	286	7.6
850----	31	1,516					31	1,508	1.0	33	310	10.1
800----	31	2,001	1.8	30	295	5.2	31	1,994	- .0	31	317	12.4
750----	31	2,518	- .8	27	318	9.9	31	2,510	- 2.3	31	314	13.6
700----	31	3,068	- 4.0	27	322	14.2	31	3,055	- 4.7		313	17.1
650----	31	3,645	- 7.8	28	319	18.1	31	3,630	- 7.9		308	18.8
600----	31	4,266	-11.8	27	316	22.9	31	4,252	-11.6		305	21.4
550----	31	4,925	-15.5	26	312	26.0	31	4,911	-15.9		299	24.5
500----	31	5,642	-20.2		311	27.4	31	5,626	-20.4		300	27.0
450----	31	6,405	-25.9		308	29.3	31	6,391	-26.1		298	29.5
400----	31	7,256	-32.6		304	32.1	31	7,239	-32.8		297	31.9
350----	31	8,183	-39.8		304	33.6	31	8,165	-40.0		296	34.2
300----	31	9,218	-48.0		301	34.4	31	9,202	-47.7		296	40.2
250----	31	10,399	-55.9		305	37.7	31	10,386	-54.5		293	49.4
200----	31	11,805	-58.7		297	43.3	30	11,803	-57.7		284	58.9
175----	31	12,644	-58.6		294	46.6	30	12,648	-56.8		285	57.5
150----	31	13,614	-58.6		292	49.4	30	13,626	-57.3		285	56.9
125----	31	14,760	-59.0		293	45.1	30	14,773	-59.7		282	48.8
100----	31	16,152	-61.8		293	35.4	30	16,158	-63.1		284	39.8
80-----	31	17,529	-62.8		298	29.5	29	17,529	-63.2		290	30.1
70-----	31	18,363	-62.3		300	24.1	28	18,359	-63.2		293	23.7
60-----	31	19,306	-61.9		303	19.2	27	19,298	-62.6		298	20.8
50-----	30	20,434	-61.7		313	17.3	26	20,427	-61.6		301	14.0
40-----	29	21,822	-60.4		325	12.4	25	21,812	-60.4		326	11.3
30-----	26	23,614	-59.9		349	11.1	21	23,606	-59.1		5	7.2
25-----	25	24,751	-59.0		350	10.7	17	24,756	-57.8		6	8.9
20-----	22	26,162	-57.6		27	10.5	14	26,152	-56.1		63	10.1
15-----	19	28,003	-55.4		25	11.9	11	28,013	-52.8			
10-----	9	30,644	-50.4									

Standard pressure surface (mb.)	EL PASO, TEX. (887 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ELY, NEV. (813 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FAIRBANKS, ALASKA (99[illegible] MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,197	0.3	71	20	4.7	30	1,908	-10.6	[illegible]7	183	8.9	31	135	-19.7	65	21	2.7
1,000--	31	221					30	285					31	80				
950----	31	637					30	691					31	475	-10.2	54	81	10.3
900----	31	1,080					30	1,117					31	890	- 8.6	55	100	14.6
850----	31	1,542	3.9	53	357	3.3	30	1,567					31	1,334	- 7.6	55	122	13.8
800----	31	2,033	2.4	49	303	4.1	30	2,039	- 2.4	45	192	5.4	31	1,805	- 8.8	51	133	9.9
750----	31	2,555	.5	41	285	7.8	30	2,554	- 1.5	31	234	.8	31	2,297	-11.5	49	149	8.5
700----	31	3,105	- 1.0		280	10.7	30	3,102	- 3.0		290	3.9	31	2,828	-15.1	48	166	9.1
650----	31	3,691	- 3.9		277	11.3	30	3,684	- 5.5		296	6.4	31	3,379	-18.9	45	184	9.3
600----	31	4,321	- 7.9		278	12.6	30	4,311	- 9.1		303	11.9	31	3,976	-22.7	47	197	8.2
550----	31	4,986	-12.0		282	16.1	30	4,972	-13.5		300	13.6	31	4,606	-26.8	47	197	10.5
500----	31	5,715	-17.0		288	16.5	29	5,696	-18.9		301	15.2	31	5,291	-31.1	45	198	6.2
450----	31	6,491	-22.9		287	20.4	29	6,465	-24.7		298	18.7	31	6,029	-36.0		253	4.5
400----	31	7,350	-29.3		279	25.3	29	7,320	-31.4		296	16.9	31	6,841	-41.4		232	10.1
350----	31	8,291	-36.3		275	29.1	29	8,253	-38.6		288	18.7	31	7,736	-47.2		229	9.5
300----	31	9,343	-44.0		274	42.7	29	9,294	-46.9		300	20.7	31	8,743	-52.7		239	11.3
250----	31	10,545	-51.9		266	55.8	29	10,479	-56.4		292	24.1	31	9,915	-[illegible]		236	[illegible]
200----	31	11,976	-56.0		264	65.3	29	11,884	-60.1		292	30.7	31	11,354	-51.[illegible]		229	16.9
175----	31	12,823	-57.4		267	59.3	28	12,721	-58.1		288	35.0	31	12,225	-50.0		239	16.7
150----	31	13,793	-59.4		268	51.9	28	13,695	-58.2		290	36.1	30	13,219	-49.[illegible]		241	16.5
125----	31	14,924	-63.5		272	45.1	28	14,838	-60.3		290	33.6	30	[illegible]	[illegible]		[illegible]	16.7
100----	30	16,281	-68.2		275	35.8	28	16,221	-[illegible].4		291	[illegible]	29	15,863	-50.9		[illegible]	15.5
80-----	29	17,615	-69.6		277	28.2	28	17,587	-64.2		293	19.8	28	17,315	-51.		[illegible]	14.4
70-----	28	18,417	-68.7		282	20.8	28	18,408	-63.[illegible]		295	13.8	28	18,188	-51.9		[illegible]	15.7
60-----	28	19,336	-67.4		290	13.8	28	19,352	-62.8		306	[illegible]	[illegible]	19,184	-51.8		251	15.3
50-----	25	20,438	65.2		[illegible]	8.2	28	20,477	-61.6		339	[illegible]	26	20,370	-52.0		258	[illegible]
40-----	23	21,804	-62.8		325	4.5	27	21,864	-60.9		8	[illegible]	22	[illegible]	[illegible]		[illegible]	16.5
30-----	23	23,584	-60.6		[illegible]	2.9	25	23,651	-59.8		34	[illegible]	21	23,679	-51.		259	18.8
25-----	22	24,721	-59.1		14	2.7	24	24,794	-58.2		[illegible]	9.5	17	24,835	-50.		270	18.7
20-----	17	26,122	-56.8		48	2.9	21	26,203	[illegible]		[illegible]	13.4	[illegible]	26,269	-50.4		281	[illegible]
15-----	7	27,975	-52.6				17	28,038	[illegible].3				[illegible]	28,269	-46.			

Standard pressure surface (mb.)	FLINT, MICH. (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FORT WORTH, TEXAS (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	234	- 9.4	83	268	2.9	31	180	1.2	78	323	2.1
1,000--	31	156					31	203			332	2.7
950----	31	555	- 8.8	72	278	8.5	31	621	3.7	58	299	4.9
900----	31	973	- 8.7	63	283	13.2	31	1,059	3.5	48	316	5.6
850----	31	1,415	-10.1	57	283	17.5	31	1,522	2.7	44	298	6.6
800----	31	1,881	-11.2	53	290	19.6	31	2,012	1.7	43	292	8.0
750----	31	2,379	-12.9	47	289	22.5	31	2,532	- .0	37	290	12.6
700----	31	2,899	-15.5	43	289	26.2	31	3,081	- 2.5		288	17.1
650----	31	3,455	-18.5	45	290	29.5	31	3,664	- 5.1		285	19.8
600----	31	4,050	-21.2	44	290	34.8	31	4,291	- 8.9		281	22.2
550----	31	4,687	-24.8	45	288	39.6	31	4,954	-12.9		278	25.8
500----	31	5,376	-28.9	44	287	44.1	31	5,680	-17.8		274	29.7
450----	31	6,119	-33.8	41	285	49.4	31	6,452	-23.4		271	34.4
400----	31	6,941	-39.1		285	56.5	31	7,310	-29.8		273	38.9
350----	31	7,846	-44.6		284	63.5	31	8,248	-36.6		273	46.8
300----	31	8,864	-50.4		280	67.4	31	9,300	-44.1		273	56.0
250----	31	10,042	-54.3		280	66.5	31	10,504	-51.2		270	69.4
200----	31	11,469	-54.6		279	58.7	31	11,938	-55.8		270	77.5
175----	31	12,328	-53.1		277	53.8	31	12,785	-57.2		268	67.8
150----	31	13,321	-53.6		277	52.3	31	13,757	-58.7		269	66.6
125----	31	14,491	-55.0		279	48.6	31	14,893	-62.4		272	58.9
100----	31	15,912	-56.4		279	40.2	31	16,257	-66.8		273	48.8
80-----	31	17,326	-57.2		281	36.7	31	17,598	-68.1		276	36.1
70-----	31	18,172	-57.4		282	31.7	31	18,410	-67.0		278	27.4
60-----	31	19,143	-57.6		286	27.8	31	19,336	-66.1		283	21.6
50-----	31	20,294	-58.0		292	22.3	31	20,446	-63.8		295	14.4
40-----	30	21,706	-57.9		298	17.3	29	21,825	-61.7		301	7.8
30-----	29	23,538	-56.8		315	12.0	28	23,613	-60.1		297	6.4
25-----	26	24,705	-55.6		344	9.3	25	24,756	-58.5		305	5.8
20-----	22	26,121	-54.6		360	10.3	21	26,178	-56.1		305	2.9
15-----	17	28,027	-50.8		26	6.4	20	28,022	-52.4		290	5.6
10-----	7	30,701	-47.4				5	30,671	-45.1			

Standard pressure surface (mb.)	GLASGOW, MONT. (937 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GRAND JUNCTION, [illegible] (859 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREAT FALLS, MONT. (890 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	696	- 9.7	83	321	2.1	30	1,474	[illegible]	[illegible]	112	8.0	31	1,[illegible]	- 1.[illegible]	53	222	9.3
1,000--	31	192					30	271					[illegible]	182				
950----	31	[illegible]					30	675					31	596				
900----	31	1,014	- 4.1	62	294	12.2	30	1,105					31	1,031				
850----	31	1,465	- 3.9	49	301	21.[illegible]	30	1,558	4.4		119	7.8	1	1,[illegible]	[illegible].4	45	[illegible]	19.2
800----	31	1,943	- 5.1	48	304	25.6	30	2,039	3.0	41	[illegible]	[illegible].9	31	1,975	- 2.	48	269	21.0
750----	31	2,447	- 7.3	47	310	28.8	30	2,550	[illegible]	37	265	[illegible]	31	2,484	- 4.7	18	285	[illegible]
700----	31	2,984	- 9.8	43	312	31.9	30	3,092	[illegible]	[illegible]	307	7.4	[illegible]	3,027	- 7.[illegible]	44	293	28.9
650----	31	3,549	-12.5	39	311	35.2	30	3,669	- 7.9		[illegible]	11.9	31	3,597	-10.[illegible]	42	299	30.9
600----	31	4,160	-15.8	39	312	37.5	30	4,289	-10.8		[illegible]	[illegible].9	[illegible]	[illegible]	-13.[illegible]	38	302	31.7
550----	31	4,805	-20.0	38	312	40.2	30	4,948	-14.8		[illegible]	22.2	31	4,[illegible]	-17.		303	35.2
500----	31	5,512	-24.9	37	313	42.9	30	5,666	-19.9		309	23.7	31	581	-22.[illegible]		303	35.6
450----	31	6,261	-30.4	38	311	46.1	30	6,432	25.6		[illegible]	[illegible].3	31	[illegible]	-28.	41	302	38.3
400----	31	7,097	-36.2		313	[illegible]	30	7,282	32.3		306	26	[illegible]	7,[illegible]	-34.		304	42.6
350----	31	8,024	-43.[illegible]		312	54.2	30	8,210	-39.5		[illegible]	28.4	31	8,104	-41.		[illegible]	46.0
300----	31	9,033	-50.5		314	59.7	30	9,247	47.4		302	30.9	[illegible]	9,133	-49.[illegible]		307	52.8
250----	31	10,203	-57.2		313	61.[illegible]	30	10,430	-55.1		304	34.6	31	10,303	-57.8		305	51.9
200----	31	11,602	-59.4		310	57.[illegible]	30	11,834	-59.2		298	41.8	31	11,697	-60.		303	[illegible]
175----	31	12,113	[illegible]		310	50.[illegible]	29	12,673	-58.0		[illegible]	42.6	31	12,530	-59.		300	[illegible]
150----	31	13,424	[illegible].7		305	43.3	29	13,646	[illegible]		295	42.2	[illegible]	13,[illegible]	[illegible]		300	[illegible]
125----	31	14,586	-55.9		309	42.2	29	14,791	[illegible]		296	42.[illegible]	[illegible]	14,[illegible]	-56.		306	37.5
100----	31	16,003	-57.4		313	[illegible].6	28	16,176	63.2		[illegible]	33.4	[illegible]	16,076	-58.		307	29.9
80-----	31	17,425	57.4		315	28.6	28	17,543	64.1		[illegible]	24.3	29	17,487	-58.4		314	23.1
70-----	31	18,262	-57.9		318	25.[illegible]	28	18,370	63.3		308	18.2	29	18,329	-58.2		318	19.8
60-----	31	19,233	-56.8		325	21.5	[illegible]	19,311	[illegible]		314	[illegible]	28	19,294	-58.1		[illegible]	19.6
50-----	30	20,388	-57.0		[illegible]	[illegible].9	27	20,435	[illegible]		[illegible]	10.5	28	20,441	-57.9		329	18.3
40-----	30	21,794	-57.1		336	16.3	26	21,822	[illegible]		[illegible]	10.[illegible]	27	21,852	[illegible]		[illegible]	14.8
30-----	28	23,613	-56.7		[illegible]	15.9	[illegible]	23,613	[illegible]		[illegible]	10	[illegible]	23,673	-56.		12	12.8
25-----	24	24,782	-56.4		8	14.2	22	24,761	[illegible]		56	12.2	[illegible]	24,829	-56.3		[illegible]	14.2
20-----	22	26,200	-55.4		357	11.7	21	26,176	[illegible]		73	15.0	[illegible]	26,285	-54.		[illegible]	[illegible]
15-----	14	28,079	[illegible]		41	10.1	[illegible]	28,020	[illegible]		[illegible]	20.2	[illegible]	28,[illegible]	[illegible]		[illegible]	[illegible]

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1961

Standard pressure surface (mb)	GREEN BAY, WIS. (993 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREENSBORO, N. C. (987 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	210	-11.3	77	299	5.2	31	273	- 2.7	76	324	2.1
1,000--	31	156					31	172				
950----	31	548	-10.7	64	299	10.5	31	581	- .1	51	311	7.6
900----	31	966	-10.3	56	299	14.4	31	1,014	- .9	49	296	11.5
850----	31	1,406	-10.8	49	293	15.5	31	1,470	- 1.6	45	284	15.9
800----	31	1,871	-12.1	47	296	18.7	31	1,952	- 2.5	38	284	22.3
750----	31	2,365	-13.6	41	297	22.3	31	2,462	- 4.2	37	278	25.8
700----	31	2,885	-16.0	38	294	25.6	31	3,005	- 6.2		274	29.7
650----	31	3,439	-18.5	38	295	30.1	31	3,577	- 8.9		274	35.8
600----	31	4,034	-21.9	41	295	35.2	31	4,198	-12.6		274	40.6
550----	31	4,665	-25.6	43	298	39.4	31	4,855	-16.6		273	46.6
500----	31	5,355	-29.7	43	296	43.7	31	5,567	-21.3		272	49.9
450----	31	6,094	-34.6		292	47.6	31	6,332	-26.4		272	54.0
400----	31	6,912	-39.9		291	53.8	31	7,177	-32.6		272	59.1
350----	31	7,814	-45.5		291	57.9	31	8,104	-39.3		270	64.5
300----	31	8,829	-50.9		292	63.7	31	9,145	-45.9		264	74.0
250----	31	10,005	-54.7		290	62.2	30	10,349	-53.1		265	72.9
200----	31	11,431	-54.4		287	57.7	30	11,776	-55.7		271	72.9
175----	31	12,288	-53.4		289	53.6	30	12,627	-55.5		271	68.2
150----	31	13,281	-53.5		287	48.4	30	13,605	-57.5		270	64.7
125----	31	14,451	-54.6		289	44.1	30	14,749	-60.2		267	57.5
100----	31	15,875	-56.2		290	36.9	30	16,132	-62.8		268	49.4
80-----	31	17,290	-56.8		293	34.4	30	17,500	-64.3		266	38.7
70-----	31	18,140	-56.7		299	30.3	30	18,320	-63.5		266	31.1
60-----	30	19,114	-56.9		302	29.1	29	19,262	-63.2		275	23.5
50-----	29	20,270	-57.4		306	24.1	28	20,394	-61.5		276	15.0
40-----	28	21,678	-58.0		316	18.5	28	21,784	-60.0		275	13.0
30-----	27	23,503	-57.6		333	16.5	26	23,578	-58.6		291	7.2
25-----	26	24,651	-57.0		336	16.3	22	24,729	-57.6		320	5.2
20-----	21	26,065	-56.2		345	12.2	18	26,187	-55.7		31	4.9
15-----	15	27,941	-52.8				13	28,043	-51.5			

Standard pressure surface (mb)	HILO, HAWAII (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	INTERNAT. FALLS, MINN. (975 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	11	19.0	84	235	6.2	31	360	-19.0	69	271	2.[illegible]
1,000--	31	126	21.2	76	227	4.9	31	170				
950----	31	572	18.9	77	136	1.9	31	557	-16.9	68	279	5.[illegible]
900----	31	1,033	15.9	79	103	3.1	31	961	-13.[illegible]	66	298	13.6
850----	31	1,517	12.7	79	125	2.5	31	1,397	-12.7	60	311	19.4
800----	31	2,026	11.5	61	207	2.1	31	1,859	-13.1	53	312	21.6
750----	30	2,568	9.9	43	214	2.5	31	2,345	-14.9	47	312	24.5
700----	30	3,136	7.5	28	259	3.9	31	2,869	-17.3	45	310	27.2
650----	30	3,740	4.7		265	6.2	31	3,416	-20.3	44	309	31.7
600----	30	4,392	1.1		268	10.7	31	4,011	-23.5	45	309	35.0
550----	30	5,084	- 2.5		274	14.[illegible]	31	4,638	-27.0	41	307	39.8
500----	30	5,839	- 7.3		280	19.0	31	5,325	-31.0	38	305	46.0
450----	29	6,649	-12.8		290	20.0	31	6,058	-35.9		307	50.3
400----	29	7,544	-19.2		309	22.9	31	6,875	-41.6		305	56.2
350----	29	8,525	-25.7		303	31.9	31	7,771	-46.8		305	62.2
300----	29	9,625	-33.3		301	36.5	31	8,780	-51.7		307	65.1
250----	28	10,881	-42.6		307	35.4	31	9,956	-54.1		307	63.3
200----	28	12,354	-53.0		304	33.2	31	11,389	-52.9		306	55.0
175----	27	13,204	-58.7		292	34.8	31	12,252	-52.3		307	49.0
150----	27	14,158	-65.0		294	33.2	30	13,253	-52.5		307	44.7
125----	27	15,252	-71.4		293	28.6	30	14,430	-52.9		305	42.6
100----	26	16,550	-77.2		292	17.9	29	15,874	-54.1		306	36.5
80-----	26	17,821	-78.6		295	8.2	29	17,301	-55.3		308	31.1
70-----	25	18,589	-75.8		303	4.3	27	18,141	-55.2		311	31.1
60-----	25	19,492	-70.1		62	1.4	26	19,133	-55.6		317	29.1
50-----	25	20,590	-65.5		86	7.6	26	20,294	-56.0		321	27.6
40-----	25	21,958	-62.8		356	1.4	22	21,698	-56.5		324	24.7
30-----	25	23,741	-60.2		312	4.9	17	23,505	-57.2		327	25.1
25-----	25	24,885	-57.9		307	3.3	12	24,622	-57.8		339	24.1
20-----	24	26,306	-54.5		287	9.7	7	25,916	-58.6			
15-----	16	28,159	-51.9									

Standard pressure surface (mb)	JACKASS FLATS, NEV. (896 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	JACKSON, MISS. (1011 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,100	3.6	33	45	9.1	31	101	1.1	84	352	2.1
1,000--	31	202					31	185	2.7	67	6	2.7
950----	31	623					31	602	3.2	60	319	4.3
900----	31	1,068					31	1,041	3.4	53	303	7.0
850----	31	1,536	7.2		52	8.2	31	1,504	2.8	50	294	11.1
800----	31	2,032	4.4		61	4.1	31	1,994	1.8	44	288	13.4
750----	31	2,553	2.1		306	.6	31	2,514	- .1	43	289	15.7
700----	31	3,110	- .2		298	4.1	31	3,063	- 2.6	40	293	18.3
650----	31	3,695	- 3.4		288	5.8	31	3,646	- 5.4	39	286	23.1
600----	31	4,329	- 7.6		302	7.2	31	4,271	- 8.6	38	287	27.2
550----	31	4,991	-12.5		297	7.2	31	4,938	-12.6		279	31.7
500----	31	5,721	-18.0		292	9.5	31	5,662	-17.4		278	34.4
450----	31	6,492	-23.9		296	10.9	31	6,437	-23.1		275	41.8
400----	31	7,351	-30.6		290	13.8	31	7,295	-29.5		271	42.9
350----	31	8,286	-37.7		290	16.9	31	8,237	-35.6		271	42.0
300----	31	9,330	-45.[illegible]		290	20.0	31	9,293	-43.0		274	52.8
250----	31	10,523	-53.7		290	23.1	30	10,503	-50.4		271	65.9
200----	31	11,937	-57.9		286	32.4	31	11,938	-56.2		274	73.4
175----	31	12,782	-56.5		281	35.4	30	12,785	-57.4		274	69.9
150----	31	13,758	-57.5		280	34.0	31	13,706	-59.2		277	67.2
125----	31	14,901	-60.7		281	34.2	30	14,892	-62.5		278	62.0
100----	31	16,277	-64.7		284	26.4	30	16,255	-66.6		281	47.4
80-----	31	17,636	-65.5		287	18.8	29	17,595	-67.5		282	37.9
70-----	31	18,449	-65.4		297	13.8	26	18,411	-66.4		280	28.6
60-----	29	19,388	-64.6		316	8.9	26	19,359	-65.2		284	19.2
50-----	27	20,514	-63.1		346	6.4	26	20,456	-63.3		291	12.8
40-----	25	21,889	-61.9		31	6.0	25	21,834	-61.3		295	12.2
30-----	23	23,675	-60.4		43	8.2	20	23,626	-58.9			
25-----	23	24,813	-59.8		45	12.6	21	24,765	-57.5			
20-----	15	26,204	-58.5		55	14.6	18	26,178	-56.5			
15-----	10	28,029	-56.2				11	28,041	-53.3			

Standard pressure surface (mb)	JACKSONVILLE, FLA. (1021 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	JOHNSTON IS., PACIFIC AREA (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	6	6.3	85	323	3.9	31	3	24.3	74	61	9.9
1,000--	30	176	8.3	67	341	6.2	31	116	23.4	75	67	11.3
950----	30	599	8.0	61	301	6.2	31	559	19.9	77	76	13.6
900----	30	1,045	6.4	58	273	9.1	31	1,027	16.8	77	77	11.9
850----	30	1,514	5.7	44	269	15.3	31	1,514	14.6	64	71	9.1
800----	30	2,009	4.3	40	267	19.6	31	2,026	12.8	46	75	8.2
750----	30	2,532	2.5		266	26.0	31	2,563	10.5	35	67	8.7
700----	30	3,088	.5		262	29.0	31	3,139	9.0		51	8.9
650----	30	3,674	- 2.6		264	34.4	31	3,747	6.9		36	8.9
600----	30	4,311	- 6.2		266	39.2	31	4,406	4.0		2	8.0
550----	30	4,976	-10.5		264	45.5	31	5,099	- .0		357	5.2
500----	30	5,715	-15.0		265	52.5	31	5,866	- 4.9		4	7.4
450----	30	6,492	-20.5		266	59.1	31	6,674	-10.6		348	10.5
400----	30	7,366	-26.2	38	267	66.8	31	7,584	-16.8		328	10.3
350----	30	8,319	-33.0		267	68.2	31	8,574	-23.6		317	11.3
300----	30	9,387	-40.8		269	74.2	31	9,683	-31.7		324	17.3
250----	30	10,605	-49.6		268	86.1	31	10,948	-41.2		315	17.1
200----	30	12,041	-56.8		271	90.7	31	12,428	-52.6		317	18.7
175----	30	12,885	-58.1		275	85.5	31	13,279	-59.0		319	19.4
150----	30	13,850	-60.7		270	84.1	31	14,230	-66.0		316	18.5
125----	30	14,974	-64.7		274	70.1	31	15,317	-73.1		323	20.0
100----	29	16,323	-68.5		273	60.4	31	16,601	-80.3		330	13.6
80-----	29	17,656	-69.7		272	44.7	29	17,850	-82.9		4	7.6
70-----	27	18,448	-68.9		270	35.2	26	18,598	-79.0		41	6.6
60-----	27	19,380	-66.9		270	27.4	26	19,489	-71.6		81	7.2
50-----	26	20,490	-64.0		271	18.8	26	20,583	-65.9		90	9.3
40-----	24	21,866	-61.3		280	8.4	25	21,951	-61.8		88	6.6
30-----	20	23,673	-58.4		284	6.8	23	23,746	-58.8		340	1.9
25-----	18	24,823	-57.1		276	10.1	23	24,902	-54.4		291	8.9
20-----	12	26,272	-54.3				20	26,340	-51.3		289	14.0
15-----	6	28,131	-50.7				15	28,222	-47.8		266	17.3

Standard pressure surface (mb)	KING SALMON, ALASKA (994 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	KOTZEBUE, ALASKA (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	15	- 6.[illegible]	79	42	6.2	31	5	-14.3	75	87	8.5
1,000--	31	-33			45	6.4	31	81			102	14.2
950----	31	375	- 1.9	63	87	12.2	31	475	- 9.9	58	104	17.1
900----	31	802	- 3.0	63	106	14.8	31	893	-10.1	58	115	17.3
850----	31	1,253	- 5.3	64	119	17.7	31	1,334	-10.6	59	118	15.0
800----	31	1,726	- 8.1	62	126	16.9	31	1,800	-11.9	58	120	14.0
750----	31	2,227	-10.9	58	127	17.[illegible]	31	2,289	-14.0	55	121	12.4
700----	31	2,753	-13.8	54	124	18.1	31	2,814	-16.4	50	126	13.2
650----	31	3,312	-17.1	51	124	17.5	31	3,364	-19.6	49	139	12.0
600----	31	3,910	-20.8	47	123	19.0	31	3,959	-23.1	46	152	12.2
550----	31	4,544	-25.1	46	123	18.8	31	4,586	-27.2	45	167	12.4
500----	31	5,234	-29.7	46	122	18.7	31	5,273	-31.8		180	12.8
450----	31	5,976	-35.1		128	20.2	31	6,004	-37.3		195	12.2
400----	31	6,790	-40.8		129	21.0	31	6,816	-42.7		206	14.6
350----	31	7,688	-46.2		132	18.8	31	7,707	-48.4		223	16.9
300----	31	8,708	-50.9		139	22.2	31	8,709	-53.3		233	16.1
250----	31	9,881	-52.7		148	17.3	31	9,877	-54.9		226	16.5
200----	30	11,327	-49.9		164	17.7	31	11,308	-52.1		215	16.7
175----	29	12,200	-48.4		176	17.3	31	12,177	-50.3		213	16.3
150----	27	13,201	-48.6		179	13.8	31	13,184	-49.9		215	19.0
125----	26	14,382	-49.2		176	16.3	31	14,375	-50.2		216	20.0
100----	26	15,845	-49.3		185	15.2	30	15,838	-50.2		215	23.1
80-----	24	17,297	-50.3		196	15.0	29	17,297	-50.6		216	23.3
70-----	18	18,166	-49.2		195	15.2	29	18,164	-50.[illegible]		222	21.4
60-----	17	19,158	-49.8		195	12.2	28	19,168	-51.2		226	19.4
50-----	15	20,332	-49.2		196	11.5	28	20,352	-51.3		239	19.4
40-----	15	21,800	-49.8		201	9.3	28	21,802	-51.0		247	18.1
30-----	15	23,683	-49.6		210	7.6	25	23,685	-50.5		258	19.4
25-----	15	24,879	-49.2		218	7.0	23	24,866	-50.7		256	21.6
20-----	14	26,352	-49.3		227	5.8	21	26,330	-50.5		254	23.3
15-----	6	28,345	-46.7				14	28,315	-46.7			

Standard pressure surface (mb)	LAKE CHARLES, LA. (1022 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LANDER, WYO. (832 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	5.1	89	8	3.3	31	1,696	- 8.7	63	256	2.1
1,000--	31	186	6.6	72	64	3.3	31	245				
950----	31	606	5.8	65	25	1.9	31	650				
900----	31	1,052	6.3	60	288	4.3	31	1,078				
850----	31	1,521	5.5	55	280	9.5	31	1,526				
800----	31	2,016	3.8	51	277	15.5	31	2,002	- 2.1	41	190	1.0
750----	31	2,542	2.0	43	278	17.3	31	2,514	- 3.0	33	305	4.9
700----	31	3,094	- .2		275	20.0	31	3,058	- 5.7	34	316	10.9
650----	31	3,685	- 2.8		273	24.9	31	3,630	- 8.7	32	313	15.9
600----	31	4,316	- 6.3		272	31.9	31	4,252	-12.3	30	317	22.2
550----	31	4,988	-10.7		272	35.6	31	4,903	-16.2	29	315	26.2
500----	31	5,719	-15.8		270	41.2	31	5,622	-21.3		314	29.7
450----	31	6,503	-20.9		263	50.3	31	6,381	-27.3		314	30.1
400----	31	7,367	-26.8		264	53.6	31	7,228	-33.9		315	32.8
350----	31	8,317	-33.6		265	60.2	31	8,150	-41.1		314	35.9
300----	31	9,382	-41.1		265	73.1	31	9,180	-48.8		308	39.6
250----	30	10,603	-49.3		264	84.3	31	10,337	-56.4		309	44.5
200----	30	12,040	-56.2		265	89.0	31	11,752	-60.5		305	46.8
175----	30	12,885	-58.2		265	85.3	31	12,586	-59.5		303	46.6
150----	30	13,850	-60.6		264	80.4	31	13,556	-57.6		301	45.7
125----	30	14,976	-64.3		264	69.0	31	14,706	-58.6		304	41.4
100----	29	16,328	-68.6		266	56.3	31	16,099	-60.5		306	33.0
80-----	28	17,658	-70.0		269	40.2	31	17,488	-61.3		309	26.2
70-----	25	18,464	-69.5		273	32.8	31	18,325	-61.6		303	19.6
60-----	24	19,384	-67.3		271	25.3	31	19,274	-60.3		321	16.5
50-----	24	20,492	-64.9		276	15.9	30	20,413	-59.9		339	12.4
40-----	24	21,861	-62.4		282	14.8	28	21,808	-59.8		5	12.6
30-----	23	23,651	-60.0		289	12.8	24	23,614	-58.5		33	10.7
25-----	21	24,794	-57.8		278	9.9	20	24,765	-57.2		55	14.4
20-----	18	26,197	-56.5		279	13.0	14	26,183	-55.3		61	20.6
15-----	15	28,021	-53.1		285	18.5	6	28,022	-53.0			

Standard pressure surface (mb)	LAS VEGAS, NEV. (945 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LIHUE, HAWAII (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	660	2.0	49	233	3.7	31	36	19.5	85	309	1.9
1,000--	31	202					31	125	20.3	81	359	2.1
950----	31	620					31	568	17.6	80	40	2.7
900----	31	1,065	8.6	26	18	5.8	31	1,028	14.6	79	299	.6
850----	31	1,536	6.7	25	17	8.4	31	1,510	11.6	72	247	2.3
800----	31	2,032	4.3	24	22	5.6	31	2,016	10.1	50	252	3.5
750----	31	2,550	2.1		4	2.1	31	2,552	8.6	33	263	6.2
700----	31	3,109	- .1		309	4.1	31	3,120	6.4		270	9.3
650----	31	3,692	- 3.4		290	4.5	31	3,720	3.2		272	13.0
600----	31	4,328	- 7.4		292	6.0	31	4,369	- .4		278	19.2
550----	31	4,992	-12.2		300	7.2	31	5,055	- 4.0		277	24.3
500----	31	5,722	-17.6		292	8.5	31	5,807	- 8.7		280	28.0
450----	31	6,495	-23.7		283	10.3	31	6,610	-14.3		286	33.0
400----	31	7,351	-30.4		287	13.8	31	7,499	-20.3		291	39.8
350----	31	8,286	-37.6		286	18.1	31	8,476	-26.5		288	47.2
300----	31	9,332	-45.6		287	19.4	31	9,572	-34.3		291	49.7
250----	31	10,524	-53.5		283	24.3	30	10,822	-43.5		302	54.4
200----	31	11,942	-57.3		282	34.4	30	12,293	-53.0		303	56.5
175----	31	12,789	-56.0		280	36.7	30	13,143	-58.8		299	55.6
150----	31	13,767	-57.7		280	36.9	30	14,098	-64.9		298	53.6
125----	31	14,910	-61.0		282	33.4	30	15,192	-71.4		297	48.2
100----	31	16,282	-64.8		283	27.4	27	16,489	-77.1		288	33.4
80-----	31	17,638	-65.8		289	19.6	27	17,762	-79.0		284	21.2
70-----	31	18,453	-65.1		294	14.4	25	18,528	-75.9		285	[illegible].7
60-----	31	19,393	-64.1		308	9.1	25	19,430	-70.0		261	3.3
50-----	30	20,516	-62.3		4	5.4	25	20,528	-65.5		180	2.7
40-----	30	21,898	-61.2		45	8.5	25	21,897	-62.7		250	2.7
30-----	29	23,695	-59.5		56	10.7	25	23,679	-60.6		305	4.3
25-----	27	24,837	-58.1		60	11.5	25	24,824	-57.2		316	1.6
20-----	24	26,244	-56.2		65	11.3	25	26,247	-53.9		260	5.2
15-----	7	28,071	-52.3				22	28,107	-50.3		270	18.5

Standard pressure surface (mb)	LITTLE ROCK, ARK. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	79	- 2.5	86	307	3.5
1,000--	31	194	1.0	66	296	3.9
950----	31	609	1.5	55	290	6.6
900----	31	1,043	1.1	49	301	7.8
850----	31	1,502	1.0	42	297	10.3
800----	31	1,989	- .1	38	299	14.0
750----	31	2,504	- 1.7	35	290	17.1
700----	31	3,051	- 4.3		288	20.2
650----	31	3,630	- 7.3		289	21.2
600----	31	4,253	-10.6		280	21.0
550----	31	4,898	-14.5		274	24.9
500----	31	5,634	-19.2		275	27.2
450----	31	6,403	-24.8		276	29.7
400----	31	7,256	-31.3		275	31.5
350----	31	8,189	-38.3		273	34.4
300----	31	9,232	-45.7		269	42.0
250----	31	10,427	-52.5		272	52.8
200----	31	11,854	-55.9		274	56.0
175----	31	12,702	-56.9		273	61.4
150----	31	13,675	-58.2		278	53.8
125----	29	14,814	-61.3		280	55.0
100----	28	16,188	-64.7		280	46.4
80-----	28	17,546	-65.1		283	31.9
70-----	27	18,363	-64.7		282	32.1
60-----	27	19,300	-64.0		282	26.0
50-----	26	20,419	-62.8		289	19.0
40-----	24	21,804	-60.6		297	16.7
30-----	23	23,603	-59.4		315	7.6
25-----	21	24,761	-58.2		323	8.0
20-----	18	26,160	-55.7			
15-----	10	28,042	-50.8			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

McGRATH, ALASKA (993 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	103	-19.9	69	351	1.2
1,000--	31	51				
950----	31	445	-13.0	57	76	14.4
900----	31	854	- 9.0	58	85	20.2
850----	31	1,300	- 6.3	50	101	15.2
800----	31	1,774	- 7.9	46	113	13.2
750----	31	2,274	-10.7	44	123	11.5
700----	31	2,801	-13.[illegible]	44	134	8.2
650----	31	3,359	-17.[illegible]	45	143	9.1
600----	31	3,957	-21.3	46	141	10.1
550----	31	4,592	-25.4	46	150	9.9
500----	31	5,279	-30.4	45	156	8.9
450----	31	6,016	-35.6		161	11.7
400----	31	6,832	-41.2		153	11.5
350----	31	7,727	-47.2		164	8.9
300----	30	8,734	-52.5		168	11.9
250----	30	9,905	-54.2		183	13.6
200----	30	11,347	-51.1		195	15.9
175----	30	12,219	-49.3		194	15.9
150----	29	13,238	-49.1		201	16.1
125----	29	14,433	-49.6		198	16.9
100----	[illegible]	15,894	-49.9		203	16.7
80-----	29	17,349	-51.1		208	15.0
70-----	29	18,222	-51.3		210	14.6
60-----	28	19,216	-51.4		217	13.4
50-----	28	20,401	-50.8		218	14.4
40-----	28	21,855	-50.7		234	12.6
30-----	28	23,728	-50.6		251	12.0
25-----	27	24,918	-50.5		267	12.0
20-----	23	26,390	-49.2		278	9.1
15-----	12	28,384	-44.9			
10-----						

MEDFORD, OREG. (974 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	401	1.4	87	151	0.8
1,000--	31	189				
950----	31	604	4.4	73	152	.6
900----	31	1,047	6.2	58	148	9.3
850----	31	1,515	4.9	51	169	10.5
800----	31	2,009	3.0	44	207	14.2
750----	30	2,523	.3	42	222	15.9
700----	30	3,078	- 2.7	44	234	17.9
650----	30	3,657	- 6.4	44	244	20.4
600----	30	4,284	-10.1	43	242	21.2
550----	30	4,940	-14.5		248	24.1
500----	30	5,666	-19.5		246	23.5
450----	30	6,426	-25.5		247	24.3
400----	30	7,285	-32.2		251	26.0
350----	30	8,214	-39.6		257	24.9
300----	30	9,250	-47.9		256	27.0
250----	30	10,433	-55.8		268	29.3
200----	30	11,840	-58.8		272	32.6
175----	30	12,681	-57.6		269	32.8
150----	30	13,655	-57.7		273	32.3
125----	30	14,802	-59.4		270	28.8
100----	30	16,191	-61.5		273	22.7
80-----	30	17,573	-61.7		275	13.6
70-----	30	18,401	-61.1		280	9.1
60-----	30	19,359	-60.5		287	5.8
50-----	30	20,496	-59.5		337	2.9
40-----	28	21,892	-59.6		47	7.8
30-----	25	23,696	-58.6		62	10.1
25-----	22	24,855	-56.8		67	15.7
20-----	20	26,277	-55.4		74	18.3
15-----	12	28,127	-52.7		72	17.7
10-----						

MIAMI, FLA. (1019 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	15.3	84	7	2.5
1,000--	31	165	15.9	77	16	3.9
950----	31	597	14.2	73	53	2.1
900----	31	1,057	12.2	64	238	3.3
850----	31	1,535	10.8	54	258	8.4
800----	31	2,039	8.8	50	260	12.6
750----	31	2,574	6.3	49	264	18.1
700----	31	3,136	3.9	44	263	23.7
650----	31	3,731	.8	42	261	29.9
600----	31	4,375	- 2.7		262	33.2
550----	31	5,052	- 6.8		260	39.4
500----	31	5,800	-11.3	33	261	43.9
450----	31	6,592	-17.0		262	46.8
400----	31	7,475	-23.1		262	53.8
350----	31	8,440	-30.0		264	57.3
300----	31	9,519	-38.6		264	63.7
250----	31	10,745	-48.3		266	69.4
200----	31	12,183	-57.5		267	77.3
175----	30	13,017	-60.5		266	75.8
150----	29	13,972	-63.4		266	74.6
125----	28	15,080	-67.6		263	62.8
100----	27	16,405	-73.5		266	49.5
80-----	27	17,699	-75.9		268	35.4
70-----	26	18,480	-72.9		267	25.6
60-----	26	19,386	-69.7		265	17.9
50-----	25	20,484	-65.7		268	12.0
40-----	23	21,849	-63.1		287	5.8
30-----	21	23,643	-58.8		255	2.5
25-----	19	24,793	-56.6		349	1.4
20-----	17	26,219	-53.1		272	2.1
15-----	15	28,088	-49.3		272	12.4
10-----						

MIDLAND, TEX. (921 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	871	- 1.6	84	308	2.[illegible]
1,000--	31	214				
950----	31	628				
900----	31	1,062	3.4	60	304	2.5
850----	31	1,526	3.0	51	297	3.9
800----	31	2,017	2.7	48	282	7.4
750----	31	2,538	1.1	43	281	8.4
700----	31	3,090	- 1.6	40	284	11.7
650----	31	3,674	- 4.4		279	15.3
600----	30	4,303	- 8.0		282	18.3
550----	30	4,966	-12.3		285	21.8
500----	30	5,696	-17.5		284	24.7
450----	30	6,468	-23.2		285	27.8
400----	30	7,328	-29.4		281	32.3
350----	30	8,269	-36.2		274	41.2
300----	30	9,323	-43.5		270	50.1
250----	30	10,532	-50.5		267	61.2
200----	29	11,974	-55.0		274	72.3
175----	27	12,827	-56.8		271	70.3
150----	26	13,799	-58.8		273	62.8
125----	25	14,934	-62.9		275	57.5
100----	22	16,290	-67.3		277	45.9
80-----	20	17,627	-68.1		274	34.4
70-----	20	18,440	-67.4		276	24.5
60-----	19	19,361	-66.0		276	18.3
50-----	19	20,472	-63.5		291	9.9
40-----	17	21,855	-61.6		320	3.5
30-----	17	23,645	-59.5		277	2.5
25-----	14	24,788	-58.2		3	2.1
20-----	14	26,199	-56.1		50	4.3
15-----	10	28,055	-52.2			
10-----						

MONTGOMERY, ALA. (1016 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	61	1.1	78	300	3.3
1,000--	31	185	3.4	68	330	3.1
950----	31	602	3.4	62	314	6.6
900----	31	1,041	3.1	53	295	10.1
850----	31	1,505	3.1	45	292	14.4
800----	31	1,995	1.9	39	285	18.7
750----	31	2,515	.1	37	282	20.8
700----	31	3,065	- 2.3		280	23.9
650----	31	3,650	- 5.0		278	28.0
600----	31	4,277	- 8.5		277	34.2
550----	31	4,943	-12.4		276	37.3
500----	31	5,670	-17.0		274	41.6
450----	31	6,449	-22.5		272	47.0
400----	31	7,308	-28.7		267	54.2
350----	31	8,251	35.2		266	62.6
300----	31	9,306	42.8		265	71.7
250----	30	10,518	-51.0		266	80.2
200----	30	11,952	-55.9		267	88.6
175----	30	12,798	-57.7		267	88.4
150----	30	13,768	-59.6		270	73.6
125----	30	14,900	-63.2		270	61.6
100----	28	16,266	-67.1		267	55.2
80-----	28	17,603	-68.8		269	40.8
70-----	28	18,409	-62.3		269	33.6
60-----	28	19,336	-66.0		274	31.7
50-----	27	20,447	-64.3		273	24.5
40-----	25	21,821	-62.3		274	15.5
30-----	24	23,605	-59.8		275	11.9
25-----	21	24,742	-58.2		273	15.2
20-----	19	26,167	-54.8		275	13.8
15-----	15	28,009	-52.0		273	14.6
10-----	5	30,778	-42.9			

NANTUCKET, MASS. (1013 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	14	- 3.3	72	308	5.8
1,000--	31	117	- 3.3	65	294	9.[illegible]
950----	31	519	- 5.2	63	295	11.9
900----	31	946	- 6.6	60	282	13.6
850----	31	1,391	- 8.2	54	278	16.3
800----	31	1,861	- 9.8	49	272	22.3
750----	31	2,357	-11.6	46	270	28.0
700----	31	2,884	-13.7	44	268	33.8
650----	31	3,444	-16.0	42	266	38.[illegible]
600----	31	4,045	-19.0	38	266	48.8
550----	31	4,686	-22.5		265	53.2
500----	31	5,384	-26.5		258	55.8
450----	31	6,130	-31.7		259	52.3
400----	31	6,961	-37.4		259	51.5
350----	31	7,872	-43.3		257	53.8
300----	31	8,898	-48.8		262	53.8
250----	31	10,083	-52.8		263	58.7
200----	30	11,512	-52.8		258	56.7
175----	30	12,375	-52.1		261	55.8
150----	30	13,372	-53.1		264	51.9
125----	30	14,542	-55.4		257	46.4
100----	30	15,958	-57.6		257	42.0
80-----	30	17,363	-58.5		260	33.2
70-----	30	18,201	-58.5		259	30.1
60-----	30	19,172	-58.6		260	22.9
50-----	29	20,321	-59.0		263	16.7
40-----	27	21,731	-58.1		256	13.0
30-----	24	23,546	-57.2		275	8.7
25-----	24	24,702	-56.3		279	6.0
20-----	23	26,121	-54.8		75	3.7
15-----	17	27,962	-50.8			
10-----						

NASHVILLE, TENN. (1001 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	177	- 2.6	80	308	2.7
1,000--	31	184			357	.6
950----	31	591	- 1.8	62	294	8.5
900----	31	1,023	- 2.7	56	299	11.9
850----	31	1,476	- 2.7	48	299	15.0
800----	31	1,957	- 2.8	39	294	19.4
750----	31	2,467	- 3.9	33	290	22.7
700----	31	3,010	- 6.0		289	26.4
650----	31	3,582	- 8.9		287	30.5
600----	31	4,203	-12.3		288	33.0
550----	31	4,859	-16.1		285	35.4
500----	31	5,575	-20.9		283	36.5
450----	31	6,339	-26.5		282	42.6
400----	31	7,186	-32.7		281	46.0
350----	30	8,109	-39.4		281	53.2
300----	29	9,144	-46.9		275	55.2
250----	28	10,335	-53.4		272	62.2
200----	28	11,759	-56.3		271	73.1
175----	28	12,608	-56.1		269	72.7
150----	27	13,588	-56.9		270	62.4
125----	27	14,736	-59.6		269	56.7
100----	27	16,118	-63.6		269	47.6
80-----	26	17,491	-64.0		273	39.4
70-----	26	18,314	-63.5		275	30.9
60-----	26	19,260	-62.8		276	25.6
50-----	26	20,386	-62.0		278	17.7
40-----	24	21,771	-60.8		292	16.3
30-----	19	23,582	-58.8		301	9.9
25-----	19	24,731	-57.4		297	10.7
20-----	16	26,142	-54.8		293	7.2
15-----	16	28,002	-50.9		302	10.1
10-----						

N. Y. INT. AP, IDLEWILD (1018 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	- 4.1	66	316	8.2
1,000--	31	141	- 4.6	60	307	11.5
950----	31	544	- 6.3	58	312	14.8
900----	31	965	- 7.3	54	308	14.6
850----	31	1,409	- 8.9	53	294	16.9
800----	31	1,877	-10.1	50	287	18.8
750----	31	2,373	-11.6	46	278	23.1
700----	31	2,900	-13.5	48	275	30.5
650----	31	3,459	-16.3	48	274	38.3
600----	31	4,060	-19.2	43	273	42.6
550----	31	4,700	-23.0	39	273	49.0
500----	31	5,395	-26.9		272	54.4
450----	31	6,141	32.0		272	60.2
400----	31	6,969	-37.5		270	64.5
350----	31	7,880	-43.1		269	71.3
300----	31	8,906	-48.6		270	77.3
250----	31	10,092	-52.7		271	77.7
200----	31	11,528	-53.5		267	72.9
175----	31	12,389	-52.7		268	69.4
150----	31	13,383	-53.[illegible]		267	66.8
125----	31	14,550	-55.9		267	56.2
100----	30	15,966	-58.8		266	50.9
80-----	30	17,365	-59.0		267	41.[illegible]
70-----	30	18,205	-59.4		268	35.2
60-----	29	19,161	-59.2		268	29.7
50-----	29	20,303	-59.2		270	24.5
40-----	28	21,697	-58.7		270	19.4
30-----	25	23,512	-57.8		266	10.1
25-----	25	24,665	-56.5		277	10.9
20-----	23	26,077	-54.6		275	6.2
15-----	16	27,950	50.2			
10-----						

NOME, ALASKA (1004 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	7	- 9.4	71	54	7.6
1,000--	31	41			87	9.7
950----	31	443	- 8.6	59	97	12.8
900----	31	859	- 9.3	59	109	13.8
850----	31	1,301	- 9.5	59	115	14.2
800----	31	1,769	-10.6	52	117	14.4
750----	31	2,264	-12.5	47	119	11.5
700----	31	2,788	-15.4	46	135	11.5
650----	31	3,343	-18.7	49	142	12.4
600----	31	3,937	-22.6	52	152	13.2
550----	31	4,571	-26.5	50	158	13.8
500----	31	5,254	-31.0	49	164	14.2
450----	31	5,990	-36.0		170	14.8
400----	31	6,803	-41.7		182	18.5
350----	31	7,695	-48.0		187	19.4
300----	31	8,699	-53.5		193	20.4
250----	31	9,864	-55.4		192	19.4
200----	31	11,294	-52.1		185	19.2
175----	31	12,165	-49.9		189	18.3
150----	31	13,174	-49.5		191	18.5
125----	31	14,367	-49.8		192	19.0
100----	31	15,826	-49.9		190	20.2
80-----	31	17,285	-50.1		201	19.0
70-----	30	18,164	-50.4		204	18.1
60-----	30	19,162	-50.5		210	17.3
50-----	30	20,352	-50.3		216	17.5
40-----	28	21,820	-49.8		226	16.3
30-----	27	23,701	-49.8		232	16.7
25-----	27	24,894	-49.3		239	16.7
20-----	27	26,359	-49.0		251	18.1
15-----	24	28,268	-47.6		261	18.7
10-----	11	31,007	-44.5			

NORFOLK, VA. (1019 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	9	- 0.6	80	317	3.7
1,000--	31	161	1.0	63	315	5.4
950----	31	571	- .5	[illegible]	301	11.5
900----	31	1,004	- 2.2	52	282	14.0
850----	31	1,457	- 3.4	48	278	18.7
800----	31	1,936	- 4.3	40	277	24.7
750----	31	2,441	- 5.9	38	274	30.7
700----	31	2,982	- 7.8	34	271	36.1
650----	31	3,551	-10.4		269	42.7
600----	31	4,168	-13.9		268	48.4
550----	31	4,819	-17.7		268	52.8
500----	31	5,532	-22.4		268	58.3
450----	31	6,292	-27.9		270	61.4
400----	31	7,135	-33.3		268	66.5
350----	31	8,062	-39.5		267	71.9
300----	31	9,102	-46.1		266	79.1
250----	31	10,296	-52.9		268	85.5
200----	31	11,723	-55.5		268	83.0
175----	31	12,577	-54.8		270	71.5
150----	31	13,561	-56.3		268	66.1
125----	31	14,712	-59.2		268	54.6
100----	31	16,100	-62.2		266	47.0
80-----	30	17,473	63.0		265	33.4
70-----	30	18,306	-62.3		267	27.8
60-----	30	19,249	-61.6		271	21.8
50-----	30	20,379	-60.9		268	16.7
40-----	30	21,770	-59.6		269	12.4
30-----	30	23,574	-58.0		278	9.3
25-----	29	24,722	-56.5		274	9.9
20-----	25	26,128	-54.6		292	6.8
15-----	19	27,954	-51.6		279	19.0
10-----	10	30,649	-45.0			

NORTH PLATTE, NEBR. (921 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	848	- 9.2	74	320	5.1
1,000--	31	203				
950----	31	604				
900----	31	1,026	- 3.7	62	313	10.1
850----	31	1,481	- 1.0	43	313	16.9
800----	31	1,964	- 2.0	37	306	22.3
750----	31	2,470	- 4.2	36	308	24.7
700----	31	3,017	- 6.5	33	306	27.6
650----	31	3,587	- 9.5	33	305	29.0
600----	31	4,207	-13.1	30	306	31.5
550----	31	4,859	-17.5		305	33.2
500----	31	5,572	-21.2		304	34.[illegible]
450----	31	6,330	-27.[illegible]		302	36.9
400----	31	7,174	-34.3		306	39.4
350----	31	8,095	-41.2		308	42.7
300----	31	9,125	-48.7		307	43.7
250----	31	10,304	-56.0		305	45.7
200----	31	11,708	-59.1		303	45.5
175----	31	12,547	-58.0		299	46.8
150----	31	13,522	-57.0		297	47.0
125----	31	14,674	-58.4		296	42.6
100----	31	16,072	-60.3		298	38.1
80-----	31	17,460	-61.1		300	30.9
70-----	31	18,295	-61.2		306	29.0
60-----	31	19,247	-60.[illegible]		309	22.7
50-----	31	20,383	-60.0		318	17.1
40-----	31	21,777	-59.4		332	14.6
30-----	31	23,581	-58.5		351	11.1
25-----	31	24,729	-57.5		2	[illegible].7
20-----	30	26,143	-56.4		30	9.5
15-----	26	27,983	-53.8		42	10.5
10-----	10	30,683	-48.0			

OAKLAND, CALIF. (1021 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	5.3	89	83	2.1
1,000--	31	177	8.1	73	106	3.1
950----	31	603	10.7	53	110	3.5
900----	31	1,053	10.4	45	190	3.7
850----	31	1,527	8.6	41	206	5.6
800----	31	2,026	6.0		220	6.6
750----	31	2,545	3.0		230	7.0
700----	31	3,107	- .5		242	6.8
650----	31	3,690	- 4.0		247	8.0
600----	31	4,323	- 8.1		247	9.1
550----	31	4,986	-12.9		245	10.5
500----	31	5,714	-18.2		246	12.2
450----	31	6,483	-24.0	35	249	13.8
400----	31	7,342	-30.7		258	16.7
350----	31	8,276	-38.0		268	17.5
300----	31	9,320	-46.5		269	20.0
250----	31	10,509	-54.4		277	27.2
200----	31	11,924	-57.2		276	31.7
175----	31	12,770	-56.8		274	35.2
150----	31	13,746	-57.6		271	33.8
125----	31	14,893	-61.0		274	30.1
100----	31	16,269	-64.1		272	25.3
80-----	31	17,632	-65.0		273	17.7
70-----	31	18,448	-63.8		281	11.3
60-----	30	19,393	-62.9		287	5.1
50-----	30	20,520	-61.6		41	1.2
40-----	27	21,908	-60.7		71	6.8
30-----	21	23,716	-59.2		71	14.6
25-----	19	24,870	-57.7		80	16.7
20-----	13	26,288	-56.1		77	15.7
15-----	8	28,113	-53.7			
10-----						

OKLAHOMA CITY, OKLA. (977 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	392	- 2.1	73	287	1.6
1,000--	31	204				
950----	31	613	.9	57	286	4.3
900----	31	1,050	2.1	45	302	8.0
850----	31	1,511	1.5	37	301	9.3
800----	31	1,998	.6		302	10.3
750----	31	2,515	- 1.5		296	10.7
700----	31	3,062	- 3.9		291	14.8
650----	31	3,641	- 7.0		290	19.0
600----	31	4,264	-10.6		286	22.9
550----	31	4,924	-14.8		285	24.9
500----	31	5,644	-19.5		282	29.5
450----	31	6,408	-25.3		278	32.6
400----	31	7,262	-31.6		280	36.7
350----	31	8,193	-38.6		274	41.6
300----	31	9,236	-46.0		274	47.2
250----	30	10,132	-52.8		272	54.4
200----	30	11,857	-56.4		275	63.9
175----	30	12,704	-56.6		273	64.7
150----	29	13,683	-57.8		274	62.6
125----	28	14,820	-60.9		277	57.7
100----	27	16,201	-64.0		278	48.2
80-----	26	17,562	-65.2		279	37.7
70-----	25	18,379	-64.4		283	29.3
60-----	25	19,317	-63.5		287	22.2
50-----	22	20,431	-62.2		295	16.5
40-----	16	21,820	-60.7		308	16.1
30-----	9	23,628	-59.0			
25-----	5	24,775	-59.4			
20-----						
15-----						
10-----						

OMAHA, NEBR. (973 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	403	- 9.5	73	280	2.1
1,000--	31	190				
950----	31	590	- 5.9	58	297	[illegible].2
900----	31	1,014	- 4.1	41	299	11.3
850----	31	1,464	- 4.2	36	296	14.4
800----	31	1,941	- 5.1	34	298	18.1
750----	31	2,442	- 6.5	31	300	22.5
700----	31	2,985	- 8.6	31	299	27.0
650----	31	3,553	-11.2	31	299	28.4
600----	31	4,167	-14.9	34	300	30.5
550----	31	4,815	-18.9		298	33.2
500----	31	5,524	-23.6	35	301	35.[illegible]
450----	31	6,279	-28.8	35	298	38.1
400----	31	7,120	-35.2	36	297	39.6
350----	31	8,037	-42.1		296	42.4
300----	31	9,063	-49.9		295	46.2
250----	31	10,236	-56.6		294	44.1
200----	30	11,645	-58.6		291	47.8
175----	30	12,488	-57.0		291	50.3
150----	30	13,466	-56.3		292	47.8
125----	30	14,621	-57.7		294	44.7
100----	29	16,023	-59.6		294	42.4
80-----	28	17,421	-60.2		292	33.0
70-----	28	18,256	-60.4		301	28.8
60-----	28	19,213	-60.0		306	24.7
50-----	28	20,352	-59.4		309	23.1
40-----	28	21,749	59.0		321	19.2
30-----	21	23,560	-58.5		345	13.2
25-----	18	24,722	-57.7		11	12.0
20-----	8	26,115	-55.6			
15-----						
10-----						

PEORIA, ILL. (997 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	201	- 8.9	81	296	2.7
1,000--	31	178				
950----	31	575	- 5.8	63	297	11.5
900----	31	1,002	- 5.3	40	298	15.2
850----	31	1,451	- 6.1	44	297	18.8
800----	31	1,925	- 7.0	43	[illegible]	22.5
750----	31	2,423	- 8.6	43	293	27.8
700----	31	2,960	-10.8	41	294	31.1
650----	31	3,520	13.1	41	293	34.0
600----	31	4,134	16.1	40	292	40.8
550----	31	4,777	-19.8	39	289	45.9
500----	31	5,487	24.4	3[illegible]	287	47.6
450----	31	6,235	-29.8		285	49.9
400----	31	7,077	-35.7		283	56.7
350----	31	7,993	-42.1		281	59.5
300----	31	9,020	49.3		280	63.0
250----	31	10,197	-55.8		278	60.0
200----	31	11,611	-57.2		278	62.2
175----	31	12,459	-55.3		279	62.8
150----	31	13,444	-55.3		278	62.6
125----	31	14,605	56.7		278	54.4
100----	29	16,013	-58.5		278	47.6
80-----	28	17,413	-59.3		281	40.8
70-----	28	18,248	59.4		281	33.2
60-----	26	19,223	-58.4		286	25.6
50-----	25	20,375	58.2		294	18.3
40-----	23	21,797	-58.1		313	12.2
30-----	21	23,613	57.3		339	8.5
25-----	19	24,758	56.3		11	7.4
20-----	18	26,175	55.0		40	13.2
15-----	11	28,014	53.4			
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1961

Standard pressure surface (mb.)	PITTSBURGH, PA. (977 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	POINT ARGUELLO, CALIF. (1006 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	353	- 7.1	74	261	4.3	31	113	6.7	81	109	4.7
1,000--	31	167					31	162	10.2	65	95	4.7
950----	31	567	- 7.0	71	266	7.8	31	597	15.0	34	44	3.7
900----	31	988	- 8.4	70	272	13.0	31	1,051	12.7	32	76	2.1
850----	31	1,430	- 9.4	60	282	16.9	31	1,527	9.7	34	73	.8
800----	31	1,899	-10.2	54	283	21.6	31	2,028	6.7		18	1.4
750----	31	2,390	-12.0	51	281	26.4	31	2,555	3.7		337	1.9
700----	31	2,921	-14.0	52	281	32.1	31	3,112	.7		282	2.9
650----	31	3,477	-16.4	50	283	35.6	31	3,700	- 3.2		282	3.7
600----	31	4,081	-18.9	46	284	42.4	31	4,332	- 7.3		274	4.5
550----	31	4,723	-22.7	46	283	48.4	31	4,999	-12.0		275	6.0
500----	31	5,419	-27.1	45	283	52.1	31	5,725	-17.3		277	8.0
450----	31	6,165	-31.9	45	283	57.3	31	6,499	-23.2		273	11.9
400----	31	6,997	-37.1		288	60.4	31	7,358	-29.7		283	12.2
350----	31	7,909	-42.9		288	61.0	31	8,295	-37.0		288	15.5
300----	31	8,936	-49.1		289	61.8	31	9,342	-45.6		291	20.4
250----	31	10,118	-54.1		287	58.9	31	10,533	-53.9		291	25.6
200----	31	11,547	-54.5		279	73.3	31	11,953	-56.1		279	32.8
175----	31	12,404	-53.6		273	62.0	31	12,802	-56.0		277	36.3
150----	31	13,395	-54.7		271	57.1	31	13,779	-57.9		275	35.9
125----	31	14,556	-56.8		272	54.0	31	14,918	-62.0		274	32.8
100----	31	15,966	-58.5		267	34.2	31	16,284	-66.1		274	26.0
80-----	31	17,367	-59.1		265	28.2	30	17,635	-66.8		275	19.0
70-----	31	18,206	-59.3		268	25.8	30	18,446	-66.2		280	13.4
60-----	31	19,171	-59.3		271	20.8	30	19,378	-65.3		295	8.2
50-----	31	20,312	-59.3		283	14.2	30	20,490	-63.9		328	3.3
40-----	30	21,708	-58.4		294	8.5	29	21,864	-62.3		69	6.2
30-----	27	23,512	-58.1		329	8.0	27	23,648	-60.5		70	11.7
25-----	27	24,663	-56.9		21	5.1	27	24,785	-59.3		73	11.5
20-----	25	26,082	-54.3		20	9.3	27	26,188	-57.3		71	14.2
15-----	21	27,948	-51.4				27	28,018	-54.1		75	12.0
10-----	5	30,741	-41.5				25	30,653	-48.5		61	6.6
7------							15	33,016	-44.1		11	6.2
5------							7	35,167	-42.1			

Standard pressure surface (mb.)	PORTLAND, ME. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	RAPID CITY, S. DAK. (907 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ST. CLOUD, MINN. (982 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	20	-12.5	73	312	5.2	31	966	- 5.4	67	335	5.4	31	316	-13.7	76	298	4.3
1,000--	31	116	-10.4	58	306	7.0	31	194					31	177				
950----	31	511	-10.0	54	313	10.9	31	597					31	570	-11.7	69	313	9.1
900----	31	928	-10.3	54	308	11.1	31	1,027	- 3.7	58	331	6.4	31	986	- 9.3	55	310	13.8
850----	31	1,368	-11.6	53	306	12.8	31	1,483	- 1.9	46	323	16.1	31	1,427	- 9.3	46	308	17.7
800----	31	1,831	-13.1	50	293	16.9	31	1,964	- 3.7	42	321	22.3	31	1,895	-10.1	42	306	21.2
750----	31	2,321	-14.8	48	284	20.2	31	2,468	- 5.5	42	318	25.5	31	2,390	-11.7	40	306	27.0
700----	31	2,842	-17.1	45	276	24.9	31	3,011	- 8.4	46	315	28.8	31	2,917	-14.2	38	305	29.5
650----	31	3,390	-20.1	46	272	29.3	31	3,576	-11.5	42	311	29.7	31	3,473	-17.1	42	304	32.4
600----	31	3,985	-23.0	44	271	34.6	31	4,194	-14.6	38	309	32.8	31	4,073	-20.4	42	305	36.5
550----	31	4,612	-26.5	39	273	40.8	31	4,844	-18.7	38	309	35.9	31	4,711	-24.2	47	303	39.8
500----	31	5,302	-30.7		273	43.9	31	5,553	-23.6	41	308	40.4	31	5,403	-28.3	47	301	42.6
450----	31	6,039	-35.2		269	50.9	31	6,307	-29.3	39	308	41.2	31	6,149	-33.3	49	303	48.4
400----	31	6,857	-40.3		269	59.1	31	7,147	-35.7		308	45.3	31	6,970	-38.5		305	54.8
350----	31	7,759	-45.2		264	62.8	31	8,062	-42.5		306	47.4	31	7,876	-44.6		304	58.5
300----	31	8,778	-49.8		263	67.2	31	9,088	-49.6		305	49.4	31	8,893	-51.3		302	59.1
250----	31	9,962	-52.4		262	64.7	31	10,262	-56.5		308	54.6	31	10,063	-55.9		303	60.4
200----	31	11,406	-51.6		261	64.9	31	11,665	-59.5		300	50.1	31	11,480	-56.0		300	54.8
175----	31	12,274	-51.2		261	61.8	31	12,502	-58.2		298	48.4	31	12,333	-54.0		299	51.7
150----	30	13,283	-52.5		259	56.5	31	13,477	-56.5		298	47.6	31	13,323	-54.2		301	46.4
125----	29	14,447	-54.2		263	52.8	31	14,633	-57.0		299	41.4	31	14,490	-55.2		301	41.6
100----	27	15,867	-55.6		262	44.5	30	16,040	-58.6		304	38.9	30	15,904	-56.4		302	38.9
80-----	27	17,290	-56.7		262	34.8	30	17,439	-59.3		309	29.5	30	17,320	-56.5		302	33.0
70-----	26	18,140	-57.6		265	32.8	29	18,272	-59.5		310	24.9	30	18,163	-56.7		305	30.1
60-----	26	19,114	-57.7		269	28.8	29	19,240	-59.5		314	22.7	30	19,142	-57.0		310	26.4
50-----	23	20,266	-58.3		273	21.6	28	20,382	-58.6		323	19.2	29	20,293	-57.4		316	23.7
40-----	22	21,691	-57.8		270	15.5	28	21,784	-58.5		335	15.0	29	21,703	-57.5		326	19.8
30-----	21	23,528	-56.9		276	10.9	27	23,592	-58.0		359	12.4	27	23,511	-57.3		333	17.5
25-----	19	24,687	-56.5		274	6.2	25	24,743	-57.5		9	14.4	23	24,680	-57.1		344	19.0
20-----	18	26,105	-55.9		306	4.5	24	26,153	-55.9		24	17.1	20	26,080	-56.5		345	17.5
15-----	13	27,916	-54.2		311	6.2	18	27,985	-53.7				17	27,918	-54.2		332	18.7
10-----	5	30,463	-50.0															
7------																		
5------																		

Standard pressure surface (mb.)	ST. PAUL IS., ALASKA (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SALEM, OREG. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	- 2.3	85	45	10.3	31	61	4.3	86	181	3.7
1,000--	31	-65			67	9.5	31	169	5.6	79	187	5.1
950----	31	337	- 4.3	82	68	15.5	31	589	6.8	71	196	11.5
900----	31	765	- 6.5	79	79	14.2	31	1,034	6.1	60	205	14.6
850----	31	1,210	- 8.1	70	94	14.0	31	1,501	4.3	58	210	18.5
800----	31	1,679	-10.3	62	94	13.2	31	1,992	1.8	53	218	21.0
750----	31	2,172	-12.7	55	96	12.8	31	2,506	- .5	47	223	19.8
700----	31	2,698	-15.5	49	99	11.1	31	3,059	- 3.3	47	228	19.8
650----	31	3,249	-18.4	45	91	12.8	31	3,635	- 6.8	46	235	19.8
600----	31	3,848	-22.0	43	98	11.7	31	4,262	-11.0	45	241	20.4
550----	31	4,475	-26.1		104	12.4	31	4,918	-15.5	43	244	24.1
500----	31	5,167	-30.7		98	12.0	31	5,638	-20.2	41	247	26.4
450----	31	5,901	-35.6		109	12.4	31	6,403	-26.0	40	245	29.9
400----	31	6,718	-41.0		111	13.2	31	7,252	-32.6	41	247	31.7
350----	31	7,614	-46.7		118	15.0	31	8,179	-40.1		255	28.4
300----	31	8,624	-52.2		125	15.9	31	9,212	-48.5		259	29.7
250----	31	9,793	-54.8		147	17.3	31	10,390	-56.1		260	32.3
200----	31	11,233	-50.8		162	17.1	31	11,795	-58.9		267	31.7
175----	30	12,108	-49.4		166	17.9	31	12,636	-57.6		267	34.8
150----	30	13,121	-48.6		170	19.6	31	13,612	-56.7		268	31.9
125----	29	14,312	-48.2		176	20.0	31	14,764	-58.4		273	28.0
100----	29	15,782	-48.6		184	16.7	31	16,161	-59.8		279	20.6
80-----	27	17,253	-48.6		181	16.3	31	17,555	-59.9		280	14.4
70-----	26	18,140	-48.9		178	17.1	31	18,393	-60.3		288	8.9
60-----	26	19,151	-49.2		183	14.8	30	19,357	-59.2		319	7.0
50-----	26	20,347	-49.3		181	13.8	30	20,503	-58.1		340	5.6
40-----	23	21,812	-48.9		172	14.0	30	21,909	-58.2		5	7.6
30-----	21	23,712	-48.9		160	13.0	29	23,721	-57.8		43	9.3
25-----	17	24,892	-49.5		165	12.4	29	24,874	-56.6		54	11.9
20-----	14	26,345	-48.7		178	14.8	24	26,296	-55.7		56	15.9
15-----	8	28,227	-46.2				12	28,186	-52.9			
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Standard pressure surface (mb.)	SALT LAKE CITY, UTAH (879 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAN ANTONIO, TEX. (995 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAN DIEGO, CALIF. (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,288	- 6.5	75	162	2.9	31	243	4.8	82	354	5.8	31	124	8.7	65	24	2.3
1,000--	31	269					31	198					31	152	10.9	56	25	2.1
950----	31	675					31	618	6.1	67	6	2.1	31	579	14.9	34	41	1.9
900----	31	1,103					31	1,061	6.3	63	255	6.0	31	1,042	12.9	29	15	2.1
850----	31	1,556	- .6	51	172	3.9	31	1,530	6.1	59	264	8.9	31	1,518	10.0	29	17	2.1
800----	31	2,041	- .9	41	191	3.9	31	2,026	4.8	50	261	10.5	31	2,019	7.1	29	347	1.2
750----	31	2,555	- 2.7	36	265	3.5	31	2,550	2.9	46	256	12.4	31	2,539	4.1	31		.0
700----	31	3,100	- 5.1		300	7.6	31	3,108	.1	43	268	16.7	31	3,106	.7	31	290	2.5
650----	31	3,678	- 7.5		307	12.2	31	3,696	- 2.3	36	268	20.4	31	3,690	- 3.0		288	3.9
600----	31	4,301	-11.0		309	16.3	31	4,331	- 5.8	35	270	23.7	31	4,327	- 6.9	32	291	6.6
550----	31	4,959	-15.2		302	18.8	31	5,003	-10.2		271	27.2	31	4,990	-11.4		290	6.6
500----	31	5,679	-20.1		299	21.4	31	5,735	-15.4		273	33.4	31	5,726	-16.4		293	9.3
450----	31	6,446	-25.6		306	23.9	31	6,519	-20.6	34	271	37.1	31	6,496	-22.4		284	11.3
400----	31	7,298	-31.9		304	25.8	31	7,386	-27.0	38	268	41.2	31	7,365	-29.2	35	284	12.8
350----	31	8,228	-39.0		303	28.4	30	8,339	-33.9				31	8,305	-36.7		284	20.0
300----	31	9,269	-47.1		304	31.5	30	9,404	-41.1				31	9,355	-45.0		274	20.0
250----	31	10,453	-55.3		300	32.1	30	10,623	-48.9				31	10,553	-52.6		272	33.0
200----	31	11,860	-59.2		295	39.2	29	12,064	-55.7				31	11,982	-55.0		274	36.3
175----	31	12,700	-58.1		293	40.8	27	12,903	-57.8				31	12,834	-55.9		273	37.9
150----	31	13,674	-57.4		291	41.8	25	13,864	-60.1				31	13,811	-58.3		270	36.9
125----	31	14,822	-59.5		292	37.9	23	14,985	-63.6				31	14,947	-62.6		275	33.8
100----	31	16,211	-61.5		294	31.9	22	16,338	-68.1				30	16,307	-66.7		274	23.9
80-----	31	17,591	-62.0		296	23.3	22	17,669	-69.4				30	17,649	-67.8		280	19.2
70-----	31	18,420	-62.2		305	17.7	21	18,473	-68.7				30	18,458	-66.8		286	12.6
60-----	31	19,368	-61.6		319	13.0	21	19,391	-67.5				30	19,386	-65.8		304	5.6
50-----	31	20,501	-60.5		329	12.0	21	20,495	-65.1				30	20,495	-64.4		356	4.5
40-----	29	21,891	-59.8		354	9.9	21	21,863	-62.1				29	21,869	-62.5		63	5.8
30-----	27	23,695	-58.3		28	9.3	20	23,649	-60.2				27	23,652	-60.3		62	8.0
25-----	25	24,843	-56.7		35	10.7	20	24,790	-58.7				25	24,789	-58.9		63	8.5
20-----	22	26,263	-55.7		50	13.0	18	26,188	-57.5				22	26,198	-56.8		67	6.0
15-----	13	28,114	-53.0				15	28,023	-54.3				14	28,011	-53.7		59	10.5
10-----							8	30,623	-50.4									

Standard pressure surface (mb.)	SAN JUAN, P. R. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SANTA MONICA, CALIF. (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	22.1	89	127	4.1	31	38	12.4	52	28	6.2
1,000-	31	147	23.2	80	106	10.9	31	157	15.7	38	32	5.2
950----	31	593	20.3	79	87	15.7	31	592	14.8	33	58	2.1
900----	31	1,059	17.1	77	88	17.1	31	1,048	12.8		59	1.4
850----	31	1,545	13.9	74	90	15.0	31	1,525	9.9		30	1.2
800----	31	2,056	11.9	60	88	13.6	31	2,026	7.1		15	1.2
750----	31	2,594	10.2	39	95	13.4	31	2,552	3.8		350	1.6
700----	31	3,166	7.6	33	87	11.7	31	3,111	.3	32	303	3.3
650----	31	3,768	4.8		77	11.7	31	3,700	- 3.4		293	4.3
600----	31	4,422	1.8		76	7.2	30	4,330	- 7.5		285	6.0
550----	31	5,108	- 2.4		60	5.6	30	4,997	-12.1		272	6.4
500----	31	5,867	- 7.3		16	3.5	30	5,725	-17.3		272	8.7
450----	30	6,671	-12.9		345	4.9	30	6,500	-23.0		281	11.9
400----	30	7,565	-20.0		314	8.0	30	7,360	-29.6		272	13.4
350----	30	8,541	-27.3		297	12.0	30	8,299	-37.0		278	14.8
300----	30	9,632	-35.6		289	22.5	30	9,346	-45.4		279	18.3
250----	29	10,877	-44.7		290	36.5	30	10,540	-53.5		282	25.8
200----	29	12,335	-55.0		278	44.5	30	11,965	-55.2		279	34.6
175----	29	13,179	-60.0		271	45.5	30	12,817	-55.6		275	32.8
150----	29	14,128	65.6		278	42.0	30	13,794	-58.1		271	33.0
125----	29	15,221	-71.4		289	29.7	30	14,933	-61.9		274	31.1
100----	28	16,520	-78.4		295	18.1	30	16,297	-66.2		273	24.5
80-----	28	17,780	-80.8		307	8.4	30	17,644	-67.3		279	15.9
70-----	28	18,549	-77.7		17	4.3	30	18,455	-66.6		285	11.5
60-----	26	19,432	-70.4		79	7.6	30	19,387	-65.4		304	4.7
50-----	26	20,529	-65.4		90	6.2	30	20,499	-64.1		2	3.9
40-----	24	21,897	-61.9		67	7.8	28	21,876	-62.3		62	6.0
30-----	24	23,691	-58.6		9	2.3	27	23,661	-60.3		59	8.9
25-----	24	24,844	-55.4		305	5.1	26	24,804	-58.9		61	9.1
20-----	22	26,284	-49.8		290	8.7	24	26,212	-56.8		70	9.1
15-----	18	28,187	-46.5		254	16.1	19	28,043	-53.9		68	11.7
10-----	13	30,927	-42.2									

Standard pressure surface (mb.)	SAULT STE. MARIE, MICH. (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SEATTLE, WASH. (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SHEMYA, ALASKA (985 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	221	-13.9	68	67	2.1	31	125	5.4	78	134	3.9	30	37	- 0.5	86	155	2.7
1,000-	31	141					31	160			140	4.7	30	-82				
950----	31	532	-12.5	67	260	2.7	31	580	6.7	63	176	11.1	30	326	- 2.6	82	142	7.6
900----	31	945	-12.6	61	275	10.1	31	1,024	4.8	63	193	15.7	30	753	- 5.8	81	158	6.0
850----	31	1,380	-13.3	60	289	15.7	31	1,489	2.6	64	208	18.5	30	1,199	- 8.5	74	164	7.0
800----	31	1,841	-14.6	56	292	18.3	31	1,977	.0	58	218	21.4	30	1,668	-11.3	67	159	4.9
750----	31	2,325	-16.4	55	291	21.6	31	2,488	- 2.8	50	227	20.4	30	2,156	-14.3	60	164	5.6
700----	31	2,845	-18.7	52	291	24.3	31	3,036	- 5.2	49	236	20.0	30	2,681	-17.7	57	153	7.8
650----	31	3,390	-21.8	52	288	25.3	31	3,609	- 8.5	47	241	22.3	30	3,223	-21.3	55	149	8.2
600----	31	3,980	-25.2	48	290	27.8	31	4,231	-12.4	51	247	22.7	30	3,818	-25.3	52	136	11.9
550----	31	4,604	-28.7	43	290	31.9	31	4,886	-16.7	54	250	22.9	30	4,437	-29.8	50	136	12.8
500----	31	5,284	-32.9	46	289	35.9	31	5,600	-21.6	53	255	24.9	30	5,117	-34.4	51	139	15.7
450----	31	6,014	-37.6		287	42.4	31	6,361	-27.3	49	253	29.0	30	5,844	-39.4		135	20.2
400----	31	6,823	-42.9		287	46.4	31	7,205	-34.1	45	256	31.7	30	6,645	-44.9		136	20.0
350----	31	7,713	-48.0		285	51.5	31	8,126	-41.2		257	36.3	30	7,527	-49.7		144	21.0
300----	30	8,732	-51.7		286	60.4	31	9,157	-49.0		264	36.9	29	8,530	-53.5		149	18.7
250----	30	9,909	-53.8		288	58.1	31	10,333	-56.7		268	40.8	29	9,702	-53.1		188	14.2
200----	30	11,344	-52.8		287	53.2	31	11,737	-58.7		267	36.7	29	11,149	-50.4		210	14.8
175----	30	12,208	-52.2		286	47.2	30	12,582	-56.8		267	32.3	29	12,023	-49.3		223	15.2
150----	30	13,206	-52.2		287	47.0	29	13,566	-55.9		273	30.3	29	13,035	-48.5		223	16.5
125----	30	14,384	-53.3		286	39.8	28	14,729	-57.6		279	28.4	29	14,237	-48.2		216	16.1
100----	22	15,838	-53.7		287	39.1	26	16,137	-58.3		282	23.3	29	15,707	-47.9		230	17.1
80-----	18	17,270	-54.3		288	32.4	26	17,539	-58.9		292	15.5	28	17,183	-48.0		210	16.5
70-----	16	18,121	-53.8		293	29.7	26	18,377	-59.2		296	12.2	26	18,063	-48.0		216	18.1
60-----	16	19,114	-54.2		294	25.1	26	19,343	-58.4		305	10.9	26	19,076	-48.5		207	15.7
50-----	16	20,280	-55.0		301	21.2	25	20,489	-57.5		329	9.3	26	20,275	-49.1		214	16.1
40-----	13	21,712	-56.6		305	19.8	24	21,908	-57.1		3	7.8	26	21,738	-49.0		191	14.2
30-----	12	23,548	-56.4		313	17.5	20	23,740	-57.0		34	9.7	25	23,633	-48.6		179	12.4
25-----	11	24,747	-55.5		317	13.4	18	24,896	-56.5		43	13.6	19	24,855	-48.1		145	12.6
20-----	9	26,154	-55.3				13	26,320	-55.3		34	14.2	13	26,368	-47.7		138	14.8
15-----													7	28,326	-47.3			
10-----																		

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JANUARY 1961

Standard pressure surface (mb.)	SHREVEPORT, LA. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SPOKANE, WASH. (937 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	76	2.9	85	342	2.3	31	722	- 1.9	86	158	2.9
1,000--	31	197	3.9	69	329	1.2	31	203				
950----	31	614	3.3	60	328	3.3	31	615				
900----	31	1,053	3.1	56	323	4.9	31	1,045	- .3	75	193	7.8
850----	31	1,518	2.6	53	300	8.0	31	1,504	.4	62	225	13.8
800----	31	2,008	1.6	51	285	11.5	31	1,989	- .7	55	237	16.1
750----	31	2,526	- .6	47	286	13.6	31	2,502	- 2.9	52	247	18.5
700----	31	3,077	- 2.7	39	283	16.3	31	3,047	- 5.7	49	255	19.4
650----	31	3,657	- 5.3		278	19.8	31	3,620	- 9.2	49	264	20.0
600----	31	4,287	- 8.6		276	24.7	31	4,241	-12.6	47	276	24.5
550----	31	4,950	-12.9		273	28.4	31	4,894	-16.8	48	282	25.1
500----	31	5,677	-17.8		270	32.6	31	5,609	-21.6	48	286	27.6
450----	31	6,450	-23.5		271	37.1	31	6,369	-27.0	47	284	30.3
400----	31	7,309	-30.0		270	44.3	31	7,216	-33.3	43	280	34.2
350----	31	8,247	-36.5		267	53.8	31	8,139	-40.7		281	37.3
300----	31	9,299	-43.9		267	62.4	31	9,170	-49.1		282	41.4
250----	31	10,503	-50.7		267	71.3	31	10,346	-56.6		287	42.6
200----	31	11,938	-55.5		267	77.3	31	11,747	-59.7		285	42.4
175----	31	12,785	-57.7		267	76.0	31	12,588	-56.8		287	37.9
150----	31	13,755	-59.5		266	70.7	31	13,568	-55.5		294	32.8
125----	31	14,887	-63.1		269	61.6	31	14,726	-57.0		292	31.7
100----	31	16,248	-67.0		270	51.9	31	16,136	-58.0		297	27.4
80-----	31	17,591	-68.0		272	41.6	31	17,540	-58.5		300	21.6
70-----	31	18,404	-67.5		274	31.1	31	18,381	-58.0		307	16.5
60-----	31	19,324	-66.6		274	24.3	31	19,351	-57.6		322	13.8
50-----	31	20,432	-64.5		282	17.9	31	20,503	-57.5		330	12.6
40-----	31	21,803	-62.2		291	11.7	29	21,908	-57.2		350	11.[illegible]
30-----	28	23,593	-60.0		285	9.7	21	23,734	-55.7		31	11.7
25-----	26	24,730	-58.7		289	8.0	18	24,917	-54.2		40	11.5
20-----	19	26,136	-56.9		290	10.3	17	26,348	-53.9		51	13.4
15-----	14	27,973	-53.0		284	11.5	10	28,175	-52.6			
10-----	5	30,597	-45.7									
7-----												
5-----												

Standard pressure surface (mb.)	SWAN ISLAND, W. I. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TAMPA, FLA. (1020 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	25.0	76	52	8.7	31	8	10.5	83	36	3.5
1,000--	31	138	24.1	76	55	12.6	31	176	11.9	75	24	3.7
950----	31	585	20.7	80	62	15.3	31	604	11.0	72	289	3.1
900----	31	1,052	17.7	77	70	15.5	31	1,057	9.5	61	267	8.7
850----	31	1,540	14.9	71	81	11.9	30	1,530	8.3	41	273	12.2
800----	31	2,051	12.7	62	85	9.9	30	2,030	6.8	40	271	17.3
750----	31	2,591	10.3	55	90	8.9	30	2,562	5.0	39	266	21.4
700----	31	3,164	7.8	43	86	7.6	30	3,121	2.5		265	25.6
650----	31	3,766	5.2		100	6.4	30	3,713	- .9		267	29.5
600----	31	4,422	2.2		121	4.9	30	4,352	- 4.4	33	267	34.0
550----	30	5,112	- 1.6		136	4.5	30	5,027	- 8.3		265	37.3
500----	30	5,873	- 6.4		206	5.4	30	5,769	-13.0		265	40.8
450----	30	6,683	-12.0		234	7.8	30	6,557	-18.3		267	48.6
400----	30	7,579	-18.7		245	9.9	30	7,437	-24.0		266	54.8
350----	30	8,560	-26.2		260	15.9	30	8,398	-31.1		265	61.0
300----	30	9,657	-34.3		261	22.9	30	9,472	-39.5		265	66.5
250----	30	10,907	-43.9		257	29.5	30	10,696	-48.6		265	73.1
200----	29	12,374	-53.8		251	37.9	30	12,133	-56.7		265	81.6
175----	29	13,222	-58.4		249	41.2	29	12,977	-59.2		266	76.0
150----	29	14,182	-63.0		250	42.7	28	13,936	-61.9		265	71.5
125----	28	15,285	-69.3		251	35.8	25	15,051	-66.2		266	62.6
100----	28	16,594	-76.6		260	25.1	25	16,387	-71.0		265	55.4
80-----	28	17,862	-80.2		272	9.3	25	17,703	-72.1		267	41.4
70-----	28	18,617	-78.6		342	1.4	24	18,502	-71.2		267	35.8
60-----	28	19,507	-73.0		84	3.9	24	19,411	-68.3		263	28.4
50-----	28	20,593	-66.1		103	6.2	22	20,511	-65.1		267	20.8
40-----	26	21,959	-61.6		87	7.8	21	21,881	-61.4		276	16.9
30-----	26	23,751	-59.0		78	7.0	20	23,674	-58.3		264	11.1
25-----	25	24,899	-57.1		97	2.7	19	24,827	-55.7		262	15.7
20-----	23	26,317	-53.7		298	9.5	15	26,261	-51.9		270	14.2
15-----	22	28,181	-49.4		279	15.2	9	28,172	-47.7			
10-----	16	30,874	-44.9		257	36.5						
7-----	[illegible]	33,195	-43.3									
5-----	6	35,468	-41.6									

Standard pressure surface (mb.)	TATOOSH IS., WASH. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TOPEKA, KANS. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	31	7.9	78	130	12.4	31	269	- 7.1	80	316	2.7
1,000--	31	193	8.2	68	132	11.7	31	199				
950----	31	555	7.3	62	174	14.8	31	602	- 3.2	60	298	7.4
900----	31	1,000	5.0	63	187	16.7	31	1,029	- 2.2	46	307	10.5
850----	31	1,464	2.8	60	195	17.9	31	1,483	- 2.1	36	304	13.8
800----	31	1,954	.7	53	205	15.9	31	1,964	- 3.1	35	300	16.7
750----	31	2,465	- 2.0	47	214	17.7	31	2,469	- 4.5	32	297	19.0
700----	31	3,015	- 4.9		219	19.6	31	3,015	- 6.9	30	299	22.5
650----	31	3,587	- 8.1	44	228	22.3	31	3,586	- 9.8	30	300	26.0
600----	31	4,213	-11.9		233	26.8	31	4,205	-13.2		296	29.7
550----	31	4,865	-16.2	41	242	29.7	31	4,859	-17.5		292	31.3
500----	31	5,584	-21.3	43	237	31.3	31	5,570	-22.2		293	32.4
450----	31	6,339	-27.0	40	241	34.0	31	6,330	-27.8		293	35.6
400----	31	7,193	-33.7	40	244	36.5	31	7,173	-34.2		295	37.7
350----	31	8,115	-41.1		250	39.8	31	8,094	-41.2		292	40.2
300----	31	9,146	-49.0		253	41.2	31	9,124	-48.8		291	45.9
250----	31	10,322	-56.8		254	42.6	31	10,303	-55.7		285	50.1
200----	31	11,728	-58.3		255	38.5	31	11,715	-57.6		282	59.7
175----	30	12,577	-55.4		259	33.2	30	12,561	-56.5		282	58.3
150----	29	13,565	-54.7		264	29.9	31	13,545	-56.9		282	56.3
125----	26	14,741	-56.1		264	25.5	28	14,693	-58.7		284	50.1
100----	24	16,151	-58.3		273	18.7	26	16,084	-60.8		286	40.0
80-----	22	17,563	-57.7		290	10.9	26	17,467	-61.8		290	31.3
70-----	21	18,399	-57.6		302	8.5	26	18,295	-61.3		293	25.3
60-----	21	19,373	-57.2		309	6.4	26	19,253	-60.8		299	18.7
50-----	21	20,528	-56.8		312	6.0	26	20,390	-60.0		306	15.0
40-----	20	21,937	-57.2		14	7.0	23	21,787	-59.5		323	12.8
30-----	18	23,774	-56.0		35	8.0	20	23,594	-58.2		341	8.2
25-----	17	24,926	-55.5		53	9.9	18	24,747	-57.4		355	7.6
20-----	14	26,363	-54.9		56	17.5	18	26,163	-55.5		19	6.6
15-----	7	28,249	-51.3				12	28,000	-53.4			
10-----												
7-----												
5-----												

Standard pressure surface (mb.)	TUCSON, ARIZ. (928 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	WASHINGTON, D. C. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	781	6.9	65	124	6.6	31	84	- 6.6	76	329	3.3
1,000--	31	169					31	153	- 3.9	59	311	5.2
950----	31	591					31	560	- 3.8	56	298	12.8
900----	31	1,042	11.0	45	121	12.0	31	985	- 5.7	60	290	15.0
850----	31	1,517	9.1	41	117	7.0	31	1,432	- 7.2	59	290	18.8
800----	31	2,017	6.5	40	124	2.7	31	1,904	- 8.3	55	290	24.1
750----	31	2,539	4.0	35	172	.6	31	2,403	- 9.3	50	286	27.2
700----	31	3,102	1.1	34	314	2.3	31	2,937	-11.0	45	282	32.4
650----	31	3,688	- 2.5		284	4.5	31	3,501	-13.5	43	277	38.1
600----	31	4,325	- 6.5		308	4.5	31	4,109	-17.0	43	275	41.6
550----	31	4,989	-10.9		303	6.2	31	4,753	-20.8	43	273	46.0
500----	31	5,725	-16.0		280	9.5	31	5,456	-25.3	42	273	49.5
450----	31	6,499	-21.9		283	13.4	31	6,208	-30.1		277	55.2
400----	31	7,367	-28.6		280	17.9	31	7,045	-35.2		274	63.7
350----	31	8,309	-35.7		270	23.5	31	7,963	-41.2		273	68.4
300----	31	9,363	-43.7		268	30.7	31	8,995	-47.9		272	71.9
250----	31	10,565	-51.9		265	42.0	31	10,183	-52.8		267	81.0
200----	31	11,996	-55.4		264	53.0	31	11,614	-54.9		266	74.2
175----	31	12,847	-56.1		268	49.0	30	12,472	-53.2		267	74.6
150----	31	13,822	-58.3		271	45.1	30	13,463	-54.6		267	65.7
125----	31	14,959	-62.3		274	39.8	29	14,623	-57.3		265	62.6
100----	31	16,322	-67.0		272	34.0	29	16,022	-60.6		264	54.4
80-----	31	17,662	-68.4		277	24.1	28	17,409	-61.0		265	45.1
70-----	31	18,469	-67.3		282	17.5	28	18,247	-60.6		266	38.5
60-----	31	19,395	-66.7		293	11.3	27	19,204	-60.0		264	28.8
50-----	31	20,505	-64.1		310	5.8	25	20,350	-59.7		267	22.3
40-----	26	21,875	-62.1		360	4.5	23	21,762	-58.6		271	16.5
30-----	24	23,666	-59.8		50	7.2	21	23,575	-56.9		267	8.5
25-----	21	24,817	-58.2		52	6.0	19	24,737	-56.5		296	4.7
20-----	18	26,225	-56.1		43	5.1	10	26,175	-53.4			
15-----	10	28,089	-51.8				7	28,071	-49.2			
10-----							5	30,827	-40.1			

Standard pressure surface (mb.)	WINNEMUCCA, NEV. (876 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	YAKUTAT, ALASKA (1005 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,310	- 7.0	72	123	2.5	30	12	- 0.9	87	84	4.5
1,000--	31	258					30	54			98	7.4
950----	31	664					30	470	2.3	62	119	13.0
900----	31	1,095					30	905	- .4	63	128	13.6
850----	31	1,547	2.2	46	130	2.3	30	1,361	- 3.5	63	136	15.7
800----	31	2,037	2.0	36	218	4.7	30	1,838	- 6.0	56	152	16.9
750----	31	2,551	- .2	33	251	7.2	30	2,340	- 9.1	52	160	15.2
700----	31	3,105	- 3.2	35	263	9.3	30	2,873	-12.6	49	166	15.9
650----	31	3,684	- 6.1		263	12.2	30	3,429	-16.3	46	169	17.7
600----	31	4,311	- 9.7	33	278	13.4	30	4,033	-20.3	45	180	20.0
550----	31	4,972	-14.1	36	279	16.3	30	4,667	-24.4	43	194	20.0
500----	31	5,694	-19.1	39	279	18.3	30	5,362	-29.1	45	200	21.4
450----	31	6,461	-25.0	40	280	18.7	30	6,098	-34.5		201	23.9
400----	31	7,313	-31.5	37	278	21.2	30	6,922	-40.5		205	26.0
350----	31	8,244	-38.7		273	20.6	30	7,822	-46.0		213	26.6
300----	31	9,282	-47.5		276	22.2	30	8,836	-51.2		218	29.1
250----	31	10,462	-55.8		279	27.0	30	10,018	-52.4		218	29.5
200----	31	11,864	-60.0		284	32.3	30	11,465	-51.1		227	23.7
175----	31	12,701	-57.9		284	35.6	30	12,335	-50.0		227	22.5
150----	31	13,674	-57.6		289	35.8	30	13,344	-49.7		232	22.7
125----	31	14,818	-59.8		285	32.4	30	14,536	-50.4		235	21.2
100----	30	16,198	-62.4		290	25.3	30	15,987	-51.6		234	15.3
80-----	30	17,573	-62.7		300	16.9	30	17,436	-52.1		238	14.4
70-----	30	18,402	-62.4		296	11.9	30	18,300	-52.2		239	12.2
60-----	30	19,349	-61.4		322	7.2	30	19,300	-52.1		243	11.5
50-----	29	20,480	-60.9		1	5.4	29	20,482	-52.0		240	9.7
40-----	29	21,870	-60.0		32	8.0	26	21,924	-52.1		256	7.4
30-----	27	23,666	-59.0		35	10.9	26	23,787	-52.1		295	4.1
25-----	25	24,817	-57.7		45	11.5	25	24,972	-51.3		320	4.1
20-----	22	26,238	-56.2		60	15.3	24	26,452	-49.3		341	7.4
15-----	13	28,084	-53.0		81	23.5	20	28,387	-47.1		13	10.3
10-----												
7-----												
5-----												

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by rawinsondes, dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots. The resultant wind speed is biased toward a lower value as the number of observations on which the resultant is based lessens. See note following Table 22 in the January 1950 issue of Climatological Data, National Summary.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. JANUARY 1961

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Jan.									
1	1.03	1.15	1.28	1.41	1.41	1.43	1.30	1.20	1.08
2	----	----	1.19	1.41	1.41	1.36	1.08	.94	.78
3	1.04	1.13	1.28	1.38	1.43	1.39	1.18	1.00	.87
4	.99	1.10	1.22	1.33	1.41	1.36	1.21	1.12	1.01
5	1.04	1.16	1.29	1.38	1.42	1.40	----	----	----
6	1.05	1.15	1.27	1.41	1.41	1.37	1.25	1.15	1.03
7	----	(1.13)	(1.24)	----	----	----	----	(.98)	----
8	1.05	1.16	1.27	(1.43)	----	(1.33)	1.27	1.16	1.06
9	1.12	1.22	1.32	1.43	1.41	1.40	1.28	1.14	1.01
10	.98	1.11	1.21	1.37	1.41	1.39	1.21	1.05	.96
11	1.01	1.13	1.26	1.41	1.41	1.32	1.21	1.11	1.03
12	1.07	1.17	1.28	1.41	1.35	1.41	1.26	1.13	1.03
13	.99	1.11	1.22	1.36	1.42	1.39	1.23	1.12	1.03
14	.99	1.07	1.22	1.33	1.36	1.31	1.17	1.02	.94
15	1.01	1.11	1.22	1.36	1.40	1.35	1.15	.99	.87
16	1.01	1.11	----	1.38	1.37	1.34	1.18	1.07	.96
17	1.08	1.17	1.28	1.41	1.41	1.38	----	----	----
18	----	----	----	1.39	----	----	----	----	----
21	1.03	1.15	1.23	1.39	1.43	1.39	1.21	1.06	.96
22	1.04	1.15	1.27	1.45	1.46	1.42	1.29	1.17	1.04
25	----	----	----	1.23	1.32	1.28	1.10	.95	.83
29	1.02	1.13	1.25	(1.35)	(1.38)	(1.17)	1.19	(1.01)	(.95)
30	----	----	----	----	(.99)	(1.18)	----	----	----
31	----	----	----	1.41	----	----	----	----	----
Averages	1.03	1.14	1.25	1.38	1.40	1.37	1.21	1.08	0.97

OMAHA, NEBR.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Jan.									
2	----	----	----	----	S 1.21	----	----	----	----
3	----	----	----	----	----	----	S 1.10	†	†
4	S 0.91	S 1.00	S 1.12	----	S 1.27	----	S 1.19	†	†
5	S .80	S .91	----	----	----	----	----	----	----
6	----	----	S 1.01	----	----	----	----	----	----
7	S .88	S .98	S 1.09	----	----	----	----	----	----
8	S .84	S .96	S 1.12	----	S 1.20	----	M 1.04	†	†
11	----	H .99	H 1.10	----	----	----	----	----	----
19	----	----	----	----	----	----	S 1.05	S 0.94	S 0.86
21	----	----	----	----	S 1.25	----	----	----	----
23	----	----	----	----	----	----	S 1.04	S .89	S .81
24	----	----	----	----	M 1.31	----	----	----	----
27	S .86	S 1.00	S 1.17	----	1.36	----	†	S .94	S .70
29	----	----	----	----	----	----	†	----	----
30	----	----	----	----	----	----	†	.67	----
31	H .65	H .77	H .91	----	H 1.21	----	----	----	----
Averages	0.82	0.94	1.09	----	1.26	----	1.08	0.96	0.79

MADISON, WIS.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Jan.									
5	----	----	M 0.99	----	M 1.18	----	----	----	----
21	S 0.91	S 1.07	S 1.22	----	S 1.39	----	S 1.30	S 1.23	----
22	S 1.04	S 1.15	S 1.30	----	----	----	----	----	----
24	S 1.03	S 1.15	S 1.26	----	1.37	----	1.30	1.15	1.10
27	S 1.02	S 1.11	S 1.23	----	1.37	----	1.29	----	----
Averages	1.00	1.12	1.22	----	1.33	----	1.30	1.19	1.10

GUAM, M. I.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
	No observations during January								

MAUNA LOA OBS., HAWAII

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Jan.									
1	----	1.29	1.39	----	----	----	----	----	----
3	----	----	1.46	1.58	1.67	1.56	1.45	1.36	1.28
4	1.33	1.41	1.50	1.60	1.67	1.52	----	----	----
5	1.32	1.40	1.49	1.60	1.64	----	----	1.29	1.20
6	1.31	1.40	1.49	1.59	1.67	1.52	1.42	1.34	1.23
7	1.30	1.40	1.49	1.60	1.66	----	----	1.30	----
8	1.34	1.40	1.49	1.59	1.65	----	----	----	----
9	1.31	1.39	1.49	1.60	1.66	1.52	----	1.28	1.19
10	1.34	1.42	1.51	1.61	1.67	1.55	1.44	1.34	1.27
11	1.35	1.43	1.52	1.62	1.70	1.60	1.50	1.42	1.35
12	1.35	1.42	1.51	1.62	1.70	1.53	1.41	1.33	1.26
13	1.31	1.39	1.49	1.61	1.68	# 1.59	# 1.50	1.41	# 1.33
14	1.35	1.43	1.52	1.62	1.66	----	----	----	----
15	1.35	1.43	1.52	1.62	1.66	1.58	1.50	1.41	1.33
16	1.34	1.41	1.50	1.61	1.69	1.57	1.48	1.36	1.33
17	1.29	1.36	----	1.55	1.63	1.52	1.39	1.29	1.21
18	1.20	1.28	1.38	1.49	1.58	1.48	1.35	1.25	1.17
20	----	----	1.40	1.51	1.61	1.51	1.39	1.29	1.21
21	1.27	1.36	1.44	1.56	1.63	----	----	----	----
22	1.27	1.36	1.46	1.57	1.63	----	1.45	1.37	1.30
23	1.29	1.37	1.45	1.57	1.64	----	1.41	1.30	1.24
24	1.24	1.32	1.41	1.54	1.62	1.51	1.41	1.33	1.24
25	1.32	1.40	1.48	1.50	1.70	1.59	1.47	1.40	1.29
26	1.28	1.34	1.44	1.54	----	----	----	----	----
27	1.26	1.35	1.44	1.56	1.67	1.55	1.43	1.35	1.28
28	1.24	1.32	1.42	1.53	1.65	1.54	1.44	1.32	1.25
29	1.30	1.38	1.47	1.57	1.67	1.57	1.46	1.37	1.28
30	1.30	1.39	1.47	1.58	1.67	1.55	1.43	1.34	1.26
31	----	----	----	1.53	----	----	----	----	----
Averages	1.30	1.38	1.47	1.58	1.66	# 1.55	# 1.44	1.34	# 1.26

TUCSON, ARIZ.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Jan.									
2	1.01	1.11	1.21	1.38	1.43	1.35	----	1.11	1.01
3	.89	----	----	----	----	----	----	----	----
5	.94	----	----	1.32	----	----	----	----	----
6	.88	----	----	----	----	1.32	----	1.01	.90
7	----	----	----	----	1.45	----	----	1.11	----
8	----	----	1.28	1.42	1.45	1.40	1.24	1.14	1.05
9	----	----	----	1.40	----	----	----	----	----
10	.95	----	----	----	1.41	1.32	1.19	----	.94
11	----	1.16	1.28	----	1.45	1.37	1.22	----	1.02
12	----	1.19	1.30	1.44	1.49	1.39	----	----	----
13	.87	1.01	1.16	----	----	1.35	----	----	.93
14	.94	1.06	----	----	----	----	----	1.17	1.07
15	1.01	1.11	1.23	1.37	1.42	1.35	----	1.05	.94
16	1.03	1.12	----	----	----	----	1.24	1.09	----
28	.90	----	----	----	----	----	----	----	----
29	.98	1.08	1.21	----	1.49	1.41	1.26	1.14	----
Averages	0.95	1.10	1.24	1.39	1.45	1.36	1.23	1.10	0.98

BLUE HILL OBS., MASS.

Date	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Jan.									
21	1.11	1.21	1.33	----	1.45	----	1.29	1.16	1.06
22	.83	.94	1.18	----	----	----	.96	.85	.67
25	1.03	1.17	1.27	----	1.42	----	1.32	1.21	1.08
27	----	----	----	----	1.39	----	----	----	----
28	.78	.90	1.06	----	1.22	----	1.04	.93	.78
29	.88	.99	1.11	----	1.28	----	1.01	.89	.77
30	1.06	1.16	1.24	1.41	1.42	1.41	1.24	1.13	1.04
31	----	.83	1.06	1.30	1.33	1.31	1.06	.94	.79
Averages	0.95	1.03	1.18	1.36	1.36	1.36	1.13	1.02	0.88

* Values corresponding to true solar noon.
† Wind Mast shadow
\# Interpolated values
( ) Clouds present
H Haze
S Slight haze - indeterminable
M Moderate haze - indeterminable

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JANUARY 1961

1961	Albuquerque, N. Mex.	Ames, Iowa	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill Obs., Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Cape Hatteras, N. C.	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Corvallis, Oreg.	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Flaming Gorge, Utah	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.
Jan. 1------	336	63	2	329	122	300	---	8	99	---	198	4	218	238	305	50	294	15	168	65	256	286	92	353	276	13	244	304	103	177	143	280	78	287	31	355	---	274	260
Jan. 2------	333	169	26	297	170	283	---	10	176	---	211	208	130	525	221	152	248	122	52	26	111	(304)	104	356	276	2	228	363	51	259	116	252	131	277	40	364	---	285	261
Jan. 3------	335	166	4	338	91	304	---	11	191	---	199	179	31	612	131	126	289	154	269	58	93	308	154	356	280	2	298	357	(73)	219	169	286	142	165	242	320	---	352	262
Jan. 4------	334	228	11	332	48	315	---	14	190	---	213	171	74	640	349	101	334	77	272	109	81	300	107	289	271	4	275	304	(68)	384	162	278	125	289	215	364	---	---	262
Jan. 5------	344	219	36	130	31	207	---	10	149	---	170	214	57	583	335	172	311	188	260	58	55	309	162	245	273	3	280	304	(61)	176	100	288	56	282	215	374	155	51	256
Jan. 6------	342	213	86	283	16	290	---	13	136	---	---	103	100	627	349	174	329	195	266	44	67	313	199	87	276	2	260	47	128	294	129	258	80	281	242	374	158	65	219
Jan. 7------	309	171	1	301	101	161	---	15	56	---	---	170	78	---	296	139	307	112	265	57	174	271	47	373	234	3	261	27	204	360	149	285	80	264	195	345	139	18	252
Average--------	333	176	24	287	83	266	---	12	142	---	199	150	98	543	284	131	302	123	222	59	120	(299)	124	294	269	4	264	243	(98)	267	138	275	99	264	169	357	---	174	253
Jan. 8------	342	239	15	57	37	141	---	25	63	---	97	167	96	---	212	64	130	95	244	32	133	310	96	374	242	17	244	355	222	22	104	261	102	211	152	381	66	65	245
Jan. 9------	348	225	18	341	76	304	---	21	149	---	46	194	237	---	370	137	350	133	241	118	228	308	145	348	261	---	228	377	205	378	157	278	80	315	190	346	172	382	266
Jan. 10------	344	196	11	354	47	257	---	40	---	---	175	213	355	---	371	199	327	162	242	97	205	278	254	369	265	11	269	307	148	372	163	285	35	296	260	369	203	328	256
Jan. 11------	347	260	31	233	17	---	---	13	93	---	195	187	42	584	371	74	187	148	268	38	77	319	139	378	282	5	308	66	238	251	124	284	47	293	237	379	201	187	262
Jan. 12------	353	220	0	177	64	---	---	41	169	---	199	216	337	626	350	203	302	155	267	82	212	323	194	378	285	8	297	70	47	221	134	294	58	297	234	384	218	97	248
Jan. 13------	356	146	21	69	28	---	---	16	46	---	146	193	383	630	291	145	138	165	114	16	58	310	176	381	286	15	178	294	32	88	193	293	154	271	209	381	193	71	253
Jan. 14------	352	81	19	165	44	---	---	18	103	---	125	117	385	637	45	77	206	95	100	77	90	320	63	383	280	22	197	131	37	223	171	290	108	34	79	378	121	---	239
Average--------	349	195	16	200	45	---	---	25	104	---	140	184	262	619	287	128	234	136	211	66	143	310	152	373	272	13	246	229	133	222	150	284	84	245	195	374	168	188	253
Jan. 15------	351	66	65	342	23	---	---	54	184	---	179	30	390	620	275	241	201	26	55	41	70	---	112	387	289	7	271	374	56	285	106	273	90	60	21	382	126	374	220
Jan. 16------	356	217	67	351	80	---	---	48	141	---	181	36	365	648	---	156	182	67	53	80	52	272	234	384	276	26	236	374	59	403	86	266	86	71	50	388	68	373	211
Jan. 17------	362	230	95	363	84	---	---	18	201	---	165	232	367	595	329	173	341	66	266	131	123	319	56	339	200	10	225	370	62	403	111	302	149	315	151	397	183	361	266
Jan. 18------	332	54	64	375	210	---	---	20	219	---	248	244	371	628	355	183	343	60	221	200	123	231	112	215	305	21	218	314	79	408	205	299	132	293	196	407	228	356	113
Jan. 19------	295	268	120	145	217	---	---	32	159	---	232	188	---	639	122	228	90	65	195	170	131	351	204	373	---	12	305	390	167	311	201	319	164	26	177	382	108	---	305
Jan. 20------	---	203	88	405	214	---	---	19	213	55	239	52	---	665	381	90	371	100	130	207	160	344	220	323	302	6	306	374	158	449	216	322	178	305	161	275	109	311	297
Jan. 21------	379	270	130	408	180	---	---	30	---	274	270	269	---	600	278	155	321	131	338	206	154	347	193	192	316	15	324	409	169	404	208	329	142	158	299	321	284	413	298
Average--------	346	187	90	341	144	---	---	31	186	---	216	150	373	628	290	175	264	74	180	148	116	311	161	316	281	14	269	372	107	380	162	30.	134	175	151	365	158	365	244
Jan. 22------	385	137	137	406	211	---	---	26	204	247	246	229	191	673	413	---	375	148	166	215	274	319	248	353	321	16	309	288	257	448	80	328	193	357	213	340	266	132	284
Jan. 23------	334	244	27	135	42	---	---	12	227	202	192	194	203	(557)	221	217	249	215	326	94	64	338	173	204	196	18	272	342	268	399	227	291	191	293	318	326	213	282	288
Jan. 24------	113	294	43	158	215	---	0	24	170	171	130	159	220	644	387	206	329	137	308	(163)	267	253	242	53	109	10	183	41	118	78	227	217	190	240	310	409	146	59	229
Jan. 25------	335	173	145	52	224	---	0	16	185	287	111	270	---	620	305	223	143	172	282	---	79	104	266	117	265	13	172	109	180	74	101	253	47	320	312	322	---	47	148
Jan. 26------	255	267	144	247	236	59	1	34	244	209	205	207	85	670	50	240	40	39	297	195	141	326	140	233	70	35	117	327	85	122	243	145	234	173	210	149	---	100	189
Jan. 27------	82	317	113	112	159	283	1	60	(238)	249	271	239	46	611	368	221	37	124	356	158	253	335	223	179	336	44	354	89	257	86	190	284	203	---	292	418	280	66	357
Jan. 28------	126	280	165	196	33	292	3	79	---	273	264	253	91	672	369	241	216	99	332	202	230	---	161	333	378	26	351	317	153	263	190	361	109	336	333	433	263	88	353
Average--------	233	245	111	186	160	---	1	36	(211)	234	203	221	139	(635)	302	225	198	133	295	(171)	187	279	208	210	239	23	251	216	188	210	180	268	167	287	284	343	234	111	264
Jan. 29------	403	310	138	352	67	350	13	111	---	277	62	270	---	668	(267)	217	228	102	290	87	50	---	275	413	195	36	336	436	44	95	201	336	91	375	335	356	253	321	193
Jan. 30------	355	150	24	430	65	372	4	74	215	286	150	285	409	675	409	253	385	185	303	57	197	208	182	355	338	52	335	417	276	458	164	242	200	363	258	432	228	(431)	301
Jan. 31------	204	283	37	401	137	352	8	---	265	279	51	258	275	688	405	247	391	83	324	203	90	311	101	395	234	49	357	305	137	417	137	371	87	361	302	175	203	396	251
Feb. 1------	378	91	5	360	18	237	6	76	118	308	242	306	266	653	391	228	261	225	224	49	185	325	263	388	286	31	(314)	365	161	401	139	348	225	291	197	397	208	278	306
Feb. 2------	413	154	47	242	157	307	5	110	288	317	27	305	105	698	41	236	86	181	81	79	65	381	261	422	132	21	214	419	60	250	132	313	187	190	142	190	304	146	204
Feb. 3------	342	314	83	115	83	97	7	125	265	154	158	136	421	677	14	292	49	10	355	89	225	256	133	336	267	16	99	401	114	58	221	226	221	45	119	448	43	377	146
Feb. 4------	288	266	23	419	33	390	18	67	270	35	333	25	---	700	433	180	268	101	307	87	358	96	301	401	342	29	297	332	231	471	237	337	233	386	312	458	37	402	262
Average--------	340	224	51	331	80	301	9	94	237	237	146	226	295	680	(280)	236	238	127	269	93	167	263	217	387	256	33	(279)	382	116	307	176	310	179	287	238	351	182	(336)	238

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JANUARY 1961

1961	Laramie, Wyo.	Las Vegas, Nev.	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif.	Los Angeles, Calif. (Urban)	Madison, Wis.	Manhattan, Kans.	Matanuska, Alaska	Mauna Loa, Hawaii	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport R. I.	New York, N. Y.	North Omaha, Nebr.	Oklahoma City, Okla.	Oak Ridge, Tenn.	Page, Ariz.	Phoenix, Ariz.	Portland, Me.	Rapid City, S. Dak.	Riverside, Calif.	St. Cloud, Minn.	Salt Lake City, Utah	San Antonio, Tex.	Santa Maria, Calif.	S.Ste. Marie, Mich.	Sayville, N. Y.	Seattle-Tacoma, Wash.	Shreveport, La.	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Tampa, Fla.	Tucson, Ariz.	Washington, D. C. (Obs. & Test Fac. City)
Jan. 1------	264	307	62	96	242	276	56	24	11	315	128	278	310	---	21	16	49	249	130	288	313	23	205	306	138	227	178	304	184	10	57	251	44	83	211	---	333	143
Jan. 2------	238	276	54	349	249	301	164	224	11	268	166	205	355	28	220	157	250	343	283	313	307	210	206	328	134	231	291	312	133	180	166	208	40	137	271	---	357	222
Jan. 3------	252	313	179	325	302	318	177	241	18	517	197	397	207	247	193	148	236	337	118	316	310	151	212	342	181	247	234	299	130	162	119	262	---	171	268	---	353	186
Jan. 4------	256	274	322	335	294	289	243	236	10	512	160	372	193	298	185	152	248	340	276	299	262	211	210	239	---	233	114	314	117	167	60	317	84	201	257	370	240	---
Jan. 5------	259	310	304	300	309	317	255	241	15	500	89	222	176	264	232	160	245	318	248	278	275	224	187	304	---	252	55	330	103	180	19	158	---	186	256	277	348	252
Jan. 6------	237	315	301	201	306	319	232	243	39	519	106	376	75	289	194	127	248	259	270	320	322	133	186	346	---	249	54	331	76	164	45	61	78	219	223	292	351	194
Jan. 7------	254	297	291	57	302	314	74	242	8	522	165	368	45	107	213	188	247	146	149	315	327	275	192	337	---	215	186	287	60	175	106	31	110	233	106	288	373	216
Average--------	251	299	216	238	286	305	172	207	16	455	144	317	195	205	180	135	218	285	210	304	302	175	200	315	---	236	159	311	115	148	82	184	71	176	227	306	336	202
Jan. 8------	207	300	205	380	317	337	255	256	50	500	58	220	363	238	179	130	247	344	193	295	332	117	179	359	---	226	186	325	184	110	48	201	81	145	290	117	375	209
Jan. 9------	221	306	315	---	303	305	222	247	56	521	95	80	364	307	210	227	227	346	300	284	310	162	180	326	---	166	374	328	87	198	88	336	52	246	283	155	334	279
Jan. 10------	253	315	319	394	305	305	193	218	20	528	122	175	227	310	238	183	203	319	279	322	322	181	209	345	(180)	245	365	331	131	208	25	295	47	222	257	391	365	278
Jan. 11------	259	321	318	351	314	319	205	246	16	538	118	87	56	---	229	196	250	323	253	322	342	145	195	353	167	245	134	328	168	194	31	154	137	218	272	370	379	---
Jan. 12------	265	---	316	270	310	324	156	253	12	522	135	31	349	273	220	219	230	195	280	326	339	203	172	340	166	245	220	331	86	210	95	96	63	229	196	179	384	---
Jan. 13------	241	328	251	295	280	311	216	210	16	538	45	262	359	117	208	178	199	263	197	325	336	159	112	349	177	226	365	(335)	---	191	33	155	85	217	241	209	378	245
Jan. 14------	142	323	90	57	321	328	51	153	40	433	128	389	367	38	138	96	85	135	50	324	334	132	94	348	121	104	378	332	197	111	55	222	73	185	2	383	377	98
Average--------	227	316	259	291	307	318	185	226	30	511	100	178	298	214	203	175	206	275	222	314	331	157	163	346	(162)	208	289	(330)	142	175	54	208	77	209	220	258	370	222
Jan. 15------	243	327	50	257	324	331	74	210	57	537	50	425	359	7	64	42	65	353	49	321	336	208	183	352	114	252	373	342	198	21	27	326	80	66	281	327	382	17
Jan. 16------	194	334	54	88	321	336	138	261	59	544	52	422	355	18	58	97	248	360	79	328	346	59	161	355	131	237	372	348	94	53	97	342	122	123	315	411	385	114
Jan. 17------	229	341	96	408	303	344	237	246	15	537	83	316	---	158	262	207	240	341	116	340	300	247	159	362	185	164	329	350	79	220	44	332	175	165	278	423	276	278
Jan. 18------	142	349	217	298	313	318	130	219	26	517	81	448	---	259	262	230	31	238	284	346	290	248	150	354	84	277	219	342	117	230	186	284	161	194	116	421	188	116
Jan. 19------	286	305	(63)	351	230	267	238	272	26	524	213	418	---	16	180	61	217	380	29	345	234	204	186	350	214	268	404	344	175	113	190	352	179	57	---	387	233	38
Jan. 20------	284	270	211	371	175	167	145	260	10	524	246	372	---	272	101	139	221	362	239	328	177	52	254	219	213	275	---	(247)	208	131	188	352	192	283	---	435	288	343
Jan. 21------	263	305	291	391	273	302	291	287	0	474	251	432	260	314	279	252	288	379	252	350	71	252	255	295	180	271	373	232	169	238	188	375	220	209	---	315	151	214
Average--------	234	319	(140)	309	277	295	179	251	27	522	139	405	---	149	172	147	187	345	150	337	251	181	193	327	160	249	345	(315)	148	144	131	338	161	157	247	388	272	160
Jan. 22------	288	334	332	384	167	203	---	141	9	500	204	464	373	349	244	245	195	361	345	349	298	252	232	218	243	268	109	319	240	220	87	106	40	227	---	462	336	351
Jan. 23------	281	226	350	355	321	332	284	283	26	550	171	400	354	326	156	27	280	345	244	211	153	217	256	264	220	189	323	217	201	119	50	333	29	237	---	430	92	292
Jan. 24------	254	349	350	157	257	288	305	272	20	541	69	435	45	199	125	156	302	126	236	264	133	237	262	336	244	113	278	315	241	103	130	24	70	213	134	373	59	249
Jan. 25------	122	---	402	318	79	82	240	81	10	566	98	439	269	335	295	284	123	112	290	340	334	277	235	205	130	212	52	115	163	270	171	83	222	291	80	233	378	355
Jan. 26------	166	122	130	81	122	64	202	303	52	450	198	378	62	87	195	90	294	376	53	86	171	162	286	72	235	159	131	196	186	155	221	109	227	97	354	291	248	66
Jan. 27------	333	185	278	284	355	351	325	313	49	563	259	169	80	---	246	144	326	179	197	107	247	256	293	304	215	302	158	345	245	193	220	178	224	179	140	265	168	150
Jan. 28------	329	383	437	195	337	360	293	313	89	553	222	442	291	326	279	248	295	335	334	336	341	249	239	388	250	296	379	344	195	233	40	137	72	300	353	200	264	370
Average--------	253	267	326	253	234	240	275	244	37	532	174	390	210	270	220	171	259	262	243	242	239	236	257	255	220	220	204	264	210	185	131	139	126	221	212	322	221	262
Jan. 29------	332	360	404	414	221	240	323	318	100	567	101	195	399	320	285	252	319	393	349	357	380	289	247	263	239	194	369	140	219	256	42	372	71	235	373	73	420	361
Jan. 30------	304	371	342	392	354	309	127	239	68	567	87	324	317	312	294	223	285	321	327	331	231	275	287	374	115	239	412	357	238	278	62	393	77	241	258	471	195	361
Jan. 31------	314	328	394	259	267	248	202	307	47	512	260	443	253	326	266	176	295	245	348	348	265	280	274	264	246	256	221	98	217	203	126	318	117	161	201	449	336	297
Feb. 1------	244	296	262	105	300	---	287	271	54	534	185	429	386	154	292	232	117	90	261	377	373	315	187	284	148	309	226	344	273	270	36	193	101	287	161	423	427	59
Feb. 2------	246	246	107	53	177	167	167	77	19	313	150	276	419	22	326	290	206	378	153	365	375	316	247	201	166	191	430	285	304	299	223	211	201	330	---	130	431	381
Feb. 3------	162	394	111	406	381	358	223	284	58	428	103	336	381	128	151	38	315	354	49	276	383	290	97	367	286	144	436	384	238	99	57	356	107	63	308	52	440	51
Feb. 4------	161	403	(144)	389	383	375	343	76	26	569	175	158	324	---	50	42	197	252	346	374	406	29	136	417	249	338	170	390	285	---	78	357	35	190	300	477	447	312
Average--------	252	343	(252)	288	298	283	239	224	53	499	152	309	354	210	238	179	248	290	262	347	345	256	211	310	207	239	323	286	254	234	89	314	101	215	267	297	385	260

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

TOTAL OZONE DATA

Total amount of ozone in the atmosphere, expressed in terms of integrated depth, in units of 10^{-3} centimeter. These data are given as daily averages obtained from measurements with a Dobson Ozone Spectrophotometer using the sun or zenith cloud (see explanation below) as a light source.

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Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Bismarck, N. Dak.	---	416	327	345	---	---	---	---	324	372	---	300	---	---	361	347	364	397	382	414	411	441	379	---	---	397	313	317	357	321	331
Caribou, Maine	---	---	---	---	385	---	328	---	---	386	---	423	395	335	311	---	368	374	396	---	---	497	493	455	407	405	429	401	383	426	468
Fort Worth, Texas	280	275	297	276	282	---	---	260	271	277	---	---	258	---	316	309	296	272	285	276	294	278	262	---	---	234	---	---	285	268	---
Green Bay, Wis.	---	346	358	327	331	319	---	340	---	353	---	342	295	---	---	---	365	---	---	---	458	---	450	437	---	---	342	301	337	---	---
Mauna Loa, Hawaii	267	---	246	248	249	255	251	251	238	234	227	233	230	225	228	232	225	226	221	218	220	227	227	225	220	222	226	223	232	234	231
Sterling, Va.	---	---	---	---	---	349	324	396	318	315	333	345	332	---	---	---	353	380	---	---	---	---	417	341	318	---	---	---	330	346	355

The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from the ground to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column of air is expressed in terms of thickness it would occupy if it were compressed to standard pressure and temperature.

The standard method of observation is that using A (3055 A and 3254 A) and D (3784 A and 3366 A) wave length pairs. On cloudy days when no observations can be obtained directly upon the sun, observations are usually using light from the zenith cloud. These observations are not quite as reliable as the sunlight observations. The tabular average values based upon zenith cloud observations are denoted with an asterisk. A selected bibliography on the spectrophotometer and observational procedures may be found in the "Observer's Handbook of the Ozone Spectrophotometer," Annals of the International Geophysical Year, Volume V, Pergamon Press, 1957.

DESCRIPTION of CHARTS

CHART I., A. AVERAGE TEMPERATURE (°F.) AT SURFACE. B. DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL. -The average monthly temperature presented in Chart I-A is computed from the average daily maximum and the average daily minimum which in turn are computed from the daily maximum and minimum temperatures reported by some 870 Weather Bureau and cooperative stations. The departures from normal are presented in Chart I-B. They are based on the 30-year normals (1921) for the first-order Weather Bureau stations.

CHART II. TOTAL PRECIPITATION.

CHART III. PERCENTAGE OF NORMAL PRECIPITATION. - Chart II is based on daily precipitation records at about 870 Weather Bureau and cooperative stations. In Chart III the anomaly in the month's precipitation is shown as a percentage of the normal total. This anomaly shows the deviation from the 30-year normal (1921-50) for about 270 first-order Weather Bureau stations.

CHART IV. TOTAL SNOWFALL.

CHART V. A. PERCENTAGE OF MEAN MONTHLY SNOWFALL. B. DEPTH OF SNOW ON GROUND. - Chart IV gives the total depth in inches of unmelted snowfall as reported during the month by Weather Bureau and cooperative stations. This is converted in Chart V-A into a percentage of the mean monthly total amount computed for each Weather Bureau station having at least 10 years of record. The depth of snow on ground is that reported by both Weather Bureau and cooperative stations as of 7:00 a. m. Eastern Standard Time of the Monday nearest the end of the month. This is reported only for the months December through March. The snowfall charts are presented each month November through April.

CHART VI. A. PERCENTAGE OF POSSIBLE SUNSHINE. B. PERCENTAGE OF MEAN MONTHLY SUNSHINE. -CHART VI-A shows the amount of sunshine received in terms of percentage of the total hours of sunshine possible during the month. In Chart VI-B this is shown as a percentage of the mean number of hours of sunshine received. Means are computed for Weather Bureau stations having at least 10 years of record.

CHART VII. A. AVERAGE DAILY VALUES OF SOLAR RADIATION, LANGLEYS. B. PERCENTAGE OF MEAN DAILY SOLAR RADIATION. -Shown on Chart VII-A are the monthly averages of daily total solar radiation, both direct and diffuse, in langleys (gm. cal. cm.$^{-2}$) for all Weather Bureau stations which record this element. Supplementary data for which limits of accuracy are wider than for those data shown are drawn upon in making the analysis. Chart VII-B shows the percentages of the mean based on the period 1953-57.

CHART VIII. -TRACKS OF CENTERS OF ANTICYCLONES AT SEA LEVEL.

CHART IX. TRACKS OF CENTERS OF CYCLONES AT SEA LEVEL. -Centers which can be identified for 24 hours or more are tracked in these charts. Semi-permanent features such as the Great Basin and Pacific Highs and Colorado and Mexico Lows are not shown. The 7:00 a. m. EST positions are shown by open circles, with the intermediate positions at 6-hour intervals shown by solid dots. The date is given above the circle and the central pressure to whole millibars below. A dashed track indicates a regeneration rather than actual movement to the next position. Solid squares indicate position of stationary center for period shown beside it.

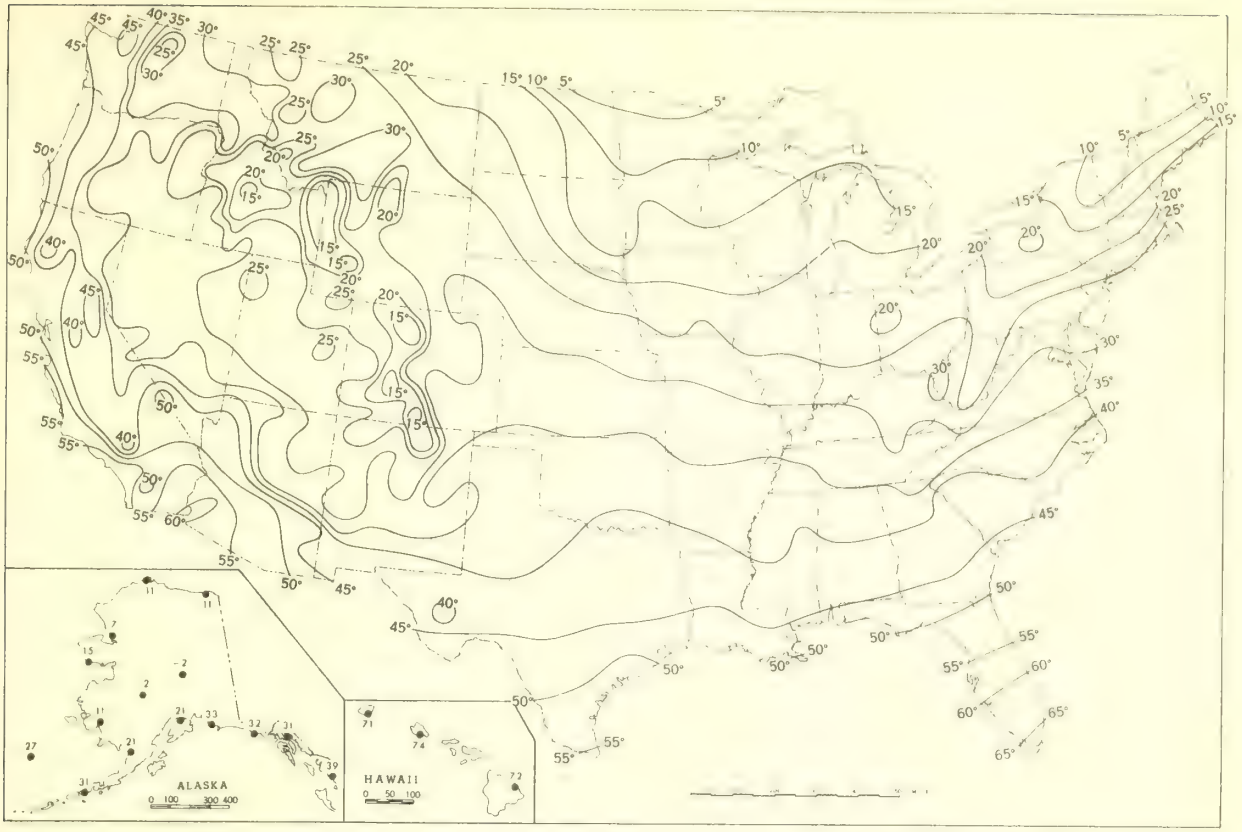
CHART X. AVERAGE SEA LEVEL PRESSURE (mb.) AND SURFACE WINDROSES. -The average monthly sea level pressure is obtained from the averages of the 7:00 a. m. and 7:00 p. m. EST pressures reported at Weather Bureau stations. Windroses are based on the hourly wind directions (to 16 points of the compass) reported by Weather Bureau stations, each circle or arc indicating 5 percent of the time. The inset shows the departure of the average pressure based on 30-year normals for first-order Weather Bureau Stations, other stations having at least 10 years of record, and, for each 10° intersection in a diamond grid over the oceans, from interpolated values read from the Historical Weather Maps for the 20 years of best coverage prior to 1940.

CHARTS XI-XVI. AVERAGE HEIGHT, TEMPERATURE, AND RESULTANT WINDS, 850, 700, 500, 300, 200, and 100 mb. -Height is given in geopotential meters and temperature in degrees Celsius. These are the averages of the 1200 GMT radiosonde reports. Wind speeds are given in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. Directions are shown to 360° of the compass. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

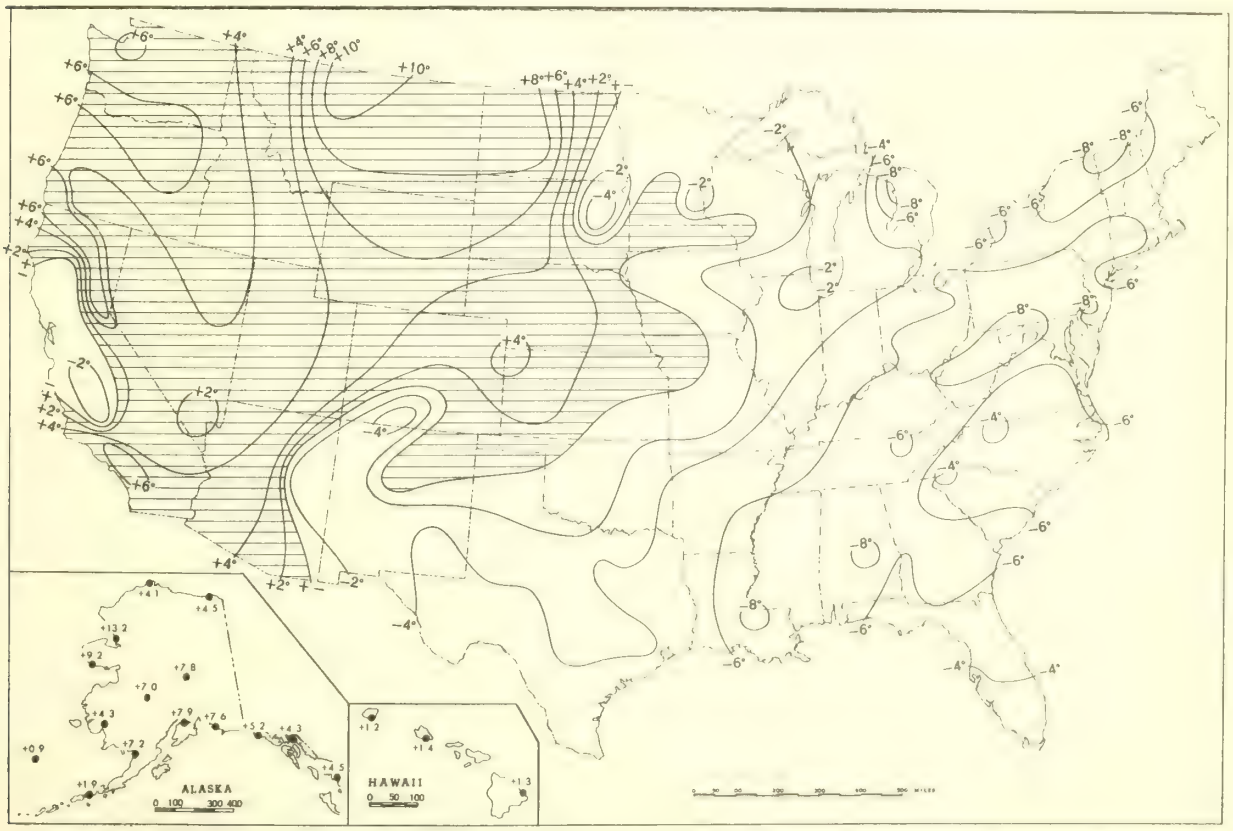
CHART XVII. A. 50-MB. RESULTANT WINDS. B. 30-MB. RESULTANT WINDS. -Wind speed (isotachs) in knots. Arrows show resultant wind direction. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

Exact values of most of these charted elements for Weather Bureau stations are printed each month in tabular form in CLIMATOLOGICAL DATA, NATIONAL SUMMARY. Extreme values of temperature and precipitation for each state are included in the tables, Condensed Climatological Summary. Annual averages are presented in the CDNS Annual Issue each year.

Chart I. A. Average Temperature (°F.) at Surface, January 1961.



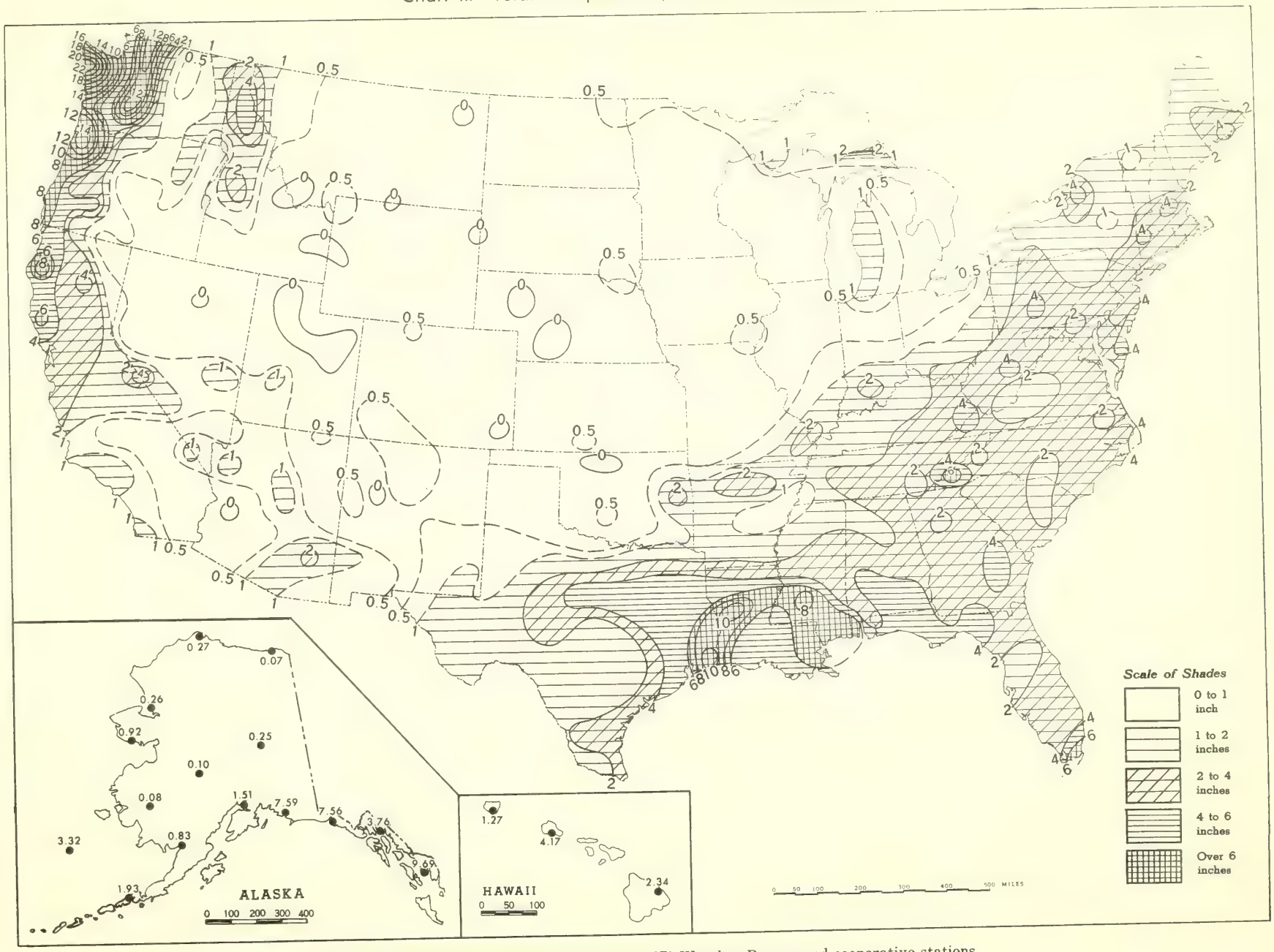
B. Departure of Average Temperature from Normal (°F.), January 1961.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

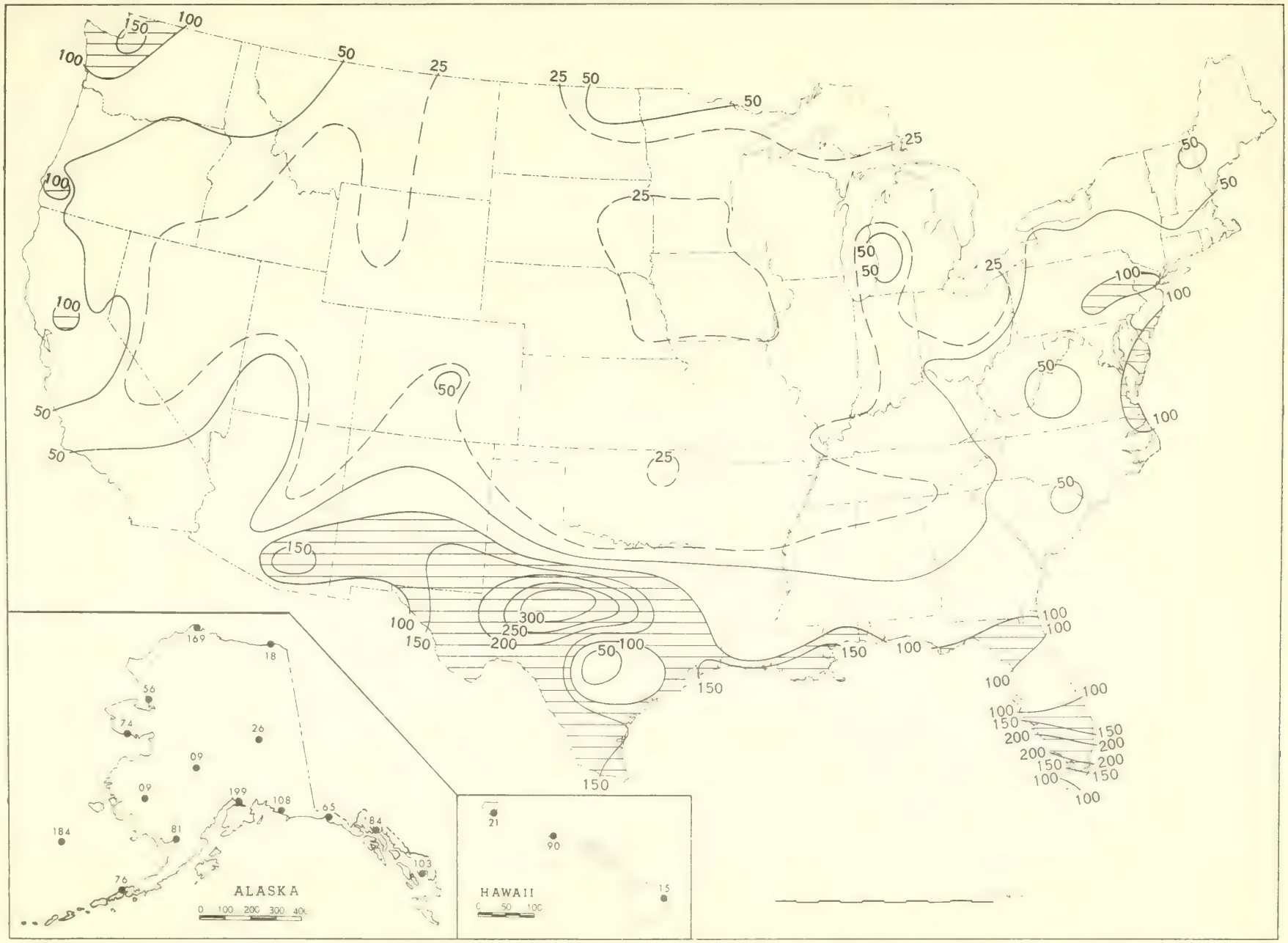
B. Departures from normal are based on the 30-yr. normals (1921-50) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), January 1961.



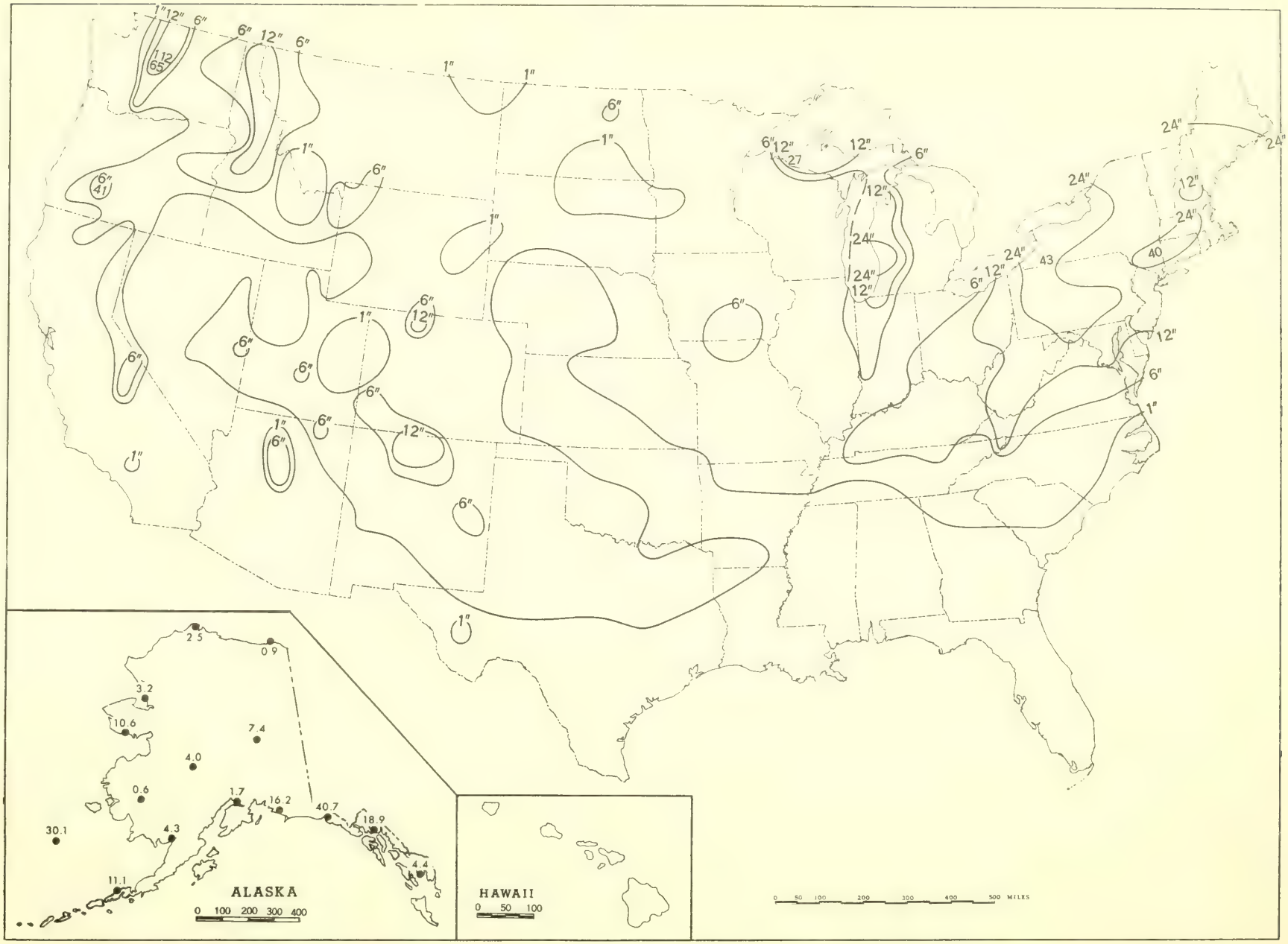
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, January 1961.



Normal monthly precipitation amounts are computed from the records for 1921-50 for first-order Weather Bureau stations.

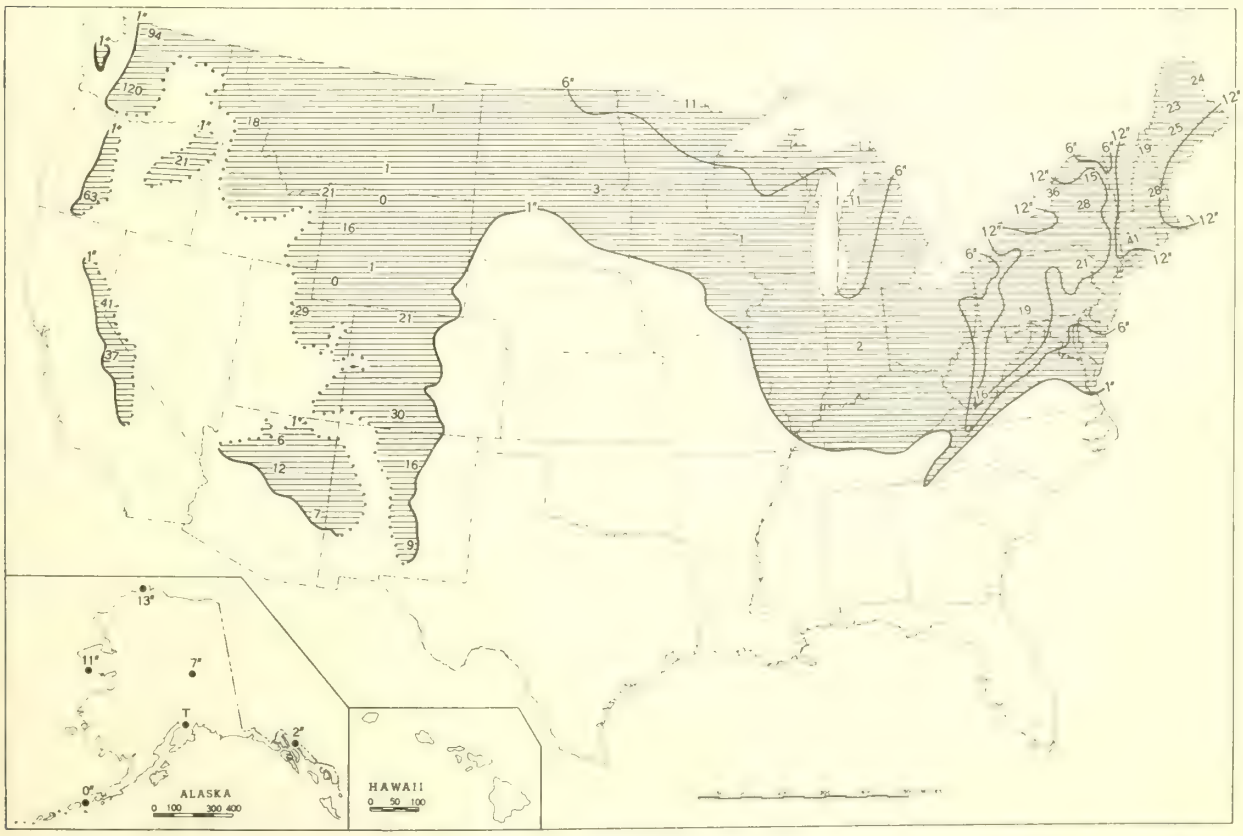
Chart IV. Total Snowfall (Inches), January 1961.



This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

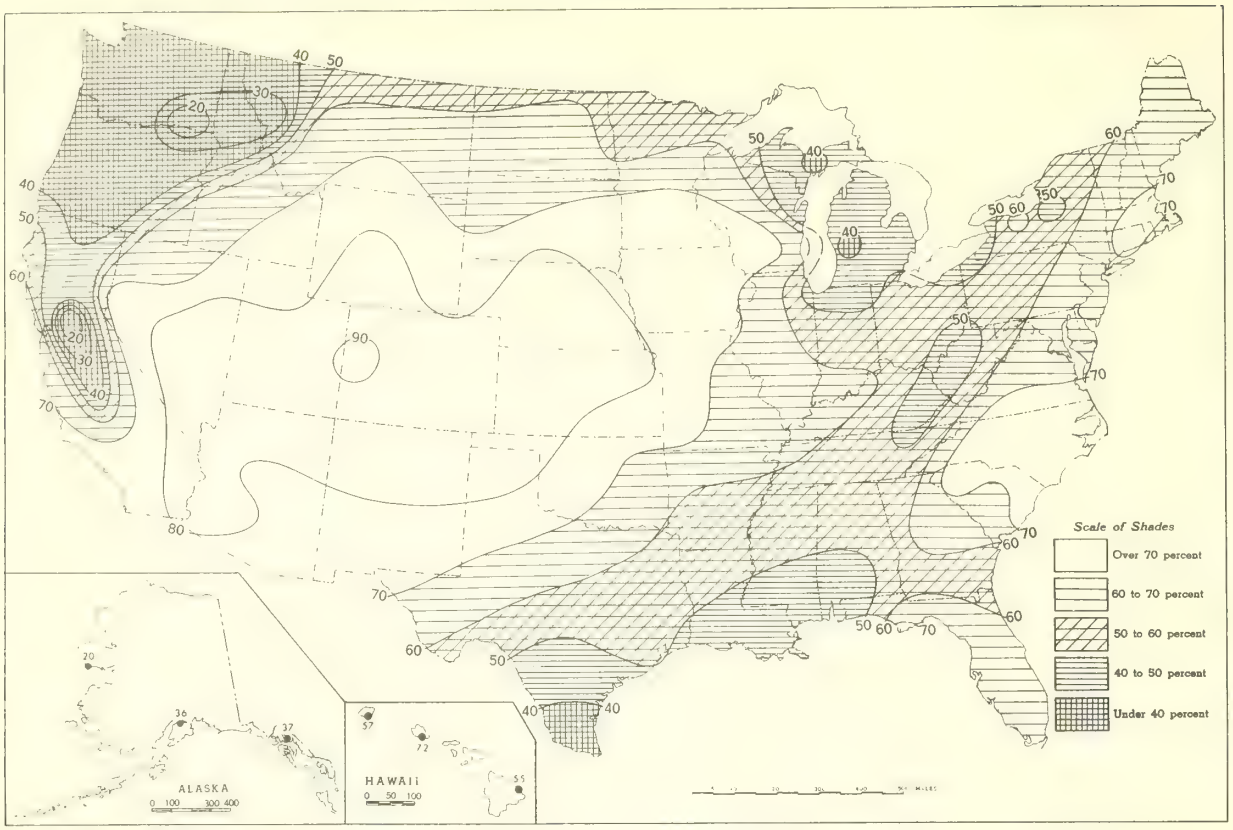
Chart V. A. Percentage of Mean Monthly Snowfall, January 1961.

B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., January 30, 1961.

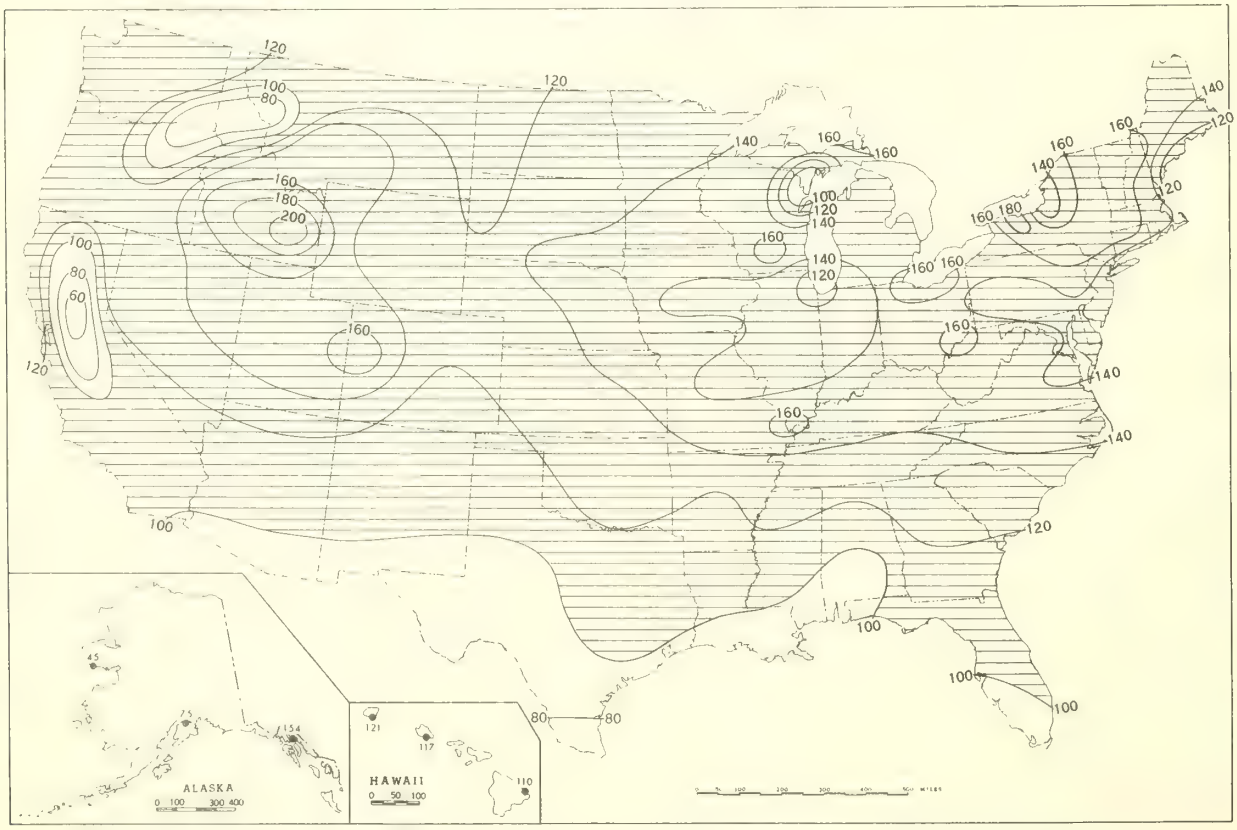


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a. m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, January 1961.

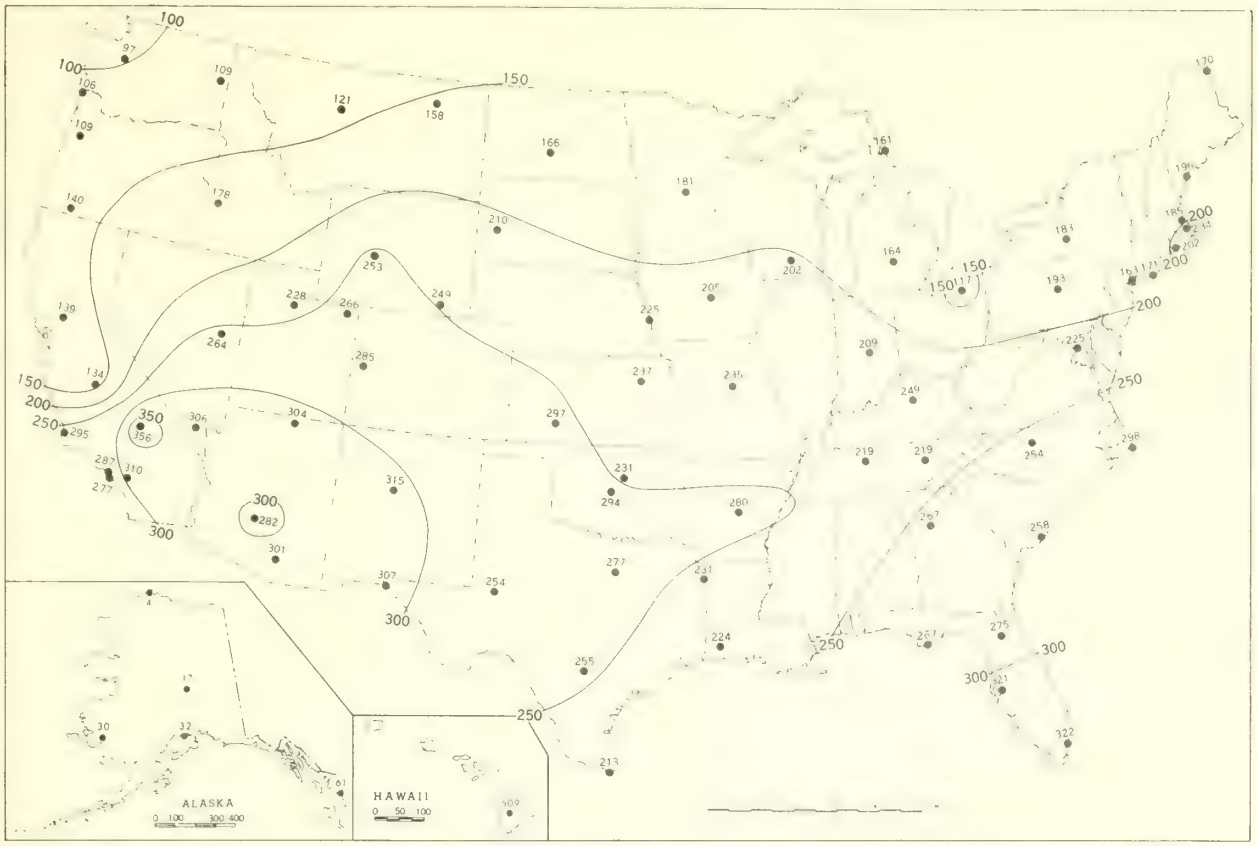


B. Percentage of Mean Monthly Sunshine, January 1961.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, January 1961.

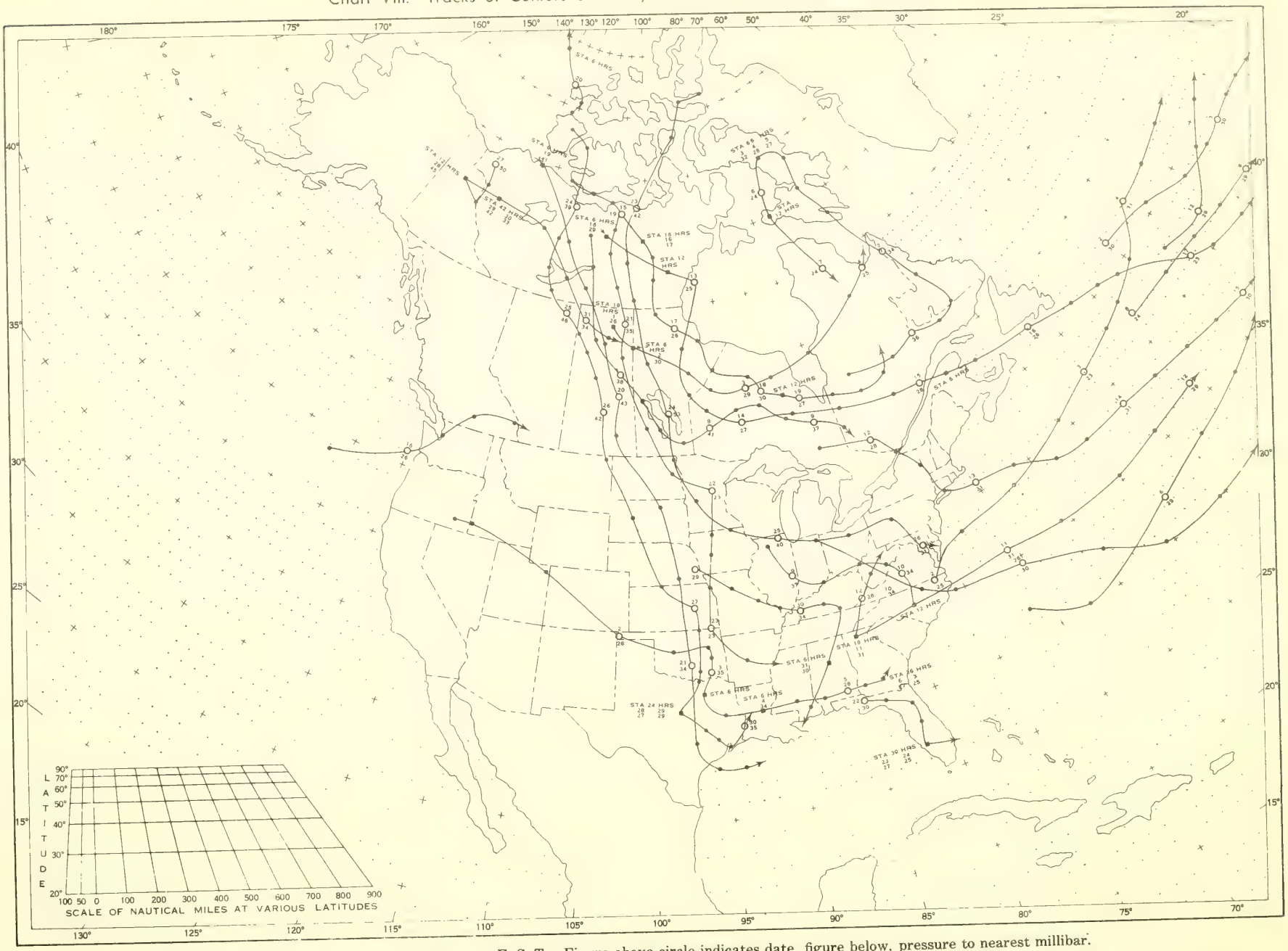


B. Percentage of Mean Daily Solar Radiation, January 1961.

A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956.

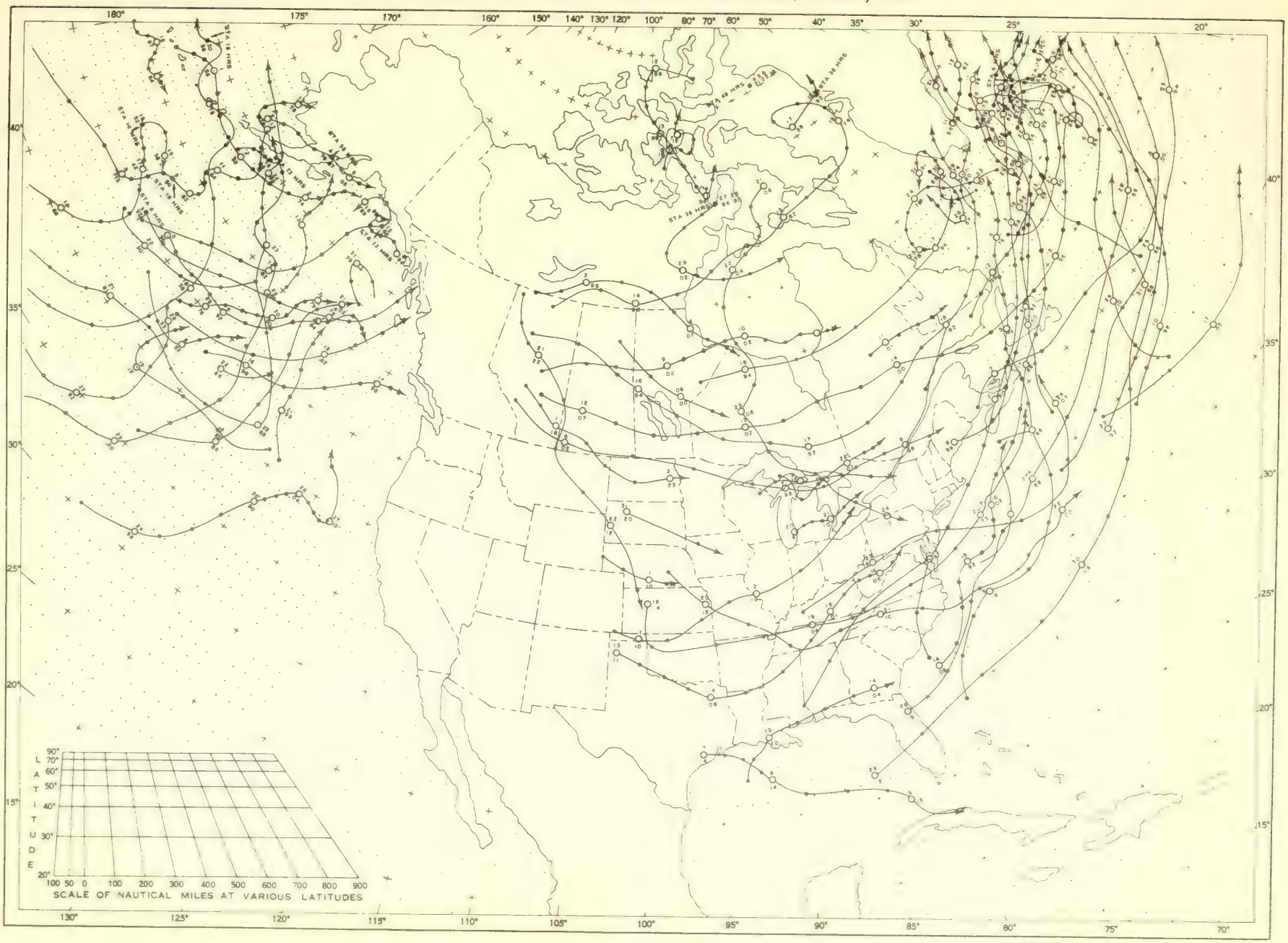
B. Percentage of the mean based on the period 1953-57, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, January 1961.



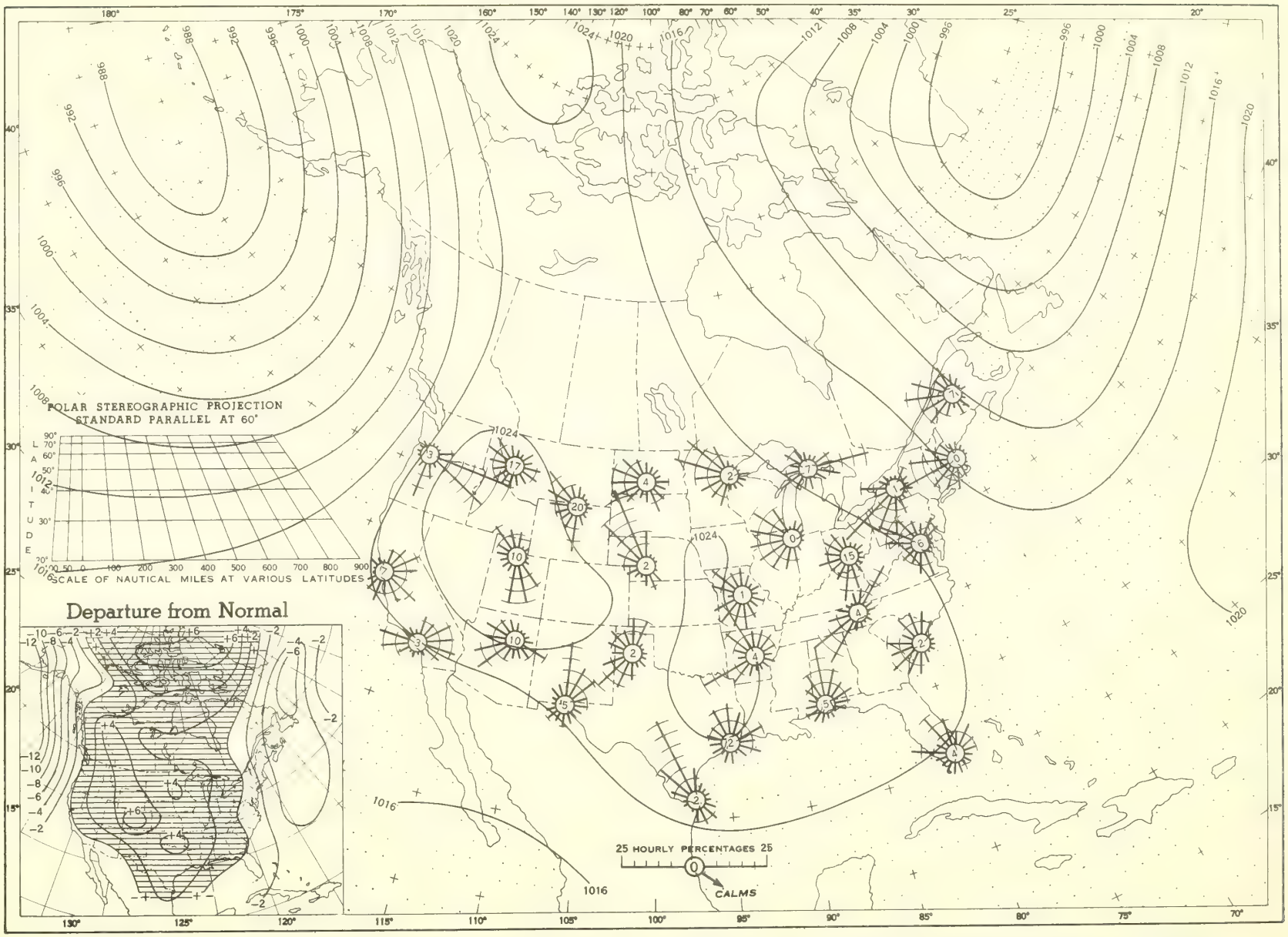
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates direction of movement at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, January 1961.

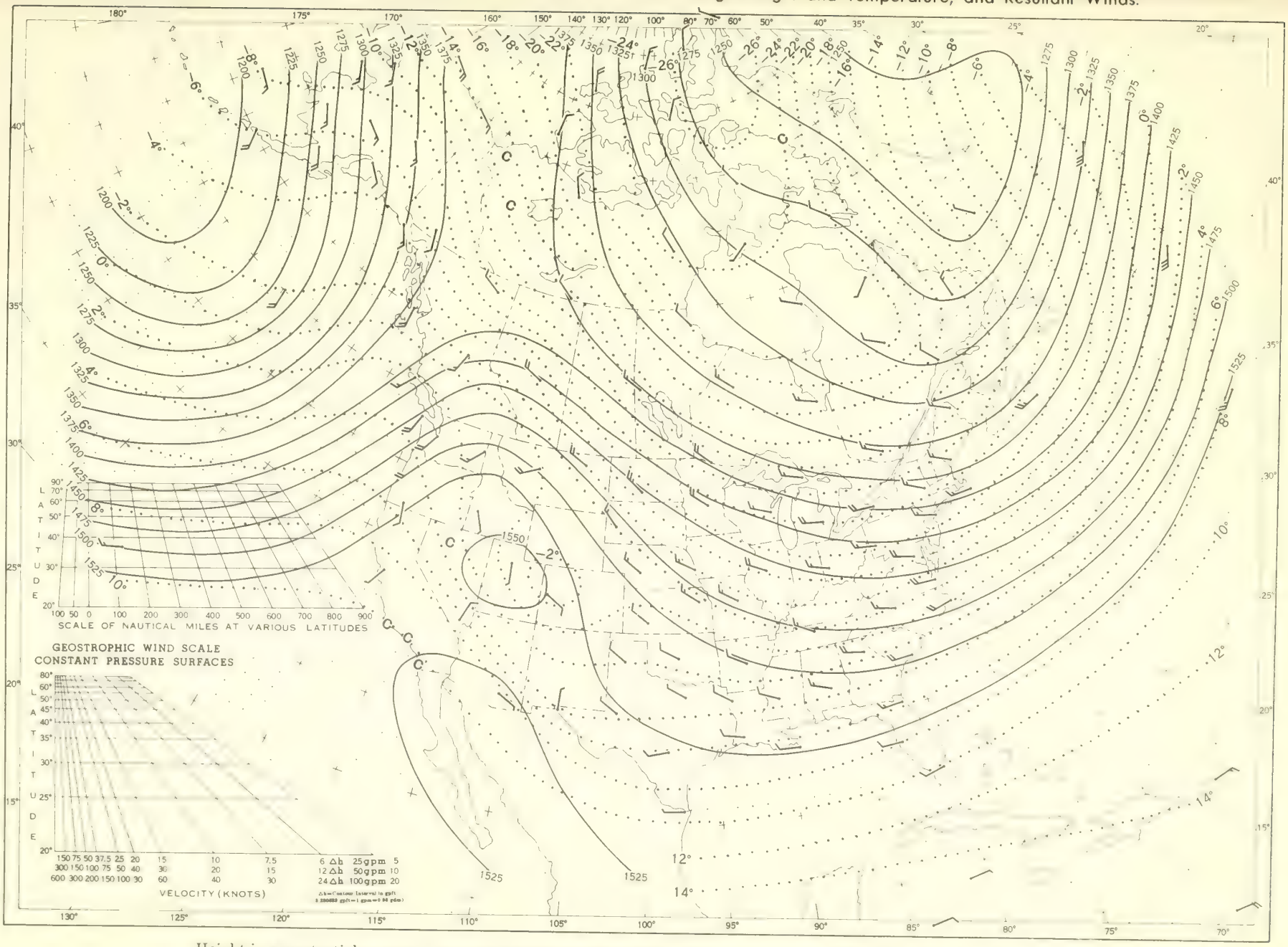


Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, January 1961. Inset: Departure of Average Pressure (mb.) from Normal, January 1961.

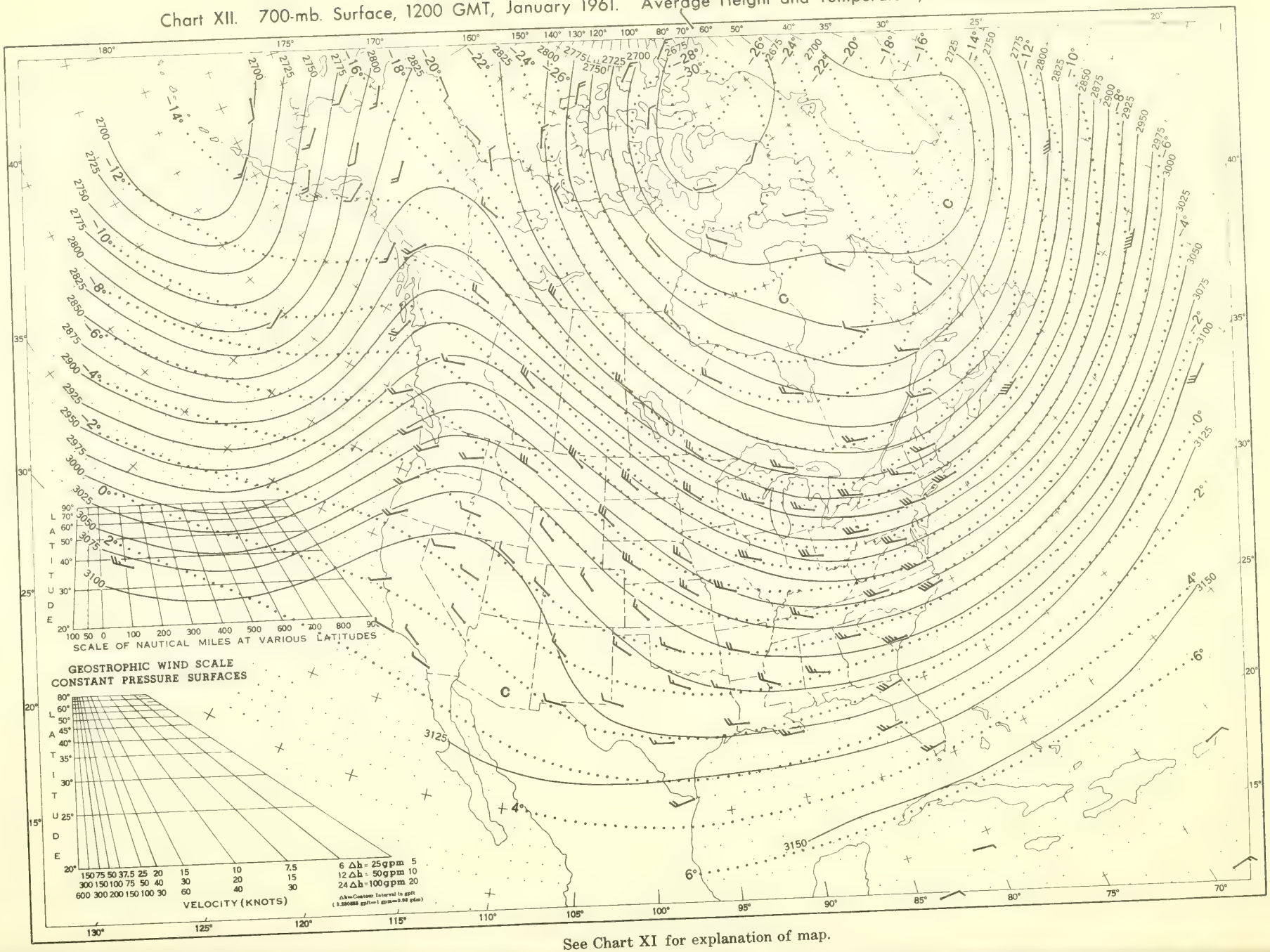


Average sea level pressures are obtained from the averages of the 7:00 a. m. and 7:00 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.



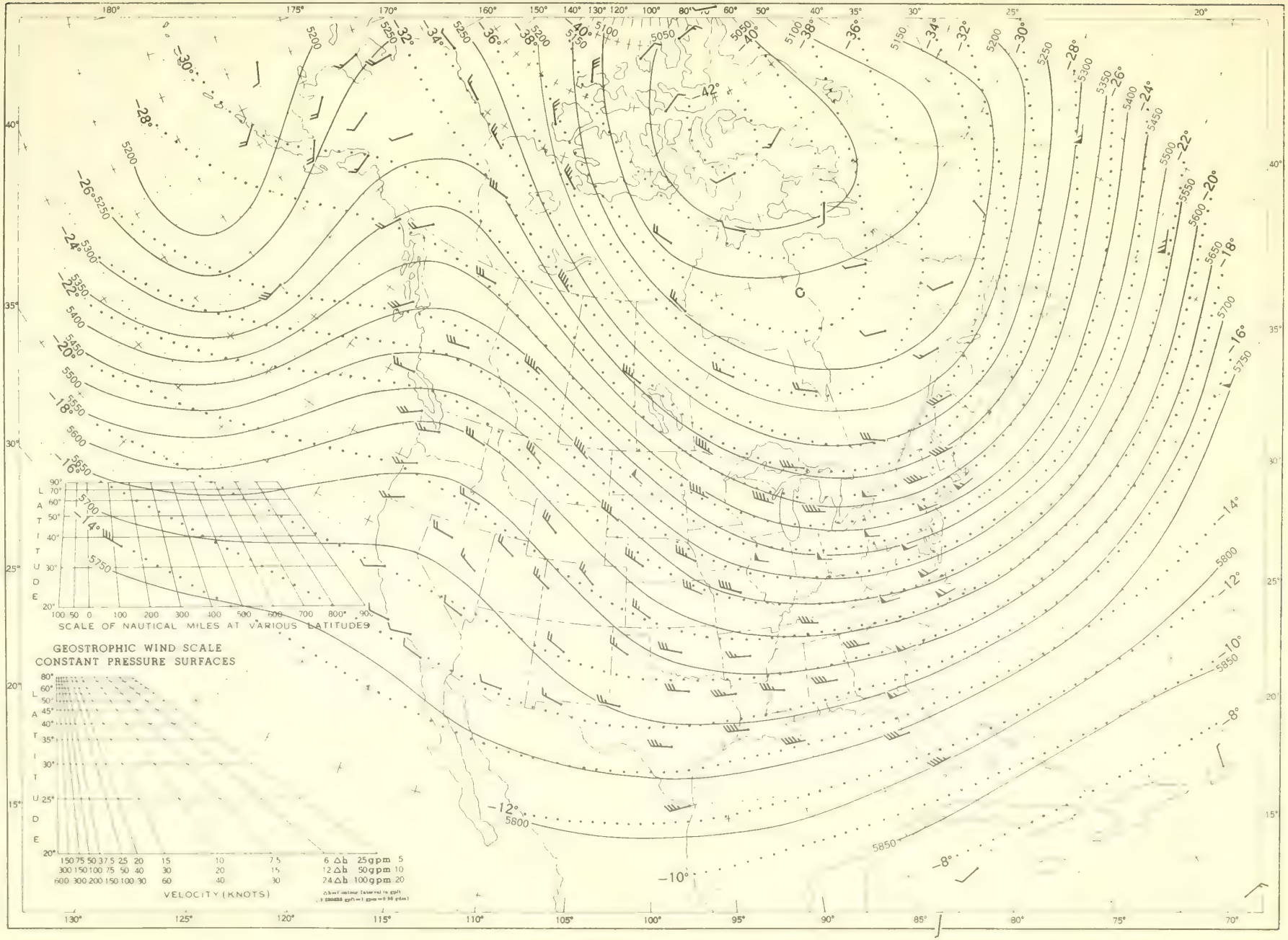
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, January 1961. Average Height and Temperature, and Resultant Winds.



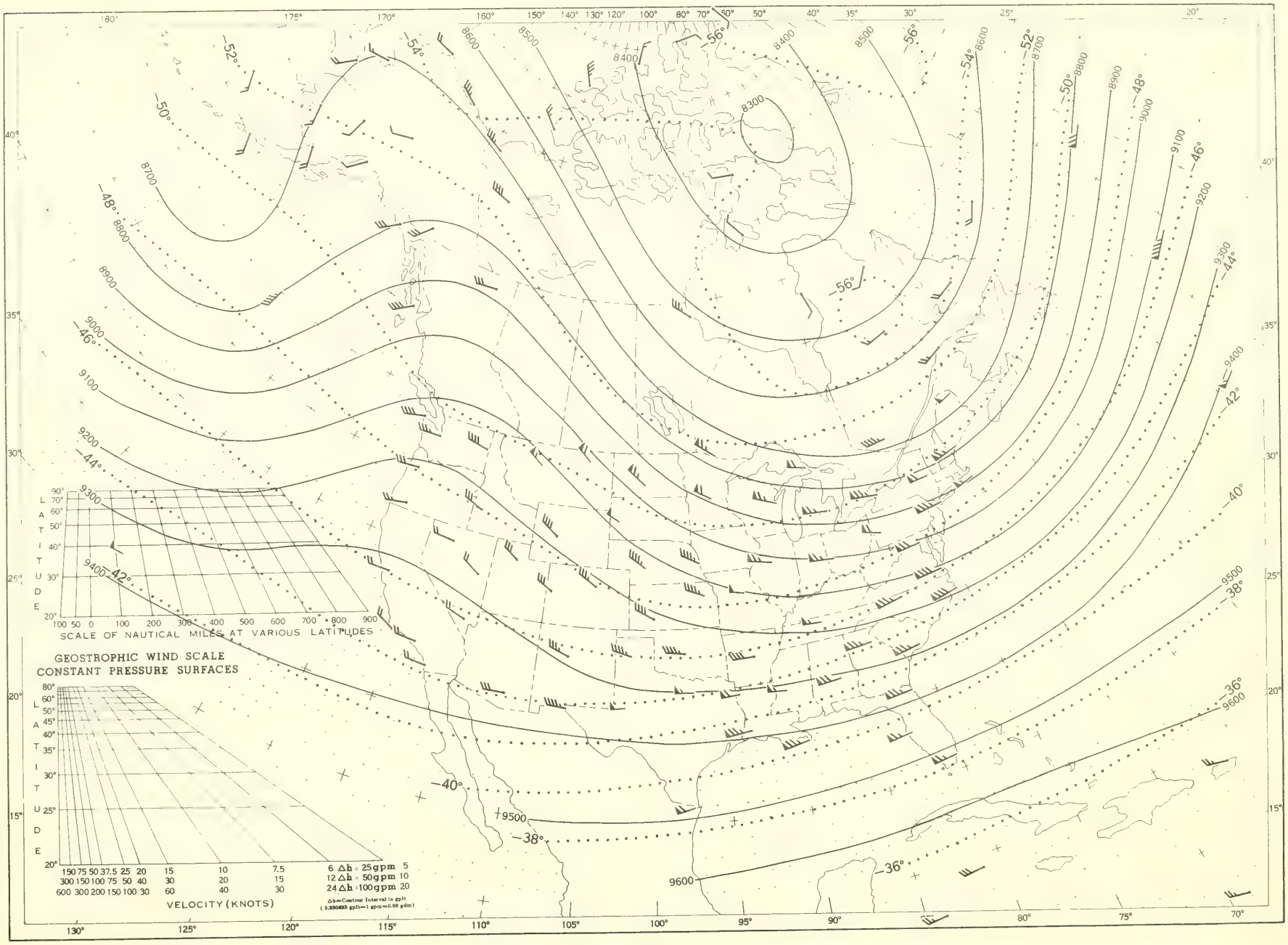
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, January 1961. Average Height and Temperature, and Resultant Winds.



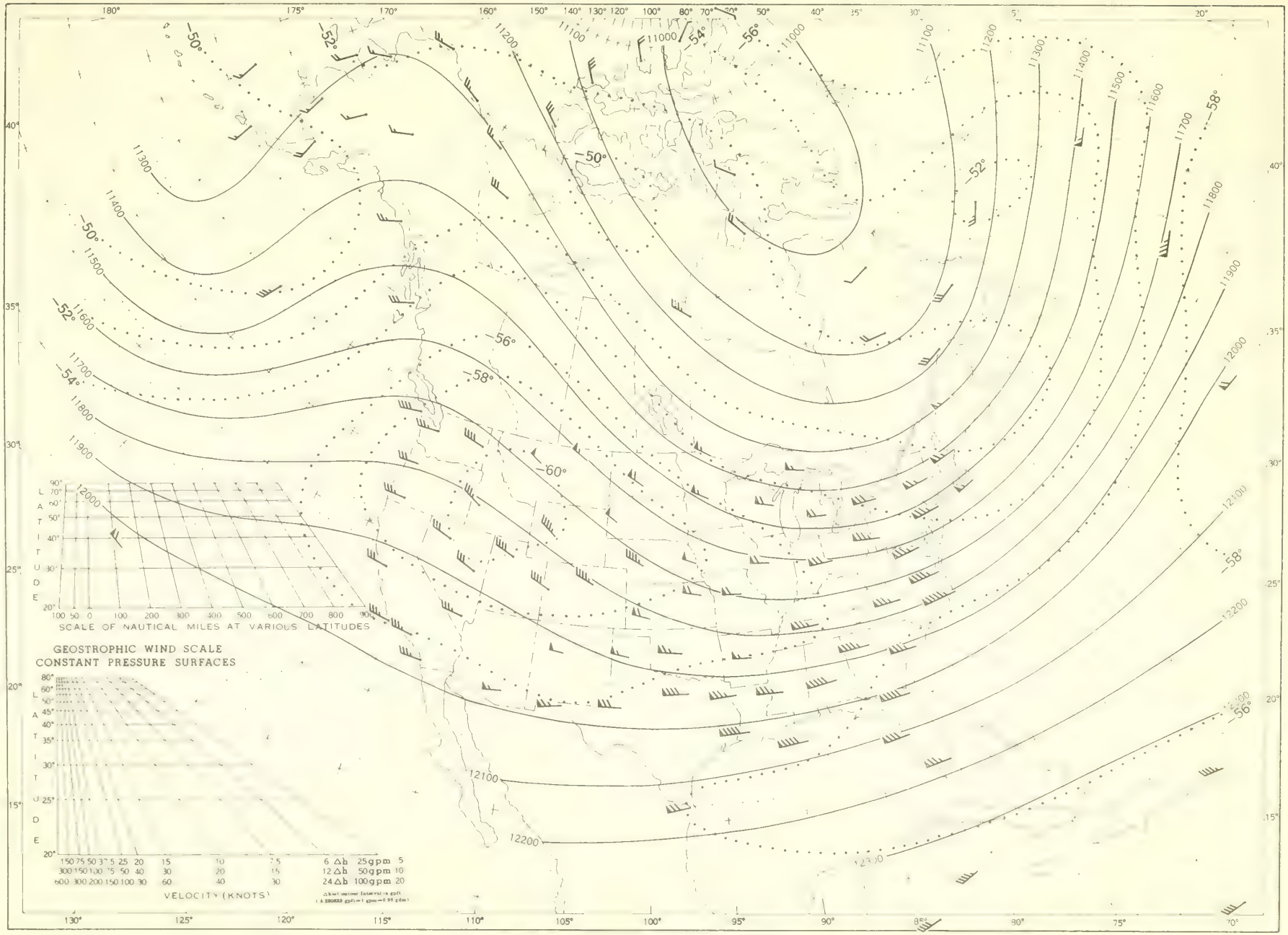
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, January 1961. Average Height and Temperature, and Resultant Winds.



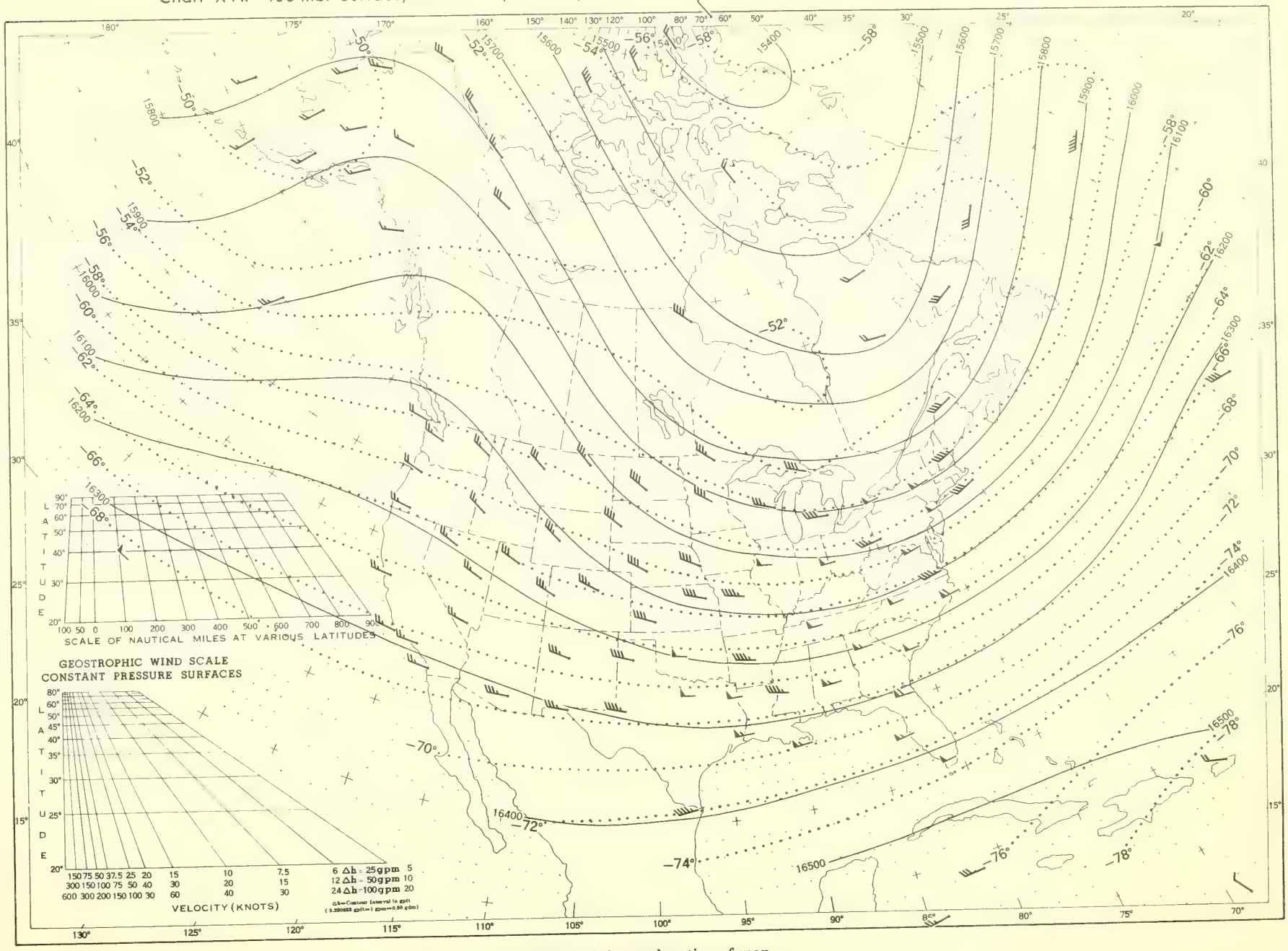
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, January 1961. Average Height and Temperature, and Resultant Winds.



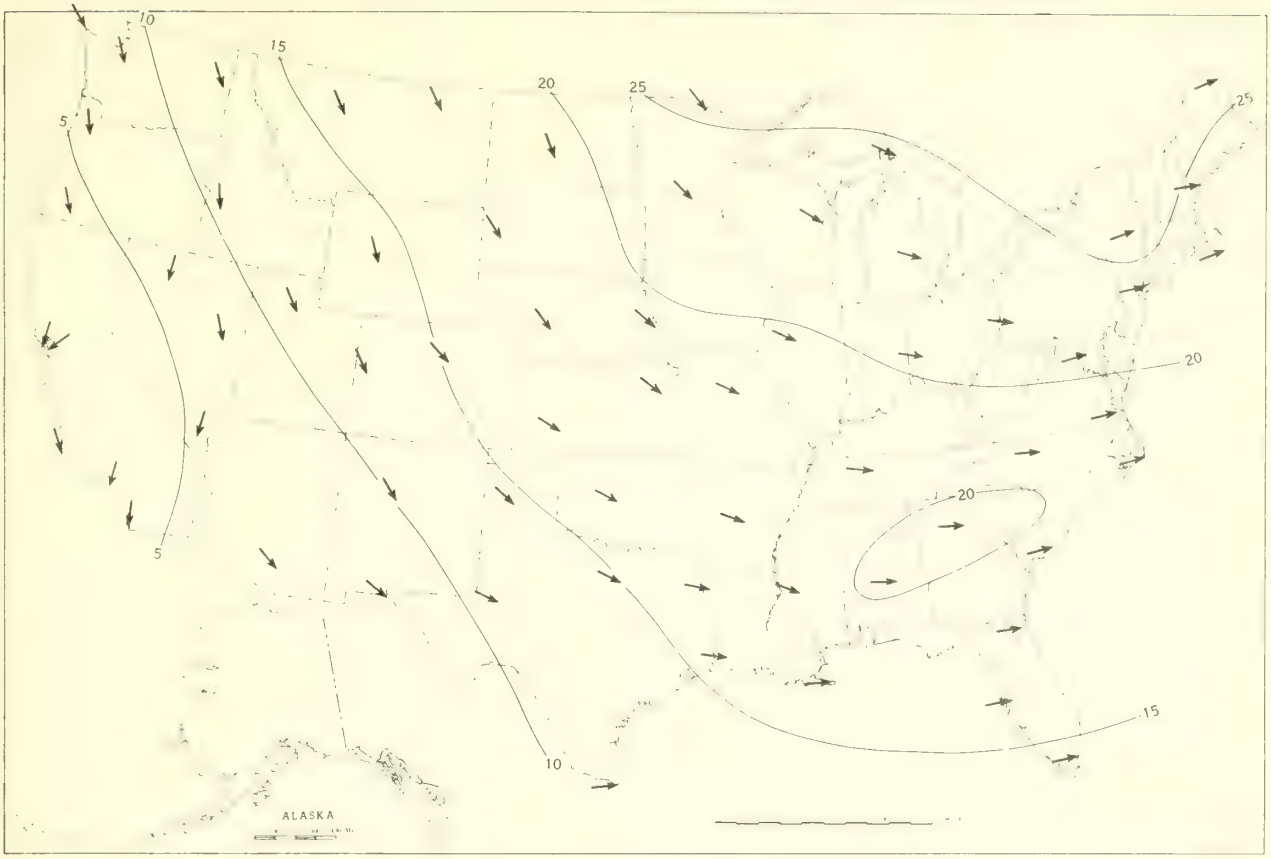
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, January 1961. Average Height and Temperature, and Resultant Winds.

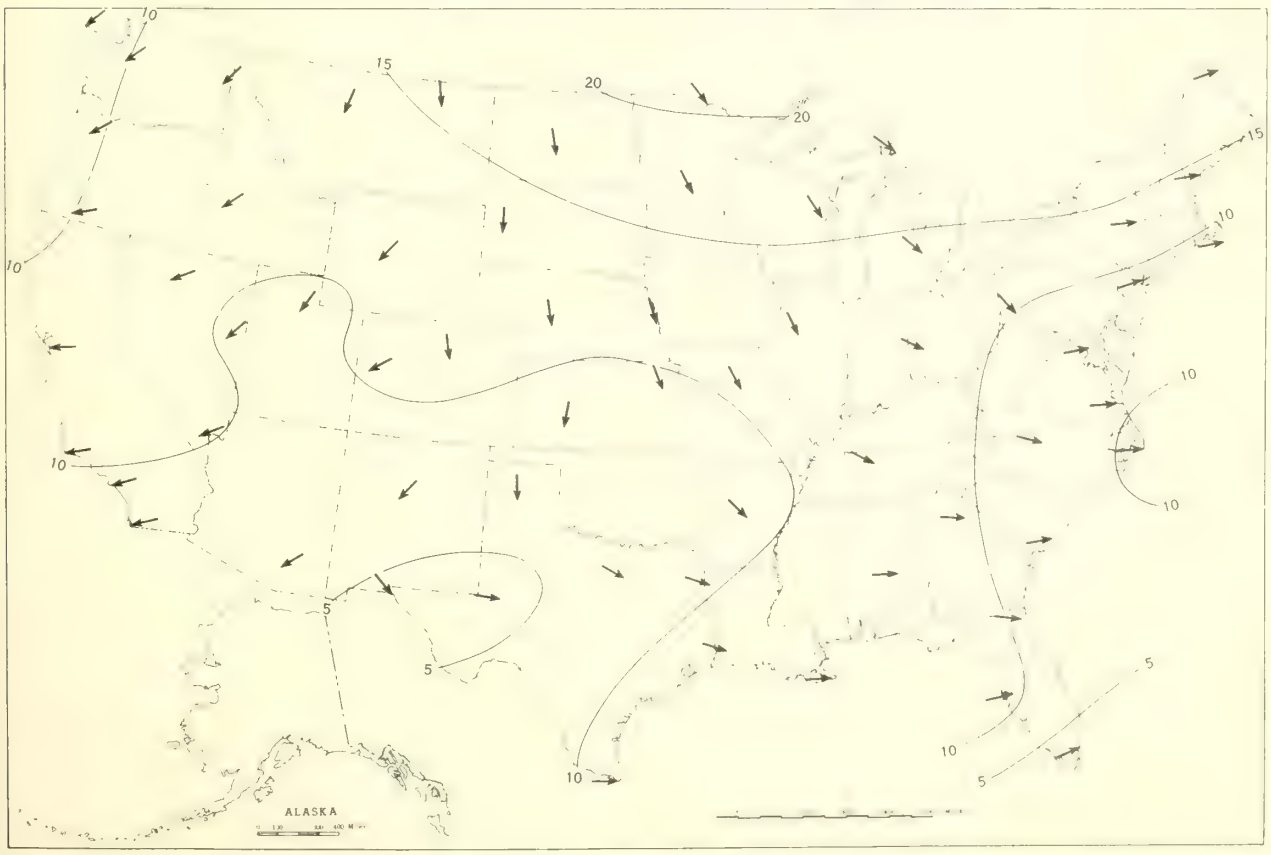


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, January 1961. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, January 1961. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

CLEA.
MAY 15 1961
AGRI. ECO. DEPT.

FEBRUARY 1961
Volume 12 No. 2

ASHEVILLE: 1961

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Beginning with the January 1961 issue, this publication will contain CLIMATOLOGICAL DATA tables in both English and Metric Units. The separate table in Metric Units is obtained by conversion from data in the English Units table.

NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 12 No. 2 FEBRUARY 1961

GENERAL SUMMARY OF WEATHER CONDITIONS

In general the weather was mild and dry in the western half of the Nation and mild and wet in the East. Extreme cold in the East during the first week, and heavy precipitation in Washington and Texas were the main exceptions. Much storminess during the month was highlighted by a major snowstorm in the Northeast on the 3d and 4th and in Maryland and Virginia on the 8th, severe glaze in Iowa and an early season outbreak of severe thunderstorms and tornadoes in the lower Great Plains on the 17th and 18th, and flood-producing rains in Mississippi, Alabama, and Georgia late in the month. The drought continued in the Far Southwest and central Great Basin area.

TEMPERATURES. --Temperatures for February averaged well above normal, except slightly below in southeastern New Mexico and west Texas. The month was 8° to 12° warmer than normal in extreme north-central interior areas.

East of the Rockies, however, unusually cold weather which had begun on January 20 continued through the first week of February. Subzero minima were recorded as far south as the Ohio Valley and freezing to the Gulf coast and northern Florida. In parts of the Northeast one of the most prolonged severe cold periods on record ended February 5, when temperatures rose above freezing for the first time since January 18. Frost penetration was unusually deep in many northern areas, particularly those with a light snow cover. Frost was 30 to 50 inches deep in the southern half of Minnesota and 50 to 70 inches in the northern half. Frozen water pipes were reported in sections of Wisconsin and New England.

Unseasonably mild temperatures generally prevailed throughout the month in the Far West and the last 3 weeks east of the Rockies. The third week of the month was the warmest week in the Ohio Valley and parts of the Northeast since October or November 1960. At the end of the month ice deterioration in the Great Lakes had advanced well beyond expectations for the date.

Temperatures for the 1960-61 winter averaged well above normal in the central and northern Great Plains and Far West, and 2° to 4° below normal in Texas, the lower Mississippi Valley, and East.

PRECIPITATION. --Precipitation was less than 50 percent of normal in north-central Montana, the west-central Great Plains, and Far Southwest, and about normal to much above elsewhere.

Phoenix and Prescott, Ariz., with 0.01 and 0.02 inch, respectively, had their driest February since 1924; San Francisco, Calif., recorded its least February total in 38 years; and Santa Maria, Calif., its lowest since 1900. At Grand Junction, Colo., where this was the 11th consecutive month with below normal precipitation, light showers on the 17th ended a period of 73 days without measurable amounts, the longest such period there on record.

In a belt extending from the central Gulf coast northeastward through Maryland and Virginia, precipitation was over 200 percent of normal. Extremely heavy rainfall in the southern portion of this area from the 18th through the 25th caused major flooding in Mississippi, Alabama, and Georgia. Monthly totals set new February records at Atlanta, Ga. (12.77 inches), Mobile, Ala. (13.38 inches), and Birmingham, Ala. (17.67 inches). At Atlanta, Ga., 5.67 inches fell in a 24-hour period on the 24th and 25th, a new February record.

In the Pacific Northwest precipitation was 200 percent of normal over Washington and portions of extreme northern Idaho and Oregon. Tatoosh Island, Wash., had 21.16 inches which was the greatest amount there for February since 21.89 inches in 1902. During the second week up to 5 inches of rain in western Oregon resulted in considerable flooding.

Precipitation for the 1960-61 winter has been deficient by 25 to 50 percent in the Great Lakes region, and 50 percent or more in north-central Montana, the west-central Great Plains, the Far Southwest, and central Great Basin. Amounts exceeding 50 percent of normal were nearly all limited to western, southern, and central Texas and extreme southeastern New Mexico.

SNOWFALL. --Snowfall was unusually heavy in the Northeast, where most of the monthly total fall was contributed by two major storms. During the first storm on the 3d and 4th, heavy amounts fell from Virginia to central New England. Over 8 inches fell in Washington, D. C. Falls of 10 to 20 inches were measured in much of Pennsylvania and 1 to over 2 feet in much of south and central portions of New England and New York State. Strong winds produced drifts up to 10 feet high in places. A heavy snow cover was already on the ground and after this storm accumulations ranged up to 55 inches in Litchfield County, Connecticut, and up to about 40 inches over Worcester County, Massachusetts.

The next storm on the 8th dumped heavy snow ranging from 5 to 15 inches over Maryland and northern Virginia, where several roofs collapsed under the weight of the snow. In central and western Maryland, where falls ranged up to 26 inches, depths after the storm were 31 inches at Chewsville and 44 inches at Lantz.

During a midwestern storm on the 25th snowfall ranged up to 15 inches in south-central Indiana and 12 inches in Kentucky. Severe drifting in Indiana brought transportation almost to a standstill.

Heavy snows also fell in a belt extending from the southwestern Great Plains to Iowa. Up to a foot fell in the eastern Panhandle of Texas on the 4th, 10 to 15 inches in sections of northern Iowa on the 17th and 18th, and 10 to 20 inches west of Lubbock, Tex., on the 20th.

In general, snowfall was unusually light in much of the North Central Interior and Far West. For example, a total of 0.4 inch at Madison, Wis., was the least on record there for February. In much of the Far West the mountain snowpack at the end of the month was less than 50 percent of normal.

DESTRUCTIVE STORMS. --A band of heavy glaze in Iowa extended from the southwest portion into northeast counties. In some sections the coating of ice was 1.5 inches thick. Broken communication and power lines isolated thousands of homes, and damage was estimated in the millions of dollars. In some localities this was the worst such storm in many years. Glaze in the Southeast on the 3d forced some schools to close in northeastern Georgia and parts of South Carolina.

Severe thunderstorms and several tornadoes caused several injuries and considerable property damage in central Oklahoma on the 17th. Local wind damage occurred in southeastern Kansas on the same date, when hailstones of 1 to 4 inches in diameter were reported near Wichita.

CONDENSED CLIMATOLOGICAL SUMMARY

FEBRUARY 1961

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Brewton 3SSE	83	28	Russellville 2	12	5	Greenville	20.28	Columbia	4.60
Arizona	4 Stations	86	12+	Maverick	-3	27	Greer	1.19	75 Stations	.00
Arkansas	2 Stations	84	12	2 Stations	12	4+	Hamburg	13.16	Ratcliff	1.47
California	Indo US Date Garden	89	22	do	-3	23+	Honeydew 2WSW	24.47	105 Stations	.00
Colorado	Eversoll Ranch	78	12	Sugar Loaf Res	-30	19	Wolf Cr Pass 4W	3.39	4 Stations	T
Connecticut	3 Stations	62	25+	Putnam	-22	2	Putnam	5.95	Manchester	2.17
Delaware	Lewes 1SW	75	19	Newark University Farm	-8	2	Selbyville	7.22	Wilmington Porter Res.	2.85
Florida	Avon Park	92	28	Crestview Radio WJSB	27	1	Pensacola FAA AP	10.44	Ft. Lauderdale Exp. Sta.	.32
Georgia	2 Stations	85	20	Blairsville Exp. Sta.	9	1	La Grange	18.46	Cordele Water Works	2.36
Idaho	Grandview	70	10	Island Park Dam	-17	26	Burke 2ENE	10.31	May RS	.16
Illinois	2 Stations	75	18+	Kankakee 3SW	-5	5	Cairo WB City	6.00	2 Stations	.52
Indiana	3 Stations	73	19+	Wheatfield	-9	5	Scottsburg	5.19	Valparaiso Waterwks	.94
Iowa	Shenandoah	69	16	Le Mars 2N	-15	3	Blockton 2S	3.13	Maquoketa	.26
Kansas	2 Stations	83	13+	Washington	-6	3	Madison	3.97	Norcatur 2N	.03
Kentucky	Williamsburg 2	77	14	Bardstown SJ Prep Sch	2	4	Mayfield	7.97	Blaine 1W	D1.69
Louisiana	Urania	84	18	Hineston 4NNE	22	1	Amite	20.99	Robson	2.79
Maine	Sanford 2NNW	63	19	Squa Pan Dam	-37	1	Bridgton 1NNW	4.21	Upper Dam	2.07
Maryland	Leonardtown 3NW	76	19	Unionville	-16	2	Crisfield Hammock Pt.	7.27	Hagerstown	2.04
Massachusetts	Bedford	66	19	Amherst	-27	2	Fall River	5.04	Weston	D2.09
Michigan	2 Stations	63	18	Vanderbilt Trout Sta.	-36	2	Bad Axe Radio Station	3.70	Detour 1N	.35
Minnesota	Meadowlands	66	22	2 Stations	-28	2	Waseca Experiment Frm.	2.20	New London	.04
Mississippi	2 Stations	82	19	3 Stations	15	4	Columbia	20.92	Pickens	5.19
Missouri	Joplin FAA Airport	81	16	Festus 2NW	-10	4	Caruthersville	5.87	Centralia	.80
Montana	Billings Water Plt	73	10	3 Stations	-23	26+	Summit	8.37	2 Stations	T
Nebraska	Beaver City	77	11	Wakefield	-16	3	Falls City	2.76	do	T
Nevada	North Las Vegas Dox	82	22	Dufurrena	-1	25	Mt. Rose Hwy Sta.	2.85	10 Stations	.00
New Hampshire	Windham	66	19	Fabyan	-32	3	Conway 1N	4.49	Mount Sunapee	1.90
New Jersey	Tuckerton	74	19	Layton 3NW	-22	2	Cape May 3W	5.65	Bound Brook 1W	1.99
New Mexico	2 Stations	84	12	Cowles	-20	6	Bateman Ranch	2.90	19 Stations	.00
New York	N. Y. Westerleigh Stat. Is.	67	24	Paul Smiths	-36	1	White Plains Airport	6.10	Chazy 3E	.98
North Carolina	Gatesville	79	20	Celo 2S	-3	5	Coweeta 8	15.33	Whiteville	2.38
North Dakota	Hettinger	68	21	Pembina	-27	2	Bisbee	2.90	Warwick	.02
Ohio	7 Stations	73	25+	3 Stations	-11	2	Oberlin	4.55	Bourneville 1S	1.81
Oklahoma	3 Stations	84	12	2 Stations	1	8+	Yuba 2S	4.45	Beaver	.27
Oregon	Richland	76	11	do	4	27+	Valsetz	34.19	Alvord Ranch	.19
Pennsylvania	3 Stations	72	25+	do	-35	2	Williamsburg	6.63	Landisville 2NW	1.74
Puerto Rico	Mayaguez Airport	91	21+	do	51	7+	Rio Blanco Lower	6.01	Puerto Real	.00
Rhode Island	Providence WB AP	60	19	Kingston	-11	3	Providence WB AP	4.68	Kingston	2.94
South Carolina	Ridgeland 2SE	82	18	3 Stations	15	5+	Walhalla	11.64	Conway	3.17
South Dakota	2 Stations	72	10	Pollock	-20	2	Deadwood	1.27	Ralph 1N	T
Tennessee	do	79	18+	Mountain City 2	5	5	Haw Knob	11.00	Odomville	3.04
Texas	Rio Grande City 2ESE	93	18	Stratford	1	6+	Deweyville	9.95	6 Stations	.00
Utah	La Verkin	72	12+	Woodruff	-13	26	Alta	7.24	do	.00
Vermont	Cavendish	62	19	2 Stations	-31	2+	Mays Mill	4.12	Northfield	D1.53
Virginia	6 Stations	78	27+	Berryville	-9	2	Dunbar	7.91	Dale Enterprise	2.45
Washington	McNary Dam	67	24	Chesaw 4NNW	3	26	Aberdeen 20NNE	39.07	Waterville	.42
West Virginia	3 Stations	76	24+	Berkeley Springs	-12	2	Kumbrabow State Forest	7.11	Salem Patterson L Fk	D2.24
Wisconsin	Superior 7SE	60	22	2 Stations	-24	20+	Summit Lake Ranger Sta.	2.42	Port Wing	.39
Wyoming	2 Stations	70	12+	Bondurant 3NW	-30	27	Lake Yellowstone	2.68	Lysite	.00

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

\+ And also on an earlier date or dates.

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90°F. or above	No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	993.4	1019.1	62	42	52.1	4.4	75	15	20	4	0	6	45	79	17.67	12.50	6.57	13	5	T	0	8.2	SSW	36	SE	28+	6	3	19	7.4	41
HUNTSVILLE	605	995.2	1019.0	61	40	50.0		76	16	18	4	0	8	41	75	9.13		3.01	13	3	0.6	T	8.4	SE	27*	E	7	6	5	17	7.0	
MOBILE	211	1017.3	1019.3	68	48	57.9	2.9	79	28	30	4	0	2	50	78	6.61	1.80	2.20	12	4	0.0	0	12.0	S	40*	SSW	24	6	7	15	6.6	
MONTGOMERY	195	1011.0	1019.5	65	44	54.4	2.8	77	16	26	4	0	5	46	77	13.38	8.65	5.63	13	8	0.0	0	9.3	W	40	W	25	6	3	19	7.3	41
ALASKA																																
ANCHORAGE	90	993.6	998.5	24	12	17.9	- 0.7	38	5	0	18+	0	28	10	70	0.46	-0.12	0.18	9	0	9.6	6	7.2	NNE	20*	NNE	28	3	2	23	8.4	29
ANNETTE	110	1001.0	1005.0	42	34	37.8	1.7	49	5	21	14	0	10	33	81	13.81	6.77	2.52	24	0	9.9	3	12.9	ESE	39*	SSE	26	2	3	23	8.8	
BARROW	22	1022.4	1023.1	-21	-32	-26.9	- 9.0	3	1	-43	4	0	28	-38	53	0.07	-0.08	0.06	3	0	0.7	14	7.3	E	25*	NE	5	18	3	7	3.6	
BARTER ISLAND	39	1019.6	1021.5	-20	-32	-26.1	- 8.1	- 3	1	-43	27	0	28	-38	54	0.07	-0.28	0.06	3	0	3.1	10	11.1	W	28*	W	16	12	7	9	4.9	
BETHEL	125	1004.1	1005.4	0	-11	- 5.1	-14.2	16	18	-23	10	0	28	-15	62	0.18	-0.64	0.10	3	0	2.4	6	16.2	NNE	32*	NNE	13	15	7	6	3.7	
COLD BAY	90	997.0	1001.5	28	18	23.3	- 5.1	39	19	3	11	0	27	18	79	1.62	-1.14	0.33	17	0	13.4	5	17.4	NNW	44*	SE	17	1	3	24	9.0	
CORDOVA	40	995.3	997.0	37	21	29.0	2.9	44	4	4	21	0	26	25	86	4.02	-1.25	1.23	20	0	33.7	14	4.9	E	25*	ESE	4	2	4	22	8.7	
FAIRBANKS	436	989.5	1007.8	7	-16	- 4.4	- 1.3	21	4	-32	2	0	28	-16	57	0.17	-0.34	0.12	5	0	7.1	14	5.7	NNE	17*	NNE	13+	9	7	12	5.4	
JUNEAU	17	1002.0	1002.6	36	28	31.5	4.2	47	5	17	14+	0	20	26	80	4.07	0.72	0.70	19	0	25.9	9	10.7	ESE	37*	ESE	5	0	2	26	9.6	23
KING SALMON	44	998.3	1000.3	13	- 4	4.4	-13.6	38	19	-19	24	0	28	- 4	68	0.50	-0.62	0.20	7	0	7.7	8	8.6	N	25*	NW	28+	9	6	13	5.7	
KOTZEBUE	10	1013.9	1014.3	- 6	-20	-12.9	- 8.2	10	20	-33	25	0	28	-20	72	0.08	-0.24	0.05	4	0	1.2	10	6.1	ENE	33*	E	20	21	2	5	2.5	
MC GRATH	334	992.9	1006.6	5	-16	- 5.4	- 5.8	15	6	-35	25	0	28	-17	60	0.13	-1.02	0.04	8	0	6.7	12	6.2	N	20*	NNE	14	14	5	9	4.7	
NOME	13	1011.2	1011.4	6	-10	- 2.4	- 8.1	20	20	-22	28	0	28	-14	59	T	-0.93	T	0	0	0.1	11	7.8	NE	38*	ENE	19+	23	3	2	1.6	86
ST. PAUL ISLAND	22	1004.4	1005.4	23	12	17.9	- 5.9	36	18+	- 3	28	0	28	14	83	0.40	-0.73	0.08	12	0	3.1	1						2	5	21	8.2	
SHEMYA	122	996.6	1000.3	34	29	31.6		38	14+	22	27	0	25	29	89	1.62		0.38	17	0	19.0	8	18.5	SE	46*	SW	9+	0	6	22	8.5	
YAKUTAT	28	998.0	999.1	36	25	30.4	2.4	44	4	8	2	0	22	28	89	9.99	1.38	2.08	22	0	79.6	54	8.5	E	43*	SE	4	1	0	27	9.5	
ARIZONA																																
FLAGSTAFF	6993			47	20	33.8	5.0	62	10	8	6	0	28			0.12	-1.62	0.10	3	0	3.2	4						11	9	8	4.8	
PHOENIX	1109	977.3	1017.2	71	40	55.6	1.3	80	11	33	28+	0	0	25	33	0.01	-0.78	0.01	1	0	0.0	0	5.6	SE	24*	N	23	18	8	2	3.0	92
PRESCOTT	5014	848.0	1018.6	58	27	42.7	3.3	69	11+	17	24	0	25	18	41	0.02	-1.31	0.02	1	0	T	0	7.8	SSW	39	SW	22	13	8	7	4.4	81
TUCSON	2584	927.2	1016.5	67	39	53.0	- 0.2	80	11	32	5	0	1	23	35	0.01	-0.91	0.01	1	0	0.0	0	8.0	SE	33	NW	23	19	5	4	2.7	91
WINSLOW	4880	852.7	1018.7	57	25	41.0	1.2	75	11	13	27	0	26	18	46	0.40	-0.07	0.19	3	0	3.5	2	10.5	SW	35*	SW	12	12	8	8	4.6	
YUMA	199	1012.9	1018.3	77	48	62.4	2.3	85	22+	40	25	0	0	24	26	T	-0.29	T	0	0	0.0	0	9.2	N	34	N	19	18	8	2	2.6	95
ARKANSAS																																
FORT SMITH	449	1001.0	1018.3	56	36	45.8	1.2	81	12	23	4	0	14	37	75	2.17	-0.87	0.76	12	1	6.5	2	7.9	ENE	25	W	18	4	7	17	7.4	41
LITTLE ROCK	257	1005.1	1018.3	57	38	47.7	2.1	79	26	18	4	0	9	39	75	3.65	-0.41	0.95	12	3	T	0	9.4	NE	33	W	25	6	5	17	7.3	33
TEXARKANA	361		1017.6	60	41	50.7	1.2	78	12	27	4	0	5	42	77	4.05	-0.05	2.94	11	3	T	0	8.1	SSE								
CALIFORNIA																																
BAKERSFIELD	494	1004.7	1023.4	66	42	54.2	1.7	79	10	36	20	0	0	42	66	0.12	-1.00	0.08	2	0	0.0	0	5.6	NNW	21*	NW	15+	8	9	11	5.8	
BISHOP	4108	877.4	1020.0	62	28	44.6	3.3	73	21	18	19	0	22			T	-0.91	T	0	0	0.0	0						11	5	12	5.5	
BLUE CANYON	5280	841.9	1021.3	47	32	39.7	3.6	65	20	23	18	0	15			5.86	-3.61	2.05	10	0	15.9	8	8.9	ENE	45	SSW	11	7	5	16	6.7	
BURBANK	699	992.9	1019.4	72	48	59.8	5.8	83	21	42	18	0	0	36	47	0.03	-3.03	0.02	2	0	0.0	0	6.8	NW	33*	NW	22+	14	7	7	4.1	
EUREKA U	43	1021.0	1023.4	56	44	50.2	1.8	67	1	36	18	0	0			7.53	1.88	2.25	19	2	0.0	0	7.7	S#	29	SW	10	1	7	20	8.1	45
FRESNO	331	1010.2	1022.6	63	40	51.5	0.8	75	10	33	23	0	0	42	74	0.40	-1.26	0.24	3	0	0.0	0	6.3	ESE	30	SE	2	8	8	12	6.0	76
LONG BEACH	34	1019.0	1020.2	70	45	57.4		81	22	38	19	0	0	40	59	T		T	0	0	0.0	0	5.9	W	39*	NW	22	10	10	8	4.6	
LOS ANGELES	99	1015.9	1019.7	68	48	57.9	3.8	79	22	44	27+	0	0	42	60	T	-2.75	T	0	0	0.0	0	6.6	WSW	22*	N	23	13	6	9	4.5	
LOS ANGELES U	312			71	51	61.0	4.6	81	21	46	19	0	0	43	58	0.15	-3.22	0.15	1	0	0.0	0	6.7	W#	40	NW	22	13	11	4	3.8	87
MT SHASTA R	3544	896.7	1023.0	48	32	39.9	3.0	62	21	21	23	0	18			4.60	-0.62	1.96	13	0	3.0	1						1	10	17	8.0	
OAKLAND	3	1023.0	1023.5	62	45	53.0	2.3	68	20	37	19	0	0	44	73	0.88	-2.52	0.28	9	0	0.0	0	7.8	WNW	29*	SSW	11	6	9	13	6.5	
POINT ARGUELLO	367	1007.5	1021.0	61	44	52.3		75	24	32	27	0	1			0.16		0.08	3	0	0.0	0	9.5		26*	NW	22	14	4	10	4.8	
RED BLUFF	341	1009.8	1022.7	60	43	51.8	1.9	71	28+	35	17	0	0	39	65	2.91	-0.62	1.02	10	0	0.0	0	10.9	S	42	SE	10	4	8	16	7.4	66
SACRAMENTO	17	1021.7	1022.9	61	42	51.8	2.1	69	21	33	19	0	0	44	78	1.25	-1.51	0.63	7	0	0.0	0	6.0	SE	29	NW	26	7	7	14	6.5	68
SANDBERG R	4517	865.6	1020.7	51	37	44.0	3.2	66	21+	29	19+	0	9			0.52	-2.20	0.44	3	0	T	T	15.7	N	44*	N	27+	10	9	9	4.9	
SAN DIEGO	13	1015.9	1019.1	68	50	59.0	2.7	75	21+	45	19	0	0	44	60	0.06	-2.20	0.04	2	0	0.0	0	5.5	WNW	22	NW	19	13	10	5	4.0	84
SAN FRANCISCO	8	1022.7	1023.5	60	46	53.2	2.4	67	24	39	19	0	0	46	77	1.18	-2.26	0.80	7	0	0.0	0	9.1	WNW	36	S	11	7	8	13	6.1	
SAN FRANCISCO U	52			61	50	55.4	2.4	69	4	47	18+	0	0			0.96	-2.95	0.30	8	0	0.0	0	6.8	W#	26	SE	11					75
SANTA MARIA	238	1013.2	1022.1	66	41	53.7	1.9	75	28+	34	27+	0	0	42	68	0.16	-2.31	0.11	2	0	0.0	0	8.1	WNW	25*	NW	22	15	6	7	4.0	
COLORADO																																
ALAMOSA	7536	769.4	1020.3	43	8	25.2	2.2	56	11	-22	24	0	28			0.23	0.05	0.12	5	0	6.0	2						13	6	9	4.6	
COLORADO SPRINGS	6173	809.7	1020.2	47	19	32.9	1.1	68	11+	6	9	0	27	16	56	0.65	0.32	0.39	7	0	8.8	4	10.6	N	31*	SW	25+	12	7	9	5.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

FEBRUARY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
COLORADO	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
DENVER	5283	836.8	1018.2	48	22	35.2	3.2	70	11	9	5	0	26	18	57	0.66	0.13	0.20	7	0	7.9	2	8.5	SSW	36	SW	12	12	5	11	5.3	73
GRAND JUNCTION	4849	861.2	1020.6	49	26	37.1	5.1	60	15+	16	6	0	25	16	45	0.18	-0.45	0.12	3	0	1.2	1	8.5	ESE	39	W	12	6	7	15	6.8	87
PUEBLO	4639	856.4	1018.8	50	21	35.4	1.3	71	12+	11	6	0	27	20	60	0.47	-0.01	0.20	5	0	4.9	2	7.7	WNW	43	N	17	11	7	10	5.5	69
CONNECTICUT																																
BRIDGEPORT	7	1018.9	1019.7	40	25	32.0	3.0	60	24	- 3	2	0	21	23	72	2.88	-0.09	0.88	9	0	15.0	19	10.0	N	38	NE	4	6	7	15	6.9	
HARTFORD	169	1012.5	1018.8	39	16	27.4	- 0.7	59	19	-21	2	0	22	18	69	3.43	0.86	1.50	9	0	14.9	29	7.7	N	41	N	4	6	8	14	6.4	59
NEW HAVEN	6	1018.6		40	24	31.6	2.5	57	24	- 5	2	0	20			3.28	-0.02	0.92	10	0	14.9	20	7.9		38	SE	25	5	7	16	7.0	61
DELAWARE																																
WILMINGTON	78	1015.7	1019.1	43	27	34.7	0.9	66	24	- 4	2	0	18	27	76	3.74	0.76	1.13	12	0	13.3	13	9.5	NW	37	NW	26	2	3	23	8.3	
FLORIDA																																
APALACHICOLA U	13	1017.6		64	52	58.1	1.2	70	28+	36	4	0	0			3.96	0.02	1.75	9	1	0.0	0	8.4		37	W	25	10	3	15	6.2	66
DAYTONA BEACH	31	1019.1	1021.0	72	49	60.5	0.0	86	28	36	11	0	0	52	77	3.70	1.30	1.66	8	4	0.0	0	8.7	SE	35*	SSW	25	8	6	14	6.1	
FORT MYERS	15	1019.4		78	57	67.5	1.9	88	21+	43	12	0	0			1.88	-0.06	1.18	3	0	0.0	0	8.3		25*	S	7	8	11	9	5.3	
JACKSONVILLE	24	1019.4	1020.8	72	51	61.7	4.2	86	28+	34	4	0	0	50	73	4.85	2.19	1.80	9	1	0.0	0	11.0	WSW	42	SW	25	9	6	13	6.1	60
KEY WEST	5	1018.0	1019.4	76	67	71.8	0.2	83	24	58	10	0	0	64	78	1.42	-0.22	0.72	6	1	0.0	0	12.6	SE	29	N	25+	9	11	8	5.3	69
LAKELAND U	214			74	55	64.7	1.3	86	24	44	11+	0	0			2.17	-0.15	1.58	6	1	0.0	0	7.7					9	7	12	5.5	71
MIAMI BEACH	9			75	67	70.9	0.7	84	25	50	12+	0	0			0.60	-1.15	0.28	4		0.0	0	9.5		31	W	25	9	13	6	5.2	72
MIAMI	7	1018.8	1020.1	77	63	69.6	0.9	87	25	48	12+	0	0	59	71	0.63	-1.15	0.29	6	0	0.0	0	10.7	ESE	23*	ESE	6	6	14	8	5.8	
ORLANDO	106	1016.1	1020.9	76	53	64.7	1.5	88	28+	41	12+	0	0	54	74	2.82	0.77	1.30	5	3	0.0	0	8.2	SE	29*	NW	25	9	6	13	5.5	
PENSACOLA U	13			66	52	58.6	2.6	78	28	33	4	0	0			7.72	3.79	3.45	14	3	0.0	0	11.6		30	W	25					44
TALLAHASSEE	64	1017.1	1020.1	68	48	58.0	2.4	77	20+	31	4	0	2	50	80	5.29	1.25	1.96	11	3	0.0	0	6.8	SSE	28*	W	25	5	7	16	7.0	
TAMPA	19	1019.1	1020.9	75	55	65.0	2.1	87	21+	43	11	0	0	55	74	3.81	1.31	2.23	4	1	0.0	0	11.2	SE	35*	NW	25	9	6	13	5.3	74
WEST PALM BEACH	15	1019.4	1020.6	77	60	68.2	0.5	88	25	44	12	0	0	59	74	0.42	-1.79	0.20	5	0	0.0	0	11.6	SE	27*	SSE	7	8	8	12	5.8	
GEORGIA																																
ATHENS	798	990.3	1020.1	58	38	48.2	1.6	75	16	23	4	0	11	41	80	9.24	4.27	2.76	13	3	T	0	9.6	W	52*	SSW	25	7	5	16	6.8	
ATLANTA	975	977.2	1020.0	59	40	49.5	2.8	74	15	22	4	0	8	38	70	12.77	7.95	5.67	12	5	T	T	13.4	W	44*	SW	25	6	7	15	6.8	48
AUGUSTA	143	1012.7	1019.8	63	39	51.1	2.3	78	28+	21	4	0	9	42	76	7.67	3.94	3.20	10	3	T	T	6.9	W	37*	W	25	6	3	19	7.3	
COLUMBUS	385	1005.3		65	40	52.5	2.9	78	28+	23	5	0	9			9.41	4.74	3.05	11	4	0.0	0	9.0		35*	S	25+	6	4	18	7.0	
MACON	356	1005.9	1019.9	65	43	54.0	2.5	79	28+	26	4	0	6	43	74	7.12	2.85	2.44	11	4	0.0	T	9.3	WNW	40	SW	25	5	7	16	7.0	53
ROME	637	995.3		59	36	47.5	2.5	74	16	19	10	0	12			11.22	5.82	3.65	13	3	T	0						6	6	16	6.7	
SAVANNAH	48	1018.3	1020.8	66	44	54.7	1.3	78	22+	28	4	0	6	46	78	3.76	0.94	1.08	10	2	0.0	T	10.1	W	34	W	25	6	7	15	7.1	51
THOMASVILLE U	283			69	49	59.1	3.2	81	21	31	4	0	1			4.28	0.47	1.89	8	3	0.0	0										
HAWAII																																
HILO	31	1016.3	1017.6	79	65	71.7	1.0	86	3	59	4	0	0	65	83	20.50	11.02	3.87	23	3	0.0	0	9.3	WSW	30*	E	21+	3	4	21	8.0	29
HONOLULU	7	1017.3	1017.8	80	69	74.6	2.2	85	4+	63	1	0	0	63	70	0.93	-1.59	0.41	10	0	0.0	0	12.0	ENE	36	NE	19+	6	15	7	5.9	68
LIHUE	115	1013.2	1018.3	79	67	73.0	2.9	86	4	60	1	0	0	65	78	1.57	-2.87	0.73	17	1	0.0	0	12.9	NE	28	NE	10	5	13	10	6.3	57
IDAHO																																
BOISE	2841	923.5	1021.4	49	33	41.2	7.2	64	11	23	26+	0	12	32	72	1.20	-0.15	0.56	14	0	3.2	1	8.8	SE	29	W	25+	1	5	22	8.5	52
IDAHO FALLS 42NW R	4790			40	19	29.5	11.0	53	11	- 4	4	0	27			0.59	0.22	0.34	9				6.7	SSW	28A	S	25					
IDAHO FALLS 46W R	4933	850.0	1022.0	39	20	29.6	9.0	53	11	- 4	4	0	27			0.80	0.23	0.45	11	1	7.3	5	7.8	SW	26A	SW	12					
LEWISTON	1413	966.5	1018.9	50	35	42.5	6.6	59	21+	28	26	0	9			1.55	0.55	0.28	17	1	0.2	T						1	3	24	9.1	
POCATELLO	4444	865.6	1021.9	42	29	35.1	6.6	57	11	20	26	0	25	27	75	1.44	0.51	0.59	19	0	6.3	4	12.7	S	37	SE	11	1	4	23	8.8	42
ILLINOIS																																
CAIRO U	314	1004.7		52	34	42.9	2.3	73	18	17	4+	0	13			6.00	2.67	2.21	12	2	3.1	2	9.9	NE#	30	SW	18	5	9	14	6.9	56
CHICAGO O HARE	656	993.6	1019.0	40	23	31.4		60	18	6	7	0	25	26	84	0.88		0.42	7	0	6.5	6	12.1	SSE	30*	ENE	2	3	7	18	7.6	
CHICAGO MIDWAY	610	995.6	1019.2	41	27	34.3	6.9	62	18	10	2	0	24	26	74	0.90	-0.51	0.43	7	0	7.1	6	10.8	W	35	N	25	4	4	20	7.8	25
MOLINE	589	995.9	1019.0	40	21	30.7	4.1	53	21+	1	5	0	26	24	75	1.20	0.03	0.51	6	0	2.5	2	8.7	WNW	30	W	18+	5	4	19	7.6	43
PEORIA	652	996.6	1019.5	41	23	31.8	3.5	59	23	4	5	0	25	26	79	1.07	-0.84	0.40	6	0	5.3	5	10.4	ENE	32	W	18	4	3	21	8.0	44
ROCKFORD	728	991.2	1019.2	41	22	31.5	6.9	54	17	2	5	0	26	24	78	1.06	-0.35	0.54	5	0			9.3	ENE	25*	SW	18	5	5	18	7.4	
SPRINGFIELD	588	994.9	1019.0	43	24	33.5	2.7	66	23	4	5+	0	25	27	78	1.79	0.17	0.91	6	0	6.5	7	12.4	ENE	44	SW	18	2	5	21	8.1	40
INDIANA																																
EVANSVILLE	383	1002.0	1018.3	49	30	39.6	2.1	73	18	8	4	0	15	32	73	3.54	0.59	0.71	12	0	8.2	4	10.8	NE	37	W	25	6	4	18	7.7	43

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90°F. or above	No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
INDIANA																																
FORT WAYNE	801	986.5	1019.3	40	24	32.1	4.1	61	18	1	5+	0	23	26	78	2.57	0.80	1.59	8	0	3.0	2	13.0	ENE	41	E	3	2	5	21	8.0	30
INDIANAPOLIS	797	987.8	1018.7	42	26	34.0	2.5	66	18	8	5+	0	23	26	75	3.15	1.07	1.10	9	0	14.3	7	9.7	E	40	N	25	3	6	19	7.9	44
SOUTH BEND	768	989.8	1018.8	39	22	30.5	4.1	63	18	2	5+	0	25	25	80	1.55	-0.01	0.67	10	0	12.1	7	10.8	ENE	31*	ENE	3	3	5	20	7.9	
IOWA																																
BURLINGTON	694	993.2	1019.7	41	22	31.7	3.7	53	21	1	4	0	25	25	77	1.32	-0.09	0.58	6	1	8.9	9	11.1	NE	33	W	19	4	5	19	7.7	54
DES MOINES	948	988.2	1020.7	39	21	30.1	4.1	58	16	1	4+	0	28	23	78	2.68	1.60	1.77	9	1	6.9	5	11.1	NW	29	NW	13+	4	6	18	7.5	56
DUBUQUE	1065	993.2	1019.5	38	21	29.9	7.3	50	21	5	4	0	27	22	72	1.46	0.35	0.77	5	1	1.0	1						5	5	18	7.5	
SIOUX CITY	1095	977.3	1020.3	35	15	25.2	2.0	56	16	-12	3	0	28	19	79	1.51	0.76	0.94	7	1	15.6	8	10.9	ESE	42	NW	23	5	5	18	7.2	56
WATERLOO	868	986.5	1019.8	37	18	27.3	4.8	48	21	- 7	4	0	28	24	87	2.50	1.49	1.47	6	0	4.9	3	8.7	WNW	23*	SSE	16+	6	6	16	6.9	
KANSAS																																
CONCORDIA U	1375	968.2		46	26	35.7	2.8	68	16	3	3	0	19		67	0.58	-0.27	0.23	7	1	6.3	5	6.4	W#	25	N	23	6	4	18	7.1	61
DODGE CITY	2594	928.5	1019.0	50	26	37.7	2.7	80	12	9	3	0	22	24	65	0.31	-0.47	0.21	8	0	2.9	2	14.2	N	50	N	1	6	6	16	6.7	56
GOODLAND	3645	887.9	1018.3	49	20	34.3	4.1	73	11	3	6	0	26	21	64	0.19	-0.29	0.17	3	0	2.7	2	11.2	WSW	37*	NNW	1	8	6	14	6.2	
TOPEKA	877	982.4	1019.5	47	24	35.6	2.2	74	16	8	3	0	24	27	73	1.59	0.62	1.04	6	2	3.1	3	10.9	NNE	45	N	17	1	4	23	8.7	40
WICHITA	1321	968.5	1018.6	47	27	37.2	0.0	69	16	8	3	0	23	30	79	1.51	0.53	0.86	6	1	10.4	8	11.8	N	36	NW	17	2	5	21	7.8	47
KENTUCKY																																
LEXINGTON	979	981.8	1018.5	49	32	40.7	4.7	69	13	8	4	0	16	33	78	3.89	0.39	1.32	12	0	4.6	4	11.4	S				5	2	21	7.9	
LOUISVILLE	474	998.6	1018.3	49	30	39.1	1.9	70	24	6	4	0	17	33	79	5.24	2.25	2.04	11	1	12.5	9	8.4	NE	35	NW	25	5	2	21	7.8	41
LOUISIANA																																
ALEXANDRIA	92	1013.9	1018.6	64	41	52.5		80	18	30	11+	0	7	45	81	7.20		2.32	13	8	0.0	0	7.3	SSW				6	5	17	6.9	
BATON ROUGE	64	1015.2	1018.5	67	45	56.4	0.8	79	18	32	9+	0	3	49	78	11.33	6.97	4.51	13	7	0.0	0	10.0	S				6	5	17	7.1	
LAKE CHARLES	12	1016.6	1018.1	67	47	57.0	1.1	77	18	36	9+	0	0	50	82	7.75	3.22	4.46	11	4	0.0	0	6.2	S	23*	NW	24	5	6	17	7.0	
NEW ORLEANS U	9			68	52	60.4	1.9	79	20+	38	5+	0	0		78	8.25	4.07	4.47	11	5	0.0	0	6.8		27	E	6	7	8	13	6.2	46
NEW ORLEANS	3	1016.6	1018.7	69	48	58.1	0.7	80	20	31	9	0	1	53	85	9.00	5.03	5.60	13	5	0.0	0	9.4	S	25*	NW	24+	6	5	17	6.9	
SHREVEPORT	252	1008.8	1018.4	62	43	52.7	0.7	78	23	31	4	0	2	44	77	3.88	0.10	2.17	11	3	T	0	12.3	SSW				7	7	14	6.5	45
MAINE																																
CARIBOU	624	992.9	1017.6	24	1	12.6	2.8	40	22	-22	1	0	28	5	70	2.48	0.75	0.79	10	0	28.8	35	11.3	NW	35*	W	19	7	5	16	6.9	
PORTLAND	61	1014.0	1018.1	35	13	24.2	2.7	56	19	-22	2	0	28	16	72	3.58	-0.25	1.98	10	0	10.7	10	8.4	N	34	N	4	11	6	11	5.3	58
MARYLAND																																
BALTIMORE	146	1014.5	1019.6	46	28	37.0	2.0	74	24	1	2	0	14	29	73	4.63	1.64	1.29	15	0	16.4	13	9.7	W	49	NW	26	3	8	17	7.4	38
BALTIMORE U	14			47	33	39.6	2.3	70	24	6	2	0	13			4.74	1.75	1.28	13													
FREDERICK	294			42	24	32.8	- 1.3	68	27	-11	2	0	20			3.27	0.69	0.99	13	0	30.5	23										
MASSACHUSETTS																																
BLUE HILL OBS R	629	992.6		38	21	29.7		62	19	-12	2	0	23		67	3.41	-0.13	1.64	12		16.0	29	15.2	NW	67	NE	4					51
BOSTON	15	1012.8	1017.8	39	24	31.6	2.4	65	19	- 4	2	0	21	21	58	4.94	2.01	2.55	9	0	14.9	18	12.2	WNW	49	ENE	4	9	6	13	6.0	56
NANTUCKET	43	1017.8		37	25	31.0	- 0.1	48	25	0	2	0	20			4.50	1.08	2.09	10	0	15.4	13	13.5	NW	56	E	4	6	7	15	6.9	51
PITTSFIELD	1170			36	15	25.5	3.8	57	19	-15	2	0	24			2.45	-0.06	1.07	13		13.3	24										
WORCESTER	986	979.4	1017.4	36	20	27.7	3.6	62	19	-10	2	0	25	17	67	3.28	0.71	1.35	10	0	20.4	42	10.3	WNW	40*	NE	4	7	6	15	6.3	
MICHIGAN																																
ALPENA	689	993.2		34	11	22.4	2.1	52	22	-18	2	0	28	17	73	1.41	-0.29	0.49	10	0	9.2	6	7.7	W#	29	SE	13	6	7	15	6.9	52
DETROIT	619	991.9	1019.7	38	23	30.8	4.1	56	24	- 5	2	0	24	23	77	2.20	0.18	0.79	11	1	5.1	3	10.2	W	38	W	19	2	7	19	7.8	39
DETROIT M WAYNE CO	630	993.9	1019.1	39	23	30.9		57	18	- 3	2	0	24	23	77	2.06		0.75	10	1	5.0	4	10.9	NE				1	5	22	8.3	
DETROIT WILLOW RUN	722	989.5	1019.1	40	23	31.4	5.3	57	18	- 7	2	0	24	23	77	1.93	0.19	0.83	9	1	3.4	4	12.6	NE	36*	NNW	25	2	4	22	8.3	
ESCANABA U	594	996.3		31	15	23.1	5.5	43	9	-10	2	0	28		75	1.47	0.10	0.45	6	0	11.9	11	9.0		34	N	18	9	8	11	6.1	53
FLINT	766	991.5	1019.9	37	18	27.5	4.2	54	18	- 7	5+	0	25	22	79	1.61	-0.05	0.62	8	1	9.3	4	9.8	WNW	29*	SW	23	4	4	20	8.0	
GRAND RAPIDS	681	993.2	1019.6	38	20	29.2	5.4	53	18	- 4	2	0	24	23	78	0.90	-0.77	0.35	8	1	4.2	11	9.5	W	32	SW	18	5	4	19	7.8	40
LANSING	852	986.1	1019.4	38	17	27.8	3.6	55	18	-10	2	0	26	21	79	1.60	-0.21	0.66	9	1	9.9	8	12.5	W	45	W	19+	4	5	19	7.6	49
MARQUETTE U	677	991.2		32	17	24.8	5.9	56	22	- 9	3	0	28		72	1.90	0.18	1.03	11	0	20.2	19	7.3	W#	28	SW	21	8	4	16	6.9	48
MUSKEGON	627	995.6	1019.6	36	20	27.9	3.4	54	22	- 4	2	0	25	23	80	0.80	-0.84	0.52	8	0	0.5	10	9.9	W	29*	W	19+	5	5	18	7.7	
SAULT STE MARIE	721	995.9	1019.9	28	10	19.1	5.6	42	22	-18	2	0	28	13	77	0.97	-0.55	0.47	11	0	10.4	16	8.6	E	23*	NW	14	7	6	15	6.8	52

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90° F. or above	Temperature: No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	°F.	°F.	°F.	F.	F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							°/o
MINNESOTA																																
DULUTH	1408	976.3	1019.4	29	11	19.7	8.7	52	22	-11	1	0	28	14	80	0.65	-0.57	0.24	8	0	7.7	10	12.4	E	30	NW	17	9	3	16	6.5	50
INTERNATIONAL FALLS	1179	976.0	1019.3	29	6	17.2	10.0	46	22	-17	19+	0	28	10	75	0.85	-0.02	0.29	12	0	8.9	14	8.0	SE	24*	W	13	5	6	17	7.1	
MINNEAPOLIS	830	984.8	1020.2	33	12	22.5	4.3	51	11	- 9	19+	0	28	18	79	0.89	0.00	0.70	5	0	8.7	7	8.4	WNW	33	W	26	6	6	16	6.6	58
ROCHESTER	1297	969.9	1019.7	34	17	25.7	7.7	55	11	- 3	19	0	27	20	79	0.94	0.19	0.64	7	0	7.5	6	11.4	NW				7	6	15	6.6	
ST CLOUD	1034	980.0	1020.0	34	12	22.9	9.3	55	22+	- 8	4	0	28	15	73	0.38	0.34	0.20	5	0	4.7	3						5	9	14	6.9	
MISSISSIPPI																																
JACKSON	305	1006.3	1018.6	64	42	52.9	1.9	80	18	24	4	0	7	44	74	6.59	1.50	2.25	13	4	T	0	6.0	S	27	NW	28	6	7	15	7.0	41
MERIDIAN	292	1005.5	1019.0	65	42	53.1	2.4	78	18+	24	4	0	7	46	82	12.89	7.51	5.61	12	7	0.0	0	7.6	SSW	25*	SW	25	6	7	15	7.1	
VICKSBURG U	234	1008.4		63	44	53.6	1.5	79	18	25	4	0	2			6.89	1.75	1.61	13	7	T	0	9.2		27	NW	24	6	5	17	6.9	44
MISSOURI																																
COLUMBIA	778	988.5	1018.2	47	27	37.3	3.6	71	12	4	4	0	19	29	74	2.04	0.47	1.22	7	1	4.5	5	11.0	NE	25	W	18	4	6	18	7.6	49
KANSAS CITY	742	982.4	1019.1	49	29	38.6	4.0	74	16	12	3	0	20	24	60	2.44	1.28	1.92	6	2	1.4	1	10.3	ENE	33	SW	17	0	7	21	8.4	55
ST JOSEPH	809	983.4		46	25	35.1	3.3	71	16	8	3	0	24			2.02	1.01	1.29	6	1	1.5	1	10.7	N	29*	NW	18+	1	7	20	8.2	
ST LOUIS	535	997.6	1018.9	47	25	35.9	0.2	68	23	2	4	0	24	27	73	2.06	0.40	0.55	9	0	12.9	9	9.8	ENE	34	W	18	3	5	20	7.9	35
ST LOUIS RFC	465			48	31	39.3	2.6	69	17	10	3	0	16			2.65	0.77	0.72	9		14.1	10										
SPRINGFIELD	1265	969.5	1018.3	49	28	38.7	1.9	74	12	7	3	0	16	29	73	2.36	0.60	0.74	10	2	13.0	9	11.7	SSE	34	W	18	6	3	19	7.7	46
MONTANA																																
BILLINGS	3567	889.3	1015.3	49	28	38.6	12.5	72	10	8	18	0	22	17	45	0.20	-0.24	0.17	3	0	2.1	2	14.3	WSW	46	W	25	2	8	18	7.5	63
GLASGOW	2277	940.1	1016.9	37	13	24.9	10.4	58	21	- 6	17+	0	28	19	80	0.45	0.11	0.23	6	0	1.8	1						6	5	17	7.0	
GREAT FALLS	3662	885.9	1014.6	46	26	36.0	11.4	63	21	- 2	17	0	20	20	55	0.19	-0.38	0.12	4	1	0.6	T	15.7	SW	47	W	25+	2	11	15	7.6	64
HAVRE U	2583	924.1	1015.6	42	17	29.8	10.9	63	21	- 4	18+	0	26			0.16	-0.23	0.12	4	0	0.4	2	9.0	W#	32	NW	22	7	7	14	6.5	71
HELENA	3893	872.0	1016.7	47	26	36.6	13.2	65	11	13	16	0	24	21	55	0.06	-0.35	0.03	3	0	0.4	T	10.5	WNW	45	NW	25+	4	5	19	7.4	50
KALISPELL	2965	910.9	1015.9	42	29	35.5	10.5	53	24+	21	26	0	22			1.32	0.40	0.65	13	1	3.5	1	6.6					0	3	25	9.1	
MILES CITY	2629	930.6	1016.8	44	19	31.7	11.6	66	10	- 8	17	0	26	23	72	0.77	0.41	0.25	6	0	6.0	3	9.5	SSE	46*	NW	25	2	9	17	7.2	
MISSOULA	3200	902.8	1019.5	41	27	34.2	8.5	56	24+	18	8	0	27	28	81	1.01	0.19	0.40	15	0	3.3	2	6.2	NW	31	W	25	0	3	25	9.4	27
NEBRASKA																																
GRAND ISLAND	1841	950.9	1019.1	45	20	32.5	4.8	69	25	- 2	3	0	27	21	67	0.49	-0.17	0.29	6	1	3.5	2	10.9	SW				7	3	18	6.9	
LINCOLN U	1150			42	23	32.7	3.4	65	16	0	3	0	22			1.10	0.18	0.68	10	1	4.5	3	8.4	S#	34	S	16	3	7	18	7.5	55
NORFOLK	1544	961.4	1019.0	40	17	28.3	4.7	60	16+	- 9	3	0	28	19	67	0.91	0.12	0.65	7	1	8.7	6						6	4	18	7.1	
NORTH PLATTE	2779	916.0	1018.1	48	17	32.2	3.5	71	11	2	3	0	28	17	59	0.07	-0.27	0.06	3	1	0.7	1	10.3	NNW	42	NE	16	7	2	19	7.1	53
OMAHA	978	978.3	1020.0	41	22	31.1	3.9	65	16	- 2	3	0	26	24	76	0.79	-0.08	0.30	8	2	6.3	4	10.1	SSE	35	N	23	4	5	19	7.4	43
OMAHA N OMAHA APT	1323	969.9		38	21	29.6	4.9	62	16	- 2	3	0	26			0.87	0.00	0.44	8	2	5.1	4						4	5	19	7.4	
SCOTTSBLUFF	3950	878.4	1018.4	47	18	32.6	4.4	69	12	- 9	19	0	28	20	63	0.32	-0.09	0.25	4	0	3.4	3	12.5	NW	47*	NW	25	9	4	15	6.1	
VALENTINE	2587	924.5		44	16	29.8	4.5	65	22	- 8	6	0	28		72	0.21	-0.25	0.09	5	0	4.0	2	9.9	W#	40	NW	25	8	7	13	6.2	72
NEVADA																																
ELKO	5075	847.6	1022.2	44	22	33.0	4.6	60	11	13	27+	0	27	25	69	0.76	-0.19	0.17	13	1	5.9	1	5.8	SW	28*	NW	22	2	10	16	7.8	
ELY	6257	810.7	1021.7	45	19	31.7	3.6	58	11	7	27+	0	26	19	61	0.36	-0.54	0.10	5	0	5.0	2	8.9	S	42	SE	11	3	9	16	7.5	71
LAS VEGAS	2162	952.9	1019.5	64	38	51.0	0.6	77	22	30	24	0	3	22	35	0.01	-0.57	0.01	1	0	0.0	0	9.2	WSW	41*	NW	22	12	6	10	5.1	81
RENO	4404	865.6	1022.1	56	26	40.7	4.4	69	10	15	23	0	24	25	57	0.30	-0.75	0.18	2	0	T	T	6.1	SSE	40	S	11	5	9	14	6.6	69
WINNEMUCCA	4299	872.0	1023.0	50	23	36.5	2.0	63	21	8	26	0	24	27	68	0.60	-0.41	0.38	8	0	0.2	T	6.3	S	59	W	24	1	7	20	8.5	35
NEW HAMPSHIRE																																
CONCORD	339	1006.7	1018.6	38	12	24.8	3.6	64	19	-16	3	0	27	15	66	2.33	0.03	1.06	8	0	10.8	22	5.4	NW	29	NW	26	9	7	12	5.6	59
MT WASHINGTON OBS	6262	798.1		17	2	9.5	4.0	36	19	-34	1	0	28		76	5.88	1.13	1.95	13	1	23.0	2	34.7	W	102Y	W	15	9	4	15	6.5	45
NEW JERSEY																																
ATLANTIC CITY	58	1016.7	1019.6	44	28	36.1	1.5	73	19	- 4	2	0	16	28	74	4.51	1.53	1.50	13	0	7.6	5	11.9	W	39	ENE	3	2	7	19	8.0	44
ATLANTIC CITY U	30			43	30	36.4	1.0	63	19	1	2	0	16			4.10	0.86	1.09	12				13.7		46	NW	26					
NEWARK	11	1018.1	1019.4	44	28	35.8	4.1	67	24	- 2	2	0	15	25	66	3.97	0.87	2.45	9	0	23.3	26	9.7	NE	40*	NE	4	4	7	17	7.2	
TRENTON U	56	1011.3		43	29	35.7	3.0	68	24	- 2	2	0	14			3.04	0.38	1.38	13	2	10.5	12	8.8	NW	39	S	25	3	7	18	7.7	44
NEW MEXICO																																
ALBUQUERQUE	5310	848.3	1016.7	53	28	40.6	1.1	67	12	16	7	0	21	20	48	0.10	-0.23	0.05	5	0	0.4	T	7.2	N	42	E	27	15	6	7	4.2	82
CLAYTON	4969	844.2	1016.6	50	23	36.2	- 0.4	73	12	0	7	0	25			0.19	-0.18	0.09	4	0	2.6	2						10	9	9	5.2	
RATON	6379	803.6	1017.3	47	17	32.1	0.1	65	12	3	7	0	28			0.27	-0.10	0.16	6	0	2.9	2						9	11	8	5.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90°F. or above	No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
NEW MEXICO	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ROSWELL	3612	892.7	1015.9	62	22	42.4	- 2.4	82	26+	12	7	0	27	22	53	0.04	-0.42	0.03	2	0	0.4	T	8.0		36	NW	28	14	7	7	4.0	
SILVER CITY	5453	833.4	1015.1	59	28	43.4		71	11	17	6	0	24			0.01		0.01	1	0	T	T						17	10	1	3.0	
NEW YORK																																
ALBANY	277	1015.4	1019.3	35	16	25.5	2.6	55	24	-18	2	0	23	19	74	2.47	0.44	1.13	9	0	10.9	19	8.5	S	41	NW	14	7	7	14	6.4	57
BINGHAMTON	1590	956.6	1018.4	33	18	25.6	4.0	54	24	-15	2	0	24	16	69	3.37	1.07	1.54	11	0	27.8	28	9.5	WNW	36	NW	26	3	8	17	6.9	48
BUFFALO	693	990.0	1019.6	34	19	26.5	1.8	57	24	-20	2	0	23	21	80	2.63	0.04	1.22	12	0	11.9	17	9.3	SW	43	SW	19	2	6	20	8.2	43
NEW YORK	19	1017.3	1019.2	44	30	36.7	4.1	64	24	- 1	2	0	14	25	68	4.10	1.06	2.32	10	0	21.3	26	13.6	NE	52	NW	26	6	4	18	7.1	
NEW YORK U	10	1016.5		44	30	36.7	4.2	65	24	- 2	2	0	14	24	43	3.96	0.70	2.62	9	0	18.2	24	9.4		47	NE	4	6	8	14	6.6	50
ROCHESTER	543	999.7	1019.8	36	19	27.5	3.5	60	24	-16	2	0	23	21	81	3.21	0.79	1.86	11	0	18.8	15	12.2	WSW	50	NE	26+	2	8	18	7.9	44
SCHENECTADY	217			35	17	26.1	4.2	56	24	-16	3	0	21			2.33	0.11	0.95	9	0	11.0	20						16	8	4	3.6	
SYRACUSE	424	996.6	1019.8	36	16	25.9	0.8	59	24	-19	2	0	23	19	74	4.14	1.62	1.99	12	0	25.8	32	10.3	WSW	36	NW	26+	6	7	15	6.9	39
NORTH CAROLINA																																
ASHEVILLE U	2203	904.2		54	34	44.1	3.3	70	16	15	5	0	14			5.18	2.33	1.72	11	1	3.0	2	8.9		41	NW	25	9	4	15	6.4	45
CAPE HATTERAS R	7	1018.1	1018.9	57	41	49.1	1.5	71	18	31	12+	0	2	43	82	3.02	-0.99	1.50	9	0	0.0	0	14.6	NNE	56	SW	26	7	2	19	7.2	59
CHARLOTTE	725	990.8	1019.7	57	36	46.4	2.0	73	14	21	3	0	9	34	67	6.68	3.13	2.88	10	1	0.8	1	7.6	NE	49	SW	25	6	3	19	7.0	44
GREENSBORO	891	986.3	1020.3	54	32	43.2	2.2	71	27	15	3	0	15	34	74	3.43	0.30	0.75	12	1	1.8	1	8.9	ENE	43	SW	25	7	4	17	6.9	54
RALEIGH	433	1006.0	1019.8	56	34	44.9	1.8	73	18	18	3	0	12	34	70	5.75	2.48	1.60	13	1	1.5	1	8.8	SSW	35*	S	25	6	5	17	6.8	50
WILMINGTON	30	1016.5	1019.6	62	40	51.0	2.3	76	18	26	6	0	7	42	78	2.99	-0.31	0.82	10	0	T	T	10.7	SW	45	S	25	7	3	18	6.8	51
WINSTON SALEM	967	983.5	1019.7	53	34	43.4	2.2	71	27+	15	3	0	12	31	66	4.23	0.84	0.94	11	0	1.7	1	9.9	NE	75*	SSW	25	7	3	18	7.0	
NORTH DAKOTA																																
BISMARCK	1647	956.0	1019.3	30	8	19.0	6.3	59	21	-21	2	0	28	11	71	0.56	0.13	0.32	7	0	7.7	5	10.1	WNW	40	NW	25	1	9	18	7.6	59
DEVILS LAKE U	1471	962.4		25	6	15.5	6.8	45	21	-15	2	0	28		79	0.62	0.21	0.21	11	0	6.8	10	8.6	NW#	29	NW	26	8	8	12	6.1	69
FARGO	900	983.1	1020.0	27	10	18.7	7.9	46	22	-12	2	0	28	14	80	0.18	-0.48	0.08	6	0	2.3	3	15.1	S	45	NW	26	6	8	14	6.9	56
WILLISTON U	1877	947.2	1017.6	34	11	22.4	8.9	57	21	-10	2	0	27	15	73	1.25	0.79	0.71	6	0	11.5	7	6.1	S#	26	N	25+	1	11	16	7.4	61
OHIO																																
AKRON	1210	979.8	1019.1	41	24	32.7	4.6	68	24	- 7	2	0	24	26	78	2.94	0.81	1.57	13	0	13.4	9	10.7	NE				2	4	22	8.4	
CINCINNATI OBS	761			47	31	39.1	4.3	72	24	9	2	0	18			4.07	1.52	2.00	9	1	10.7	5	7.3	S	29	W	25					34
CINCINNATI	869	985.8	1018.6	47	30	38.7	4.8	70	24	9	2	0	17	29	73	3.56	1.01	1.55	10	0	13.3	5	10.1	NE	31	NW	25	3	4	21	8.6	
CLEVELAND	787	990.0	1019.0	40	23	31.6	3.0	69	24	- 4	2	0	24	25	80	3.23	1.11	1.42	12	2	6.8	6	10.7	S	43	NW	25	1	6	21	8.4	44
COLUMBUS	815	988.1	1019.1	45	29	36.9	5.7	72	24	3	2	0	23	28	73	2.90	0.63	1.18	9	1	13.1	6	8.3	NE	35	S	25	2	5	21	8.3	43
COLUMBUS U	724			45	30	37.6	5.0	69	24	2	2	0	18			2.93	0.78	1.45	11	1	12.7	6										
DAYTON	1002	981.5	1019.0	43	28	35.8	4.4	67	24	4	2	0	21	28	76	3.99	1.88	1.86	10	1	9.0	6	12.0	ENE	59	NW	25	1	4	23	8.6	26
MANSFIELD	1296			41	25	33.1		67	24	- 6	2	0	23			4.28		2.79	12	1	8.8	6						1	3	24	8.4	
SANDUSKY U	603	996.5		41	25	32.8	3.4	68	24	0	2	0	23			3.59	1.67	1.55	9	1	4.5	5	8.8		54	NW	25	1	12	15	7.1	49
TOLEDO	676	993.2	1019.6	41	22	31.2	3.9	59	18	3	2	0	26	25	78	2.64	0.78	0.87	8	2	3.3	3	9.7	ENE	31	N	25	1	6	21	8.3	46
YOUNGSTOWN	1178	974.8	1018.9	40	24	31.8	3.6	67	24	-11	2	0	25	25	78	2.84	0.12	1.14	12	0	9.2	7	10.0	SE	31*	NW	26	1	7	20	8.4	
OKLAHOMA																																
OKLAHOMA CITY	1280	973.9	1018.5	53	32	42.7	0.9	78	11	18	3	0	16	32	70	1.98	0.74	0.88	9	1	7.2	5	12.8	NNE	34	N	17	8	4	16	6.5	53
TULSA	672	992.9	1018.1	53	33	42.7	0.7	77	12	14	3	0	15	35	79	2.86	1.29	1.37	8	1	5.2	5	10.0	N	27	S	17	6	7	15	6.9	45
OREGON																																
ASTORIA	8	1016.9	1017.2	52	41	46.6	3.5	60	5	31	26	0	1	43	88	21.89	12.45	2.86	28	0	T	0	9.8	SW	28*	SSW	21+	0	1	27	9.8	
BURNS U	4151	875.0	1020.9	46	27	36.1	4.9	57	10	20	26+	0	26	28	75	1.22	-0.01	0.35	14	0	4.9	2						1	4	23	8.7	
EUGENE	361	1006.8	1020.7	54	40	46.7	4.0	63	1	30	26	0	2			11.58	6.74	4.17	23	0	0.0	0	11.3		54*	SSW	24	0	3	25	9.3	
MEACHAM	4050			39	30	34.4	5.4	48	10	24	26	0	21			6.44	2.38	1.04	26	0	30.0	11						1	0	27	9.3	
MEDFORD	1298	973.9	1022.7	53	36	44.8	2.2	63	24	29	18	0	7	39	82	2.74	0.72	0.60	16	0	T	0	4.9	WNW	36*	SSW	24	0	1	27	9.3	
PENDLETON	1482	964.1	1018.5	53	38	45.5	8.9	65	9	32	26+	0	2	36	70	2.46	1.06	0.47	21	0	T	T	10.6	W	48*	W	24	1	3	24	9.0	
PORTLAND	21	1013.2	1018.8	53	42	47.2	5.7	60	9	35	26+	0	0	41	80	8.92	4.77	1.91	26	0	T	0	9.6	ESE	42	SE	11	0	0	28	9.9	7
ROSEBURG	505	1002.4	1021.3	56	39	47.6	4.5	65	1	31	26	0	3			8.92	5.16	4.25	20	0	0.0	0	4.8	S#	38	SW	24	0	3	25	9.5	26
SALEM	195	1012.5	1019.8	53	40	46.1	3.3	61	5	30	26	0	1	43	88	10.82	5.50	2.97	26	0	0.0	0	11.2	S	32*	S	11	0	1	27	9.4	
SEXTON SUMMIT R	3836	885.9	1021.7	42	32	37.0	0.6	56	5	24	26+	0	17			10.34	6.75	3.96	19	0	13.4	4	14.8	S				0	2	26	9.6	
PACIFIC AREA																																
CANTON ISLAND	8	1007.8	1008.2	89	79	83.7	0.7	90	20+	77	26+	8	0	72	74	0.30	-0.24	0.18	5	0	0.0	0	15.7	E	25*	E	15	2	6	20	8.3	
ENIWETOK	13	1009.1	1009.8	86	79	82.3		87	26+	75	9	0	0	73	74	0.40		0.16	8	0	0.0	0	20.8									

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F		F.				F.	%	In.	In.	In.			In.	In.	M p.h		M p.h.							%
PACIFIC AREA																																
JOHNSTON	7	1013.9	1014.5	83	74	78.2		84	28+	67	10	0	0	69	74	1.10		0.38	10	1	0.0	0	15.8		38	NE	10	10	16	2	4.2	66
KOROR R	94	1005.8	1009.6	87	76	81.1	0.7	89	27+	73	11	0	0	76	85	10.13	2.12	1.73	24	3	0.0	0	7.1	ENE	25	NE	11	0	1	27	9.8	60
KWAJALEIN	8	1008.8	1009.7	87	77	82.1		88	28+	74	15+	0	0	74	77	1.95		0.43	16	0	0.0	0	20.5	ENE	35*	ESE	12	6	16	6	5.5	
MAJURO	10	1008.8	1009.1	86	78	81.8		87	28+	75	9+	0	0	75	79	6.50		1.76	22	1	0.0	0	15.7	E	33	E	12	4	7	17	7.3	
PONAPE R	123	1003.4	1008.7	86	76	80.9	- 1.0	88	28	72	23+	0	0	76	85	17.86	9.99	6.90	25	5	0.0	0	7.7	NE	22	SE	19	1	3	24	9.3	49
TAGUAC GUAM R	361			84	74	79.1	1.7	86	8	69	10	0	0			2.74	-0.06	0.96	15	0	0.0	0	8.3	NE*	22	NE	19					59
TRUK MOEN ISLAND	5	1008.8	1009.1	86	78	81.7	0.7	89	1	74	20+	0	0	75	79	7.62	0.52	1.73	16	1	0.0	0	8.1	NE	20	NE	20	0	2	26	9.5	33
WAKE ISLAND	11	1014.6	1015.0	84	74	79.1	1.8	86	27+	69	2	0	0	70	75	0.56	-0.95	0.43	4	0	0.0	0	12.3	ENE	25*	ENE	8	19	5	4	3.4	
YAP R	55	1007.5	1009.5	86	77	81.4	0.7	89	3	73	1	0	0	76	82	5.66	0.73	2.35	19	0	0.0	0	9.7	NE	33	SE	1	0	1	27	9.8	35
PENNSYLVANIA																																
ALLENTOWN	376	1005.0	1019.9	39	22	30.6	2.0	64	24	- 7	2	0	22	23	75	3.17	0.53	1.60	11	0	18.8	22	9.5	NE	36*	S	25	5	8	15	7.1	
ERIE	732	991.7	1019.0	37	22	29.4	2.9	62	24	- 6	2	0	24	24	80	4.03	1.96	2.16	13	1	13.6	9	11.2	NE	35*	SW	19+	3	5	20	8.0	
HARRISBURG	335	1005.3	1019.9	41	26	33.6	1.5	67	24	- 1	2	0	19	24	71	3.07	0.83	1.30	13	0	18.7	22	6.8	WNW	37	NW	26	2	6	20	8.0	40
PHILADELPHIA	7	1014.4	1019.2	42	26	34.0	0.4	67	24	- 4	2	0	18	25	70	3.13	0.11	1.55	12	0	11.8	15	8.9	N	38	NW	26	2	8	18	8.1	36
PHILADELPHIA U	35			45	32	38.5	3.4	69	24	0	2	0	12																			
PITTSBURGH	1151	988.0	1019.4	41	24	32.3	2.5	66	24	- 7	2	0	24	25	75	3.13	0.76	1.01	13	0	22.5	16	9.3	ENE	37*	SSW	25	2	2	24	8.8	29
PITTSBURGH U	749			44	29	36.7	3.1	70	24	- 3	2	0	17			3.35	1.00	0.96	11		19.6											17
READING U	266	1007.6		43	27	34.9	2.1	68	24	- 1	2	0	14			2.80	0.12	1.40	11	0	20.4	27	10.0		50	E	3	3	6	19	7.7	49
SCRANTON	940	984.2	1020.0	37	20	28.9	1.8	60	24	-11	2	0	21	20	71	1.92	-0.10	1.09	10	0	16.9	26	8.8	SW	38	W	26	5	6	17	7.1	54
WILLIAMSPORT	527	1000.4		40	20	30.0	0.9	59	25	-10	2	0	23			3.17	0.83	1.53	13	0	19.6	21						5	7	16	7.0	
RHODE ISLAND																																
BLOCK ISLAND	110	1013.1		37	27	31.9	1.0	53	24	- 2	2	0	17			3.68	0.43	1.69	10	0	16.9	12						6	8	14	6.6	
PROVIDENCE	55	1012.0	1018.4	40	22	30.6	2.0	60	19	- 6	2	0	21	21	68	4.68	1.84	2.50	10	0	18.7	30	10.3	N	38*	NNE	4	6	7	15	6.4	57
SOUTH CAROLINA																																
CHARLESTON	41	1017.8	1019.9	64	41	52.6	0.7	79	15	25	6	0	8	44	79	4.15	1.02	1.44	10	1	0.0	T	10.1	SSW	51	S	25	4	7	17	7.4	50
CHARLESTON U	9			61	45	53.1	0.4	75	15	30	4	0	3			4.73	1.66	1.39	9		0.0	T	10.9		42	SW	25					
COLUMBIA	217	1006.7	1019.9	62	38	50.1	1.6	78	28	21	6	0	9	40	74	8.68	5.05	3.06	11	4	0.9	1	7.3	WSW	40*	SW	25	6	5	17	6.9	46
FLORENCE	146	1013.4	1019.2	62	39	50.4	2.8	77	28+	23	4	0	8	39	71	3.55	0.25	1.02	11	1	0.2	T	9.2	SW	29*	SW	25	6	7	15	6.7	
GREENVILLE	1018	981.5	1019.6	58	37	47.7	2.4	77	28	21	3	0	10	35	67	8.34	4.08	3.80	12	2	1.0	1	8.6	NE	36	SW	25	7	4	17	6.7	50
SPARTANBURG	801	988.7	1019.4	57	36	46.7	1.3	74	16	19	3	0	11	36	72	7.71	3.48	3.33	11	1	1.2	1	7.4	SW	44*	SW	25	7	3	18	6.9	
SOUTH DAKOTA																																
HURON	1282	970.5	1020.0	29	10	19.4	1.8	48	22	-17	2	0	28	16	85	0.41	-0.08	0.37	4	0	5.7	8	11.7	SSE	35	NW	23	7	8	13	6.3	79
RAPID CITY	3165	900.4	1017.6	46	20	33.2	9.3	71	10	5	18	0	25	19	61	0.22	-0.10	0.12	4	0	2.2	2	9.3	NNW	43	N	22	6	9	13	6.3	55
SIOUX FALLS	1420	966.1	1019.7	34	13	23.6	4.1	51	28	-13	3	0	28	15	70	0.92	0.18	0.70	5	0	11.6	8	8.6	NW	28*	NW	26+	8	4	16	6.6	
TENNESSEE																																
BRISTOL	1519	963.0	1018.7	54	33	43.9	3.8	72	13	15	5	0	14	35	75	6.04	2.63	1.78	13	1	7.4	3	6.5	NE	46*	SW	25	4	7	17	7.4	
CHATTANOOGA	670	990.7	1019.0	57	37	47.4	3.4	73	12	19	4	0	11	39	77	9.27	4.16	2.99	14	3	T	0	7.2	S	36	W	25	7	4	17	7.0	46
KNOXVILLE	950	982.7	1018.9	57	37	46.7	4.2	73	13	20	4	0	11	38	74	7.82	3.09	2.28	13	3	3.4	1	9.0	NE	60	SW	25	7	3	18	6.9	40
MEMPHIS	263	1003.2	1018.1	57	37	47.2	2.7	77	18	19	4	0	12	38	74	6.89	2.30	2.48	13	2	0.2	T	10.5	SSW	26	NW	25+	4	5	19	7.6	46
MEMPHIS U	271			56	40	47.9	3.4	74	16	21	4	0	8			7.26	3.04	2.18	13													
NASHVILLE	577	997.6	1018.1	58	36	46.9	4.6	75	12	13	4	0	10	37	74	5.33	1.17	1.23	11	1	1.6	1	8.4	S	32	W	25	7	5	16	6.8	43
OAK RIDGE	905	984.5		57	36	46.5	5.5	72	12	18	4	0	12			7.88	2.09	2.55	12	1	1.7	T	4.4		42Y		25	8	4	16	6.6	
TEXAS																																
ABILENE	1759	955.0	1017.2	60	36	48.0	- 0.1	80	26+	22	7	0	12	35	65	1.52	0.61	1.05	6	2	4.7	4	10.1	SSW	30	S	17	10	7	11	5.6	65
AMARILLO	3590	888.6	1017.0	53	26	39.3	- 0.3	79	12	14	5	0	23	23	60	0.27	-0.35	0.19	3	0	3.1	2	16.0	W	35	NE	26	7	11	10	5.6	72
AUSTIN	615	995.3	1017.5	66	44	54.8	0.7	80	17	30	8+	0	2	44	71	4.85	2.29	2.24	7	2	T	0	10.8	S	29	NW	24+	11	5	12	5.1	60
BROWNSVILLE	16	1014.6	1017.5	72	53	62.3	- 1.6	81	17	37	7	0	0	55	80	0.30	-0.88	0.11	7	0	0.0	0	12.0	SSE	38	NW	24	7	6	15	6.4	51
CORPUS CHRISTI	43	1016.3	1017.8	69	50	59.5	- 0.8	83	27	33	7	0	0	52	78	2.08	0.64	0.89	7	2	0.0	0	11.7	SE	45	NW	24	8	5	15	6.3	55
DALLAS	481	998.6	1017.9	62	41	51.4	1.6	80	12	28	9	0	7	40	70	3.21	0.59	1.10	10	1	2.9	3	11.3	S	34	NW	24	9	5	14	6.1	53
DEL RIO U	957			68	44	56.1	- 1.0	82	18	29	7	0	1			0.54	-0.53	0.53	2	1	T	0										
EL PASO	3918	886.6	1016.4	63	33	47.9	- 1.2	76	26	23	25	0	15	21	38	T	-0.36	T	0	0	0.0	0	11.8	S	50	W	26	17	7	4	3.3	91
FORT WORTH	544	997.0	1018.1	61	40	50.3	0.5	80	23	28	8	0	9	41	75	2.20	-0.37	0.78	8	1	2.9	3	12.6	SSW	27*	NW	27+	10	4	14	5.9	
GALVESTON U	7			62	51	56.5	- 0.9	71	18	37	8+	0	0			1.84	-1.04	1.12	9		0.0	0	13.0		44	NW	24					60
GALVESTON	5	1015.9	1018.5	61	50	55.6	- 1.7	70	18	36	8	0	0	49	80	2.48	-0.66	1.39	9	3	0.0	0	10.8	S				8	4	16	6.5	

See footnotes at end of table

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
TEXAS	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
HOUSTON U	41	1012.5		66	49	57.8	0.1	81	18	36	8	0	0			6.46	3.65	2.85	10	7	0.0	0	10.2	S#	36	NW	24	9	5	14	6.2	54
HOUSTON	50	1015.6	1018.7	68	48	57.9	1.3	82	18	31	8	0	1	51	81	3.88	1.18	1.68	12	5	0.0	0	9.3	S				9	4	15	6.5	
LAREDO	500	1001.7	1017.0	74	48	60.9	- 1.0	87	17	30	7	0	1	44	61	0.36	-0.49	0.23	3	2	0.0	0	11.0	SE	44*	NNW	24	12	6	10	4.9	
LUBBOCK	3243	903.5	1017.8	55	28	41.5	- 1.6	80	11	19	6	0	21	29	67	2.51	1.98	2.15	5	0	13.7	12	13.9	N	37*	SW	17	9	8	11	5.4	
MIDLAND	2854	915.7	1016.0	62	33	47.9	- 1.1	82	12	14	7	0	15	29	57	0.43	-0.28	0.22	2	0	2.2	2	11.2	SSW	32*	N	24+	11	5	12	5.2	
PORT ARTHUR	16	1016.3	1018.0	68	46	56.7	0.7	78	18	31	8	0	1	50	81	4.36	0.17	1.25	11	4	0.0	0	10.6	S	42	NW	24	7	6	15	6.5	44
SAN ANGELO	1903	948.9	1017.0	64	36	50.2	- 1.5	83	12	14	7	0	10	35	61	0.76	-0.23	0.40	5	0	4.7	4	12.6	W	35*	N	23+	11	7	10	5.0	
SAN ANTONIO	792	992.2	1017.6	68	43	55.9	0.8	82	18	30	8+	0	3	44	69	1.79	0.21	1.64	7	1	T	0	10.8	N	40	NW	24	11	6	11	5.1	60
VICTORIA	110	1012.9	1017.6	68	47	57.4	- 1.5	82	18	31	7	0	2	49	73	2.73	0.76	1.45	7	2	0.0	0	13.9	SSE	51Y	NNW	24	8	7	13	6.1	
WACO	500	996.6	1018.0	64	42	53.2	1.5	79	23	29	8	0	2	44	75	3.86	1.23	2.11	8	2	0.3	T	15.0	S	40*	NNW	24	11	8	9	5.4	
WICHITA FALLS	994	980.0	1017.6	57	35	46.0	0.2	83	12	24	8+	0	11	35	68	1.03	-0.46	0.45	6	1	5.7	5	11.5	N	29*	N	27	9	6	13	6.1	
UTAH																																
MILFORD	5028	846.6	1021.0	48	23	35.9	5.0	63	11	9	27	0	26			0.28	-0.43	0.26	3	0	1.7	1						1	16	11	7.0	
SALT LAKE CITY	4220	870.6	1022.0	48	28	38.1	4.7	65	11	12	26	0	20	29	74	2.06	0.83	0.69	11	1	16.0	6	8.8	S	29	S	11	4	4	20	8.0	42
WENDOVER	4237	874.0	1022.7	48	28	37.7		66	11	18	27	0	24			0.25		0.08	9	0	0.4	T						3	8	17	7.3	
VERMONT																																
BURLINGTON	331	1003.6	1019.2	29	8	18.6	0.5	46	25+	-20	1	0	28	11	71	1.65	0.12	1.12	6	0	2.4	5	7.7	SSW	33	W	19	9	6	13	6.1	59
VIRGINIA																																
LYNCHBURG	947	985.4		49	31	40.4	1.2	73	24	11	3	0	14			5.23	2.75	1.30	11	1	8.1	5	8.6		50	S	25	7	3	18	7.3	43
NORFOLK	26	1018.5	1020.0	53	34	43.6	1.6	78	19	15	2	0	15	37	80	4.56	1.50	1.70	9	0	1.2	1	12.2	SW	45	SW	25	8	3	17	6.7	51
RICHMOND	162	1013.7	1020.3	53	32	42.2	2.5	78	19	13	2	0	17	31	68	5.39	2.63	1.52	10	1	5.0	2	8.3	NNE	38	SW	25	6	4	18	7.3	39
ROANOKE	1174	976.3	1019.6	50	32	41.1	1.9	72	27	15	6+	0	13	29	67	4.50	1.94	1.44	12	0	20.7	13	9.7	SE				6	4	18	7.3	
WASHINGTON U	72			48	32	39.7	2.2	72	27	6	2	0	12			5.04	2.40	1.21	11													
WASH NATL AP	14	1015.1	1019.7	46	31	38.3	1.2	70	27+	4	2	0	13	30	74	5.71	3.27	1.63	12	1	18.0	13	9.5	S	57	SW	25	5	6	17	7.5	36
WASHINGTON																																
OLYMPIA	190	1009.8	1017.0	50	38	44.1	4.1	62	5	29	18	0	2	41	87	13.18	7.02	2.26	27	0	0.2	T	9.7	SW	28*	SW	18+	0	1	27	9.6	
SEATTLE TACOMA	400	1003.1	1017.1	49	40	44.4	3.5	57	5	34	26+	0	0	39	81	9.11	5.16	1.55	26	0	T	0	11.2	S	46*	SSW	21	0	1	27	9.5	
SEATTLE	14	1015.4	1016.4											40	78								9.5	SSE								
SEATTLE U	14			51	43	46.9	3.4	56	9+	37	24	0	0			7.75	4.01	1.52	26		T	0			41	SW	9					25
SPOKANE	2357	947.5	1017.5	42	32	37.0	7.3	52	20	22	26	0	17	32	83	3.94	2.48	0.96	20	0	7.8	1	10.9	SSW	36	SW	11	0	2	26	9.6	23
STAMPEDE PASS R	3958	877.1	1017.9	33	26	29.7	2.7	40	20	21	26	0	26			20.78	9.71	2.44	28	0	154.7	132						0	1	27	9.8	
TATOOSH ISLAND	121	1011.2	1014.0	49	40	44.4	1.2	57	5	30	25	0	1	41	85	21.16	12.46	2.70	27	0	T	0	20.4	SSE	72	S	23	0	1	27	9.5	16
WALLA WALLA U	949	981.7	1018.0	54	40	47.1	8.8	65	9	35	26	0	0			3.01	1.48	0.87	21	0	0.0	0	6.9	S#	47	W	24	1	4	23	9.1	34
YAKIMA	1061	978.3	1017.9	50	31	40.7	6.5	62	20	22	26	0	18	32	74	2.46	1.65	0.87	11	0	T	0	7.5	WNW	46*	SW	24	0	5	23	9.0	
WEST INDIES																																
SAN JUAN P.R. U	47			81	71	76.0	1.1	84	10+	68	26+	0	0			1.86	-0.81	0.63	12													
SAN JUAN P.R.	15	1015.5	1018.6	84	68	75.6	1.5	85	23+	63	11	0	0	67	75	1.31	-1.84	0.66	12	0	0.0	0	11.8	E	29	ENE	27	13	12	3	4.4	75
SWAN ISLAND	33	1013.5		84	75	79.3	1.1	85	26+	66	11	0	0			7.44	5.79	3.10	14	2	0.0	0						16	9	3	4.0	
WEST VIRGINIA																																
CHARLESTON	950	982.5	1018.8	4[illegible]	31	40.0	1.8	71	24	13	6	0	18	30	71	3.63	0.13	0.94	14	1	6.5	2	6.9	WSW	35*	W	25	3	4	21	8.4	
HUNTINGTON U	567			52	32	42.0	3.0	74	13	15	2	0	15			3.50	0.44	1.00	13		4.8	2										
PARKERSBURG U	615			49	31	39.9	4.4	73	24+	5	2	0	19			3.64	0.99	1.37	12	4	11.5	7	6.3		30	W	26+	2	4	22	8.4	28
WISCONSIN																																
GREEN BAY	689	996.3	1019.9	33	18	25.2	7.9	47	22	- 6	1	0	27	20	81	0.93	-0.43	0.38	6	0	3.8	2	11.3	NE	40	NE	18	7	6	15	6.5	44
LA CROSSE	652	994.2	1020.1	37	18	27.7	8.4	52	11	- 4	4	0	27	20	74	1.31	0.20	0.90	3	0	4.5	4	8.3	S	25*	NW	26	7	6	15	6.4	
MADISON	857	982.4	1019.3	39	18	28.3	6.4	50	22+	2	5	0	26	19	69	1.01	-0.12	0.51	7	0	0.4	T	9.6	W	26	NE	2	4	6	18	7.3	58
MILWAUKEE	670	993.9	1020.0	38	22	29.8	5.6	51	21	6	5	0	26	22	74	1.22	-0.05	0.71	7	0	2.4	2	10.5	WNW	28	W	19+	5	5	18	7.4	42
WYOMING																																
CASPER	5319	835.8	1017.1	41	21	31.4	5.5	55	11	8	5	0	26	20	66	0.51	-0.21	0.20	6	0	7.7	3	16.0	SW	38*	SW	25	4	8	16	7.0	
CHEYENNE	6131	809.3	1017.2	44	20	31.8	4.1	66	11	3	18	0	26	14	50	0.37	-0.28	0.28	6	0	3.8	2	15.9	WNW	54	W	12+	5	10	13	6.2	69
LANDER	5563	834.1	1018.3	40	18	29.2	6.3	56	10	3	6	0	28	17	62	1.19	0.58	0.42	5	0	21.1	7	6.1	SW#	43	SW	25	3	12	13	6.9	70
SHERIDAN	3942	883.2	1017.5	45	23	34.1	10.9	63	10	10	18	0	27	24	68	0.98	0.37	0.50	9	0	8.8	4	9.3	NW	57	NW	25	2	9	17	7.5	66

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

A Maximum hourly average.
\+ And also on an earlier date or dates.
B Number of days maximum 70°F. or above for Alaskan Stations.
\# Wind direction to 8 compass points only.
Y Peak Gust.

CLIMATOLOGICAL DATA

METRIC UNITS

FEBRUARY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days: Partly cloudy, 4-7	No. of days: Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	186	993.4	1019.1	16.7	5.6	11.2	2.4	23.9	15	- 6.7	4	0	6	7.2	79	449	318	167	13	5	T	0	3.7	SSW	16.1	SE	28+	6	3	19	7.4	41
HUNTSVILLE	184	995.2	1019.0	16.1	4.4	10.0		24.4	16	- 7.8	4	0	8	5.0	75	232		76	13	3	15	0	3.8	SE	12.1*	E	7	6	5	17	7.0	
MOBILE	64	1017.3	1019.3	20.0	8.9	14.4	1.6	26.1	28	- 1.1	4	0	2	10.0	78	168	46	56	12	4	0	0	5.4	S	17.9*	SSW	24	6	7	15	6.6	
MONTGOMERY	59	1011.0	1019.5	18.3	6.7	12.4	1.6	25.0	16	- 3.3	4	0	5	7.8	77	340	220	143	13	8	0	0	4.2	W	17.9	W	25	6	3	19	7.3	41
ALASKA																																
ANCHORAGE	27	993.6	998.5	- 4.4	-11.1	- 7.8	-0.4	3.3	5	-17.8	18+	B 0	28	-12.2	70	12	- 3	5	9	0	244	152	3.2	NNE	8.9*	NNE	28	3	2	23	8.4	29
ANNETTE	34	1001.0	1005.0	5.6	1.1	3.2	0.9	9.4	5	- 6.1	14	0	10	0.6	81	351	172	64	24	0	251	76	5.8	ESE	17.4*	SSE	26	2	3	23	8.8	
BARROW	7	1022.4	1023.1	-29.4	-35.6	-32.7	-5.0	-16.1	1	-41.7	4	0	28	-38.9	53	2	- 2	2	3	0	18	356	3.3	E	11.2*	NE	5	18	3	7	3.6	
BARTER ISLAND	12	1019.6	1021.5	-28.9	-35.6	-32.3	-4.5	-19.4	1	-41.7	27	0	28	-38.9	54	2	- 7	2	3	0	79	254	5.0	W	12.5*	W	16	12	7	9	4.9	
BETHEL	38	1004.1	1005.4	-17.8	-23.9	-20.6	-7.9	- 8.9	18	-30.6	10	0	28	-26.1	62	5	- 16	3	3	0	61	152	7.2	NNE	14.3*	NNE	13	15	7	6	3.7	
COLD BAY	27	997.0	1001.5	- 2.2	- 7.8	- 4.8	-2.8	3.9	19	-16.1	11	0	27	- 7.8	79	41	- 29	8	17	0	340	127	7.8	NNW	19.7*	SE	17	1	3	24	9.0	
CORDOVA	12	995.3	997.0	2.8	- 6.1	- 1.7	1.6	6.7	4	-15.6	21	0	26	- 3.9	86	102	- 32	31	20	0	856	356	2.2	E	11.2*	ESE	4	2	4	22	8.7	
FAIRBANKS	133	989.5	1007.8	-13.9	-26.7	-20.2	-0.7	- 6.1	4	-35.6	2	0	28	-26.7	57	4	- 9	3	5	0	180	356	2.5	NNE	7.6*	NNE	13+	9	7	12	5.4	
JUNEAU	5	1002.0	1002.6	2.2	- 2.2	- 0.3	2.3	8.3	5	- 8.3	14+	0	20	- 3.3	80	103	18	18	19	0	658	229	4.8	ESE	16.5*	ESE	5	0	2	26	9.6	23
KING SALMON	13	998.3	1000.3	-10.6	-20.0	-15.3	-7.6	3.3	19	-28.3	24	0	28	-20.0	68	13	- 16	5	7	0	196	203	3.8	N	11.2*	NW	28+	9	6	13	5.7	
KOTZEBUE	3	1013.9	1014.3	-21.1	-28.9	-24.9	-4.6	-12.2	20	-36.1	25	0	28	-28.9	72	2	- 6	1	4	0	30	254	2.7	ENE	14.8*	E	20	21	2	5	2.5	
MC GRATH	102	992.9	1006.6	-15.0	-26.7	-20.8	-3.2	- 9.4	6	-37.2	25	0	28	-27.2	60	3	- 26	1	8	0	170	305	2.8	N	8.9*	NNE	14	14	5	9	4.7	
NOME	4	1011.2	1011.4	-14.4	-23.3	-19.1	-4.5	- 6.7	20	-30.0	28	0	28	-25.6	59	T	- 24	T	0	0	3	279	3.5	NE	17.0*	ENE	19+	23	3	2	1.6	86
ST. PAUL ISLAND	7	1004.4	1005.4	- 5.0	-11.1	- 7.8	-3.3	2.2	18+	-19.4	28	0	28	-10.0	83	10	- 19	2	12	0	79	25						2	5	21	8.2	
SHEMYA	37	996.6	1000.3	1.1	- 1.7	- 0.2		3.3	14+	- 5.6	27	0	25	- 1.7	89	41		10	17	0	483	203	8.3	SE	20.6*	SW	9+	0	6	22	8.5	
YAKUTAT	9	998.0	999.1	2.2	- 3.9	- 0.9	1.3	6.7	4	-13.3	2	0	22	- 2.2	89	254	35	53	22	0	2022	1372	3.8	E	19.2*	SE	4	1	0	27	9.5	
ARIZONA																																
FLAGSTAFF	2131			8.3	- 6.7	1.0	2.8	16.7	10	-13.3	6	0	28			3	- 41	3	3	0	81	102						11	9	8	4.8	
PHOENIX	338	977.3	1017.2	21.7	4.4	13.1	0.7	26.7	11	0.6	28+	0	0	- 3.9	33	T	- 20	0	1	0	0	0	2.5	SE	10.7*	N	23	18	8	2	3.0	92
PRESCOTT	1528	848.0	1018.6	14.4	- 2.8	5.9	1.8	20.6	11+	- 8.3	24	0	25	- 7.8	41	1	- 33	1	1	0	T	0	3.5	SSW	17.4	SW	22	13	8	7	4.4	81
TUCSON	788	927.2	1016.5	19.4	3.9	11.7	-0.1	26.7	11	0.0	5	0	1	- 5.0	35	T	- 23	0	1	0	0	0	3.6	SE	14.8	NW	23	19	5	4	2.7	91
WINSLOW	1487	852.7	1018.7	13.9	- 3.9	5.0	0.7	23.9	11	-10.6	27	0	26	- 7.8	46	10	- 2	5	3	0	89	51	4.7	SW	15.6*	SW	12	12	8	8	4.6	
YUMA	61	1012.9	1018.3	25.0	8.9	16.9	1.3	29.4	22+	4.4	25	0	0	- 4.4	26	T	- 7	T	0	0	0	0	4.1	N	15.2	N	19	18	8	2	2.6	95
ARKANSAS																																
FORT SMITH	137	1001.0	1018.3	13.3	2.2	7.7	0.7	27.2	12	- 5.0	4	0	14	2.8	75	55	- 22	19	12	1	165	51	3.5	ENE	11.2	W	18	4	7	17	7.4	41
LITTLE ROCK	78	1005.1	1018.3	13.9	3.3	8.7	1.2	26.1	26	- 7.8	4	0	9	3.9	75	93	- 10	24	12	3	T	0	4.2	NE	14.8	W	25	6	5	17	7.3	33
TEXARKANA	110		1017.6	15.6	5.0	10.4	0.7	25.6	12	- 2.8	4	0	5	5.6	77	103	- 1	75	11	3	T	0	3.6	SSE								
CALIFORNIA																																
BAKERSFIELD	151	1004.7	1023.4	18.9	5.6	12.3	0.9	26.1	10	2.2	20	0	0	5.6	66	3	- 25	2	2	0	0	0	2.5	NNW	9.4*	NW	15+	8	9	11	5.8	
BISHOP	1252	877.4	1020.0	16.7	- 2.2	7.0	1.8	22.8	21	- 7.8	19	0	22			T	- 23	T	0	0	0	0						11	5	12	5.5	
BLUE CANYON	1609	841.9	1021.3	8.3	0.0	4.3	2.0	18.3	20	- 5.0	18	0	15			149	- 92	52	10	0	404	203	4.0	ENE	20.1	SSW	11	7	5	16	6.7	
BURBANK	213	992.9	1019.4	22.2	8.9	15.4	3.2	28.3	21	5.6	18	0	0	2.2	47	1	- 77	1	2	0	0	0	3.0	NW	14.8*	NW	22+	14	7	7	4.1	
EUREKA U	13	1021.0	1023.4	13.3	6.7	10.1	1.0	19.4	1	2.2	18	0	0			191	48	57	19	2	0	0	3.4	S#	13.0	SW	10	1	7	20	8.1	45
FRESNO	101	1010.2	1022.6	17.2	4.4	10.8	0.4	23.9	10	0.6	23	0	0	5.6	74	10	- 32	6	3	0	0	0	2.8	ESE	13.4	SE	2	8	8	12	6.0	76
LONG BEACH	10	1019.0	1020.2	21.1	7.2	14.1		27.2	22	3.3	19	0	0	4.4	59	T		T	0	0	0	0	2.6	W	17.4*	NW	22	10	10	8	4.6	
LOS ANGELES	30	1015.9	1019.7	20.0	8.9	14.4	2.1	26.1	22	6.7	27+	0	0	5.6	60	T	- 70	T	0	0	0	0	3.0	WSW	9.8*	N	23	13	6	9	4.5	
LOS ANGELES U	95			21.7	10.6	16.1	2.6	27.2	21	7.8	19	0	0	6.1	58	4	- 82	4	1	0	0	0	3.0	W#	17.9	NW	22	13	11	4	3.8	87
MT SHASTA R	1080	896.7	1023.0	8.9	0.0	4.4	1.7	16.7	21	- 6.1	23	0	18			117	- 16	50	13	0	76	25						1	10	17	8.0	
OAKLAND	1	1023.0	1023.5	16.7	7.2	11.7	1.3	20.0	20	2.8	19	0	0	6.7	73	22	- 64	7	9	0	0	0	3.5	WNW	13.0*	SSW	11	6	9	13	6.5	
POINT ARGUELLO	112	1007.5	1021.0	16.1	6.7	11.3		23.9	24	0.0	27	0	1			4		2	3	0	0	0	4.2		11.6*	NW	22	14	4	10	4.8	
RED BLUFF	104	1009.8	1022.7	15.6	6.1	11.0	1.1	21.7	28+	1.7	17	0	0	3.9	65	74	- 16	26	10	0	0	0	4.9	S	18.8	SE	10	4	8	16	7.4	66
SACRAMENTO	5	1021.7	1022.9	16.1	5.6	11.0	1.2	20.6	21	0.6	19	0	0	6.7	78	32	- 38	16	7	0	0	0	2.7	SE	13.0	NW	26	7	7	14	6.5	68
SANDBERG R	1377	865.6	1020.7	10.6	2.8	6.7	1.8	18.9	21+	- 1.7	19+	0	9			13	- 56	11	3	0	T	0	7.0	N	19.7*	N	27+	10	9	9	4.9	
SAN DIEGO	4	1015.9	1019.1	20.0	10.0	15.0	1.5	23.9	21+	7.2	19	0	0	6.7	60	2	- 56	1	2	0	0	0	2.6	WNW	9.8	NW	19	13	10	5	4.0	84
SAN FRANCISCO	2	1022.7	1023.5	15.6	7.8	11.8	1.3	19.4	24	3.9	19	0	0	7.8	77	30	- 57	20	7	0	0	0	4.1	WNW	16.1	S	11	7	8	13	6.1	
SAN FRANCISCO U	16			16.1	10.0	13.0	1.3	20.6	4	8.3	18+	0	0			24	- 75	8	8	0	0	0	3.0	W#	11.6	SE	11					75
SANTA MARIA	73	1013.2	1022.1	18.9	5.0	12.1	1.1	23.9	28+	1.1	27+	0	0	5.6	68	4	- 59	3	2	0	0	0	3.6	WNW	11.2*	WNW	22	15	6	7	4.0	
COLORADO																																
ALAMOSA	2297	769.4	1020.3	6.1	-13.3	- 3.8	1.2	13.3	11	-30.0	24	0	28			6	1	3	5	0	152	51						13	6	9	4.6	
COLORADO SPRINGS	1882	809.7	1020.2	8.3	- 7.2	0.5	0.6	20.0	11+	-14.4	9	0	27	- 8.9	56	17	8	10	7	0	224	102	4.7	N	13.9*	WSW	25+	12	7	9	5.3	
DENVER	1610	836.8	1018.2	8.9	- 5.6	1.8	1.8	21.1	11	-12.8	5	0	26	- 7.8	57	17	3	5	7	0	201	51	3.8	SSW	16.1	SW	12	12	5	11	5.3	73
GRAND JUNCTION	1478	861.2	1020.6	9.4	- 3.3	2.8	2.8	15.6	15+	- 8.9	6	0	25	- 8.9	45	5	- 11	3	3	0	30	25	3.8	ESE	17.4	W	12	6	7	15	6.8	87
PUEBLO	1414	856.4	1018.8	10.0	- 6.1	1.9	0.7	21.7	12+	-11.7	6	0	27	- 6.7	60	12	- 0	5	5	0	124	51	3.4	WNW	19.2	N	17	11	7	10	5.5	69

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
CONNECTICUT																																
BRIDGEPORT	2	1018.9	1019.7	4.4	- 3.9	0.0	1.7	15.6	24	-19.4	2	0	21	- 5.0	72	73	- 2	22	9	0	381	483	4.5	N	17.0	NE	4	6	7	15	6.9	
HARTFORD	52	1012.5	1018.8	3.9	- 8.9	- 2.6	-0.4	15.0	19	-29.4	2	0	22	- 7.8	69	87	22	38	9	0	378	737	3.4	N	18.3	N	4	6	8	14	6.4	59
NEW HAVEN	2	1018.6		4.4	- 4.4	- 0.2	1.4	13.9	24	-20.6	2	0	20			83	- 1	23	10	0	378	508	3.5		17.0	SE	25	5	7	16	7.0	61
DELAWARE																																
WILMINGTON	24	1015.7	1019.1	6.1	- 2.8	1.5	0.5	18.9	24	-20.0	2	0	18	- 2.8	76	95	19	29	12	0	338	330	4.2	NW	16.5	WNW	26	2	3	23	8.3	
FLORIDA																																
APALACHICOLA U	4	1017.6		17.8	11.1	14.5	0.7	21.1	28+	2.2	4	0	0			101	1	44	9	1	0	0	3.8		16.5	W	25	10	3	15	6.2	66
DAYTONA BEACH	9	1019.1	1021.0	22.2	9.4	15.8	0.0	30.0	28	2.2	11	0	0	11.1	77	94	33	42	8	4	0	0	3.9	SE	15.6*	SSW	25	8	6	14	6.1	
FORT MYERS	5	1019.4		25.6	13.9	19.7	1.1	31.1	21+	6.1	12	0	0			48	- 2	30	3	0	0	0	3.7		11.2*	S	7	8	11	9	5.3	
JACKSONVILLE	7	1019.4	1020.8	22.2	10.6	16.5	2.3	30.0	28+	1.1	4	0	0	10.0	73	123	56	46	9	1	0	0	4.9	WSW	18.8	SW	25	9	6	13	6.1	60
KEY WEST	2	1018.0	1019.4	24.4	19.4	22.1	0.1	28.3	24	14.4	10	0	0	17.8	78	36	- 6	18	6	1	0	0	5.6	SE	13.0	N	25+	9	11	8	5.3	69
LAKELAND U	65			23.3	12.8	18.2	0.7	30.0	24	6.7	11+	0	0			55	- 4	40	6	1	0	0	3.4					9	7	12	5.5	71
MIAMI BEACH	3			23.9	19.4	21.6	0.4	28.9	25	10.0	12+	0	0			15	- 29	7	4		0	0	4.2		13.9	W	25	9	13	6	5.2	72
MIAMI	2	1018.8	1020.1	25.0	17.2	20.9	0.5	30.6	25	8.9	12+	0	0	15.0	71	16	- 29	7	6	0	0	0	4.8	ESE	10.3*	ESE	6	6	14	8	5.8	
ORLANDO	32	1016.1	1020.9	24.4	11.7	18.2	0.8	31.1	28+	5.0	12+	0	0	12.2	74	72	20	33	5	3	0	0	3.7	SE	13.0*	WNW	25	9	6	13	5.5	
PENSACOLA U	4			18.9	11.1	14.8	1.4	25.6	28	0.6	4	0	0			196	96	88	14	3	0	0	5.2		13.4	W	25					44
TALLAHASSEE	20	1017.1	1020.1	20.0	8.9	14.4	1.3	25.0	20+	- 0.6	4	0	2	10.0	80	134	32	50	11	3	0	0	3.0	SSE	12.5*	W	25	5	7	16	7.0	
TAMPA	6	1019.1	1020.9	23.9	12.8	18.3	1.2	30.6	21+	6.1	11	0	0	12.8	74	97	33	57	4	1	0	0	5.0	SE	15.6*	WNW	25	9	6	13	5.3	74
WEST PALM BEACH	5	1019.4	1020.6	25.0	15.6	20.1	0.3	31.1	25	6.7	12	0	0	15.0	74	11	- 45	5	5	0	0	0	5.2	SE	12.1*	SSE	7	8	8	12	5.8	
GEORGIA																																
ATHENS	243	990.3	1020.1	14.4	3.3	9.0	0.9	23.9	16	- 5.0	4	0	11	5.0	80	235	108	70	13	3	T	0	4.3	W	23.2*	SSW	25	7	5	16	6.8	
ATLANTA	297	977.2	1020.0	15.0	4.4	9.7	1.6	23.3	15	- 5.6	4	0	8	3.3	70	324	202	144	12	5	T	0	6.0	W	19.7*	WSW	25	6	7	15	6.8	48
AUGUSTA	44	1012.7	1019.8	17.2	3.9	10.6	1.3	25.6	28+	- 6.1	4	0	9	5.6	76	195	100	81	10	3	T	0	3.1	W	16.5*	W	25	6	3	19	7.3	
COLUMBUS	117	1005.3		18.3	4.4	11.4	1.6	25.6	28+	- 5.0	5	0	9			239	120	77	11	4	0	0	4.0		15.6*	S	25+	6	4	18	7.0	
MACON	109	1005.9	1019.9	18.3	6.1	12.2	1.4	26.1	28+	- 3.3	4	0	6	6.1	74	181	72	62	11	4	0	0	4.2	WNW	17.9	SW	25	5	7	16	7.0	53
ROME	194	995.3		15.0	2.2	8.6	1.4	23.3	16	- 7.2	10	0	12			285	148	93	13	3	T	0						6	6	16	6.7	
SAVANNAH	15	1018.3	1020.8	18.9	6.7	12.6	0.7	25.6	22+	- 2.2	4	0	6	7.8	78	96	24	27	10	2	0	0	4.5	W	15.2	W	25	6	7	15	7.1	51
THOMASVILLE U	86			20.6	9.4	15.1	1.8	27.2	21	- 0.6	4	0	1			109	12	48	8	3	0	0										
HAWAII																																
HILO	9	1016.3	1017.6	26.1	18.3	22.1	0.6	30.0	3	15.0	4	0	0	18.3	83	521	280	98	23	3	0	0	4.2	WSW	13.4*	E	21+	3	4	21	8.0	29
HONOLULU	2	1017.3	1017.8	26.7	20.6	23.7	1.2	29.4	4+	17.2	1	0	0	17.2	70	24	- 40	10	10	0	0	0	5.4	ENE	16.1	NE	19+	6	15	7	5.9	68
LIHUE	35	1013.2	1018.3	26.1	19.4	22.8	1.6	30.0	4	15.6	1	0	0	18.3	78	40	- 73	19	17	1	0	0	5.8	NE	12.5	NE	10	5	13	10	6.3	57
IDAHO																																
BOISE	866	923.5	1021.4	9.4	0.6	5.1	4.0	17.8	11	- 5.0	26+	0	12	0.0	72	30	- 4	14	14	0	81	25	3.9	SE	13.0	W	25+	1	5	22	8.5	52
IDAHO FALLS 42NW R	1460			4.4	- 7.2	- 1.4	6.1	11.7	11	-20.0	4	0	27			15	6	9	9				3.0	SSW	12.5A	S	25					
IDAHO FALLS 46W R	1504	850.0	1022.0	3.9	- 6.7	- 1.3	5.0	11.7	11	-20.0	4	0	27			20	6	11	11	1	185	127	3.5	SW	11.6A	WSW	12					
LEWISTON	431	966.5	1018.9	10.0	1.7	5.8	3.7	15.0	21+	- 2.2	26	0	9			39	14	7	17	1	5	0						1	3	24	9.1	
POCATELLO	1355	865.6	1021.9	5.6	- 1.7	1.7	3.7	13.9	11	- 6.7	26	0	25	- 2.8	75	37	13	15	19	0	160	102	5.7	S	16.5	SE	11	1	4	23	8.8	42
ILLINOIS																																
CAIRO U	96	1004.7		11.1	1.1	6.1	1.3	22.8	18	- 8.3	4+	0	13			152	68	56	12	2	79	51	4.4	NE#	13.4	SW	18	5	9	14	6.9	56
CHICAGO O HARE	200	993.6	1019.0	4.4	- 5.0	- 0.3		15.6	18	-14.4	7	0	25	- 3.3	84	22		11	7	0	165	152	5.4	SSE	13.4*	ENE	2	3	7	18	7.6	
CHICAGO MIDWAY	186	995.6	1019.2	5.0	- 2.8	1.3	3.8	16.7	18	-12.2	2	0	24	- 3.3	74	23	- 13	11	7	0	180	152	4.8	W	15.6	N	25	4	4	20	7.8	25
MOLINE	180	995.9	1019.0	4.4	- 6.1	- 0.7	2.3	11.7	21+	-17.2	5	0	26	- 4.4	75	30	1	13	6	0	64	51	3.9	WNW	13.4	W	18+	5	4	19	7.6	43
PEORIA	199	996.6	1019.5	5.0	- 5.0	- 0.1	1.9	15.0	23	-15.6	5	0	25	- 3.3	79	27	- 21	10	6	0	135	127	4.6	ENE	14.3	W	18	4	3	21	8.0	44
ROCKFORD	222	991.2	1019.2	5.0	- 5.6	- 0.3	3.8	12.2	17	-16.7	5	0	26	- 4.4	78	27	- 9	14	5	0			4.2	ENE	11.2*	WSW	18	5	5	18	7.4	
SPRINGFIELD	179	994.9	1019.0	6.1	- 4.4	0.8	1.5	18.9	23	-15.6	5+	0	25	- 2.8	78	45	4	23	6	0	165	178	5.5	ENE	19.7	SW	18	2	5	21	8.1	40
INDIANA																																
EVANSVILLE	117	1002.0	1018.3	9.4	- 1.1	4.2	1.2	22.8	18	-13.3	4	0	15	0.0	73	90	15	18	12	0	208	102	4.8	NE	16.5	W	25	6	4	18	7.7	43
FORT WAYNE	244	986.5	1019.3	4.4	- 4.4	0.1	2.3	16.1	18	-17.2	5+	0	23	- 3.3	78	65	20	40	8	0	76	51	5.8	ENE	18.3	E	3	2	5	21	8.0	30
INDIANAPOLIS	243	987.8	1018.7	5.6	- 3.3	1.1	1.4	18.9	18	-13.3	5+	0	23	- 3.3	75	80	27	28	9	0	363	178	4.3	E	17.9	N	25	3	6	19	7.9	44
SOUTH BEND	234	989.8	1018.8	3.9	- 5.6	- 0.8	2.3	17.2	18	-16.7	5+	0	25	- 3.9	80	39	- 0	17	10	0	307	178	4.8	ENE	13.9*	ENE	3	3	5	20	7.9	
IOWA																																
BURLINGTON	212	993.2	1019.7	5.0	- 5.6	- 0.2	2.1	11.7	21	-17.2	4	0	25	- 3.9	77	34	- 2	15	6	1	226	229	5.0	NE	14.8	W	19	4	5	19	7.7	54
DES MOINES	289	988.2	1020.7	3.9	- 6.1	- 1.1	2.3	14.4	16	-17.2	4+	0	28	- 5.0	78	68	41	45	9	1	175	127	5.0	NW	13.0	NW	13+	4	6	18	7.5	56
DUBUQUE	325	993.2	1019.5	3.3	- 6.1	- 1.2	4.1	10.0	21	-15.0	4	0	27	- 5.6	72	37	9	20	5	1	25	25						5	5	18	7.5	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

FEBRUARY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb.	C.	C.	C.	C.	C		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s		M.p.s.							%
IOWA																																
SIOUX CITY	334	977.3	1020.3	1.7	- 9.4	- 3.8	1.1	13.3	16	-24.4	3	0	28	- 7.2	79	38	19	24	7	1	396	203	4.9	ESE	18.8	NW	23	5	5	18	7.2	56
WATERLOO	265	986.5	1019.8	2.8	- 7.8	- 2.6	2.7	8.9	21	-21.7	4	0	28	- 4.4	87	64	38	37	6	0	124	76	3.9	WNW	10.3*	SSE	16+	6	6	16	6.9	
KANSAS																																
CONCORDIA U	419	968.2		7.8	- 3.3	2.1	1.6	20.0	16	-16.1	3	0	19		67	15	- 7	6	7	1	160	127	2.9	W#	11.2	N	23	6	4	18	7.1	61
DODGE CITY	791	928.5	1019.0	10.0	- 3.3	3.2	1.5	26.7	12	-12.8	3	0	22	- 4.4	65	8	- 12	5	8	0	74	51	6.3	N	22.4	N	1	6	6	16	6.7	56
GOODLAND	1111	887.9	1018.3	9.4	- 6.7	1.3	2.3	22.8	11	-16.1	6	0	26	- 6.1	64	5	- 7	4	3	0	69	51	5.0	WSW	16.5*	NNW	1	8	6	14	6.2	
TOPEKA	267	982.4	1019.5	8.3	- 4.4	2.0	1.2	23.3	16	-13.3	3	0	24	- 2.8	73	40	16	26	6	2	79	76	4.9	NNE	20.1	N	17	1	4	23	8.7	40
WICHITA	403	968.5	1018.6	8.3	- 2.8	2.9	0.0	20.6	16	-13.3	3	0	23	- 1.1	79	38	13	22	6	1	264	203	5.3	N	16.1	NW	17	2	5	21	7.8	47
KENTUCKY																																
LEXINGTON	298	981.8	1018.5	9.4	0.0	4.8	2.6	20.6	13	-13.3	4	0	16	0.6	78	99	10	34	12	0	117	102	5.1	S				5	2	21	7.9	
LOUISVILLE	144	998.6	1018.3	9.4	- 1.1	3.9	1.1	21.1	24	-14.4	4	0	17	0.6	79	133	57	52	11	1	318	229	3.8	NE	15.6	NW	25	5	2	21	7.8	41
LOUISIANA																																
ALEXANDRIA	28	1013.9	1018.6	17.8	5.0	11.4		26.7	18	- 1.1	11+	0	7	7.2	81	183		59	13	8	0	0	3.3	SSW				6	5	17	6.9	
BATON ROUGE	20	1015.2	1018.5	19.4	7.2	13.6	0.4	26.1	18	0.0	9+	0	3	9.4	78	288	177	115	13	7	0	0	4.5	S				6	5	17	7.1	
LAKE CHARLES	4	1016.6	1018.1	19.4	8.3	13.9	0.6	25.0	18	2.2	9+	0	0	10.0	82	197	82	113	11	4	0	0	2.8	S	10.3*	WNW	24	5	6	17	7.0	
NEW ORLEANS U	3			20.0	11.1	15.8	1.1	26.1	20+	3.3	5+	0	0		78	210	103	114	11	5	0	0	3.0		12.1	E	6	7	8	13	6.2	46
NEW ORLEANS	1	1016.6	1018.7	20.6	8.9	14.5	0.4	26.7	20	- 0.6	9	0	1	11.7	85	229	128	142	13	5	0	0	4.2	S	11.2*	WNW	24+	6	5	17	6.9	
SHREVEPORT	77	1008.8	1018.4	16.7	6.1	11.5	0.4	25.6	23	- 0.6	4	0	2	6.7	77	99	3	55	11	3	T	0	5.5	SSW				7	7	14	6.5	45
MAINE																																
CARIBOU	190	992.9	1017.6	- 4.4	-17.2	-10.8	1.6	4.4	22	-30.0	1	0	28	-15.0	70	63	19	20	10	0	732	889	5.1	NW	15.6*	W	19	7	5	16	6.9	
PORTLAND	19	1014.0	1018.1	1.7	-10.6	- 4.3	1.5	13.3	19	-30.0	2	0	28	- 8.9	72	91	- 6	50	10	0	272	254	3.8	N	15.2	N	4	11	6	11	5.3	58
MARYLAND																																
BALTIMORE	45	1014.5	1019.6	7.8	- 2.2	2.8	1.1	23.3	24	-17.2	2	0	14	- 1.7	73	118	42	33	15	0	417	330	4.3	W	21.9	NW	26	3	8	17	7.4	38
BALTIMORE U	4			8.3	0.6	4.2	1.3	21.1	24	-14.4	2	0	13			120	44	33	13													
FREDERICK	90			5.6	- 4.4	0.4	-0.7	20.0	27	-23.9	2	0	20			83	18	25	13	0	775	584										
MASSACHUSETTS																																
BLUE HILL OBS R	192	992.6		3.3	- 6.1	- 1.3		16.7	19	-24.4	2	0	23		67	87	- 3	42	12		406	737	6.8	NW	30.0	NE	4					51
BOSTON	5	1012.8	1017.8	3.9	- 4.4	- 0.2	1.3	18.3	19	-20.0	2	0	21	- 6.1	58	125	51	65	9	0	378	457	5.5	WNW	21.9	ENE	4	9	6	13	6.0	56
NANTUCKET	13	1017.8		2.8	- 3.9	- 0.6	-0.1	8.9	25	-17.8	2	0	20			114	27	53	10	0	391	330	6.0	NW	25.0	E	4	6	7	15	6.9	51
PITTSFIELD	357			2.2	- 9.4	- 3.6	2.1	13.9	19	-26.1	2	0	24			62	- 2	27	13		338	610										
WORCESTER	301	979.4	1017.4	2.2	- 6.7	- 2.4	2.0	16.7	19	-23.3	2	0	25	- 8.3	67	83	18	34	10	0	518	1067	4.6	WNW	17.9*	NE	4	7	6	15	6.3	
MICHIGAN																																
ALPENA	210	993.2		1.1	-11.7	- 5.3	1.2	11.1	22	-27.8	2	0	28	- 8.3	73	36	- 7	12	10	0	234	152	3.4	W#	13.0	SE	13	6	7	15	6.9	52
DETROIT	189	991.9	1019.7	3.3	- 5.0	- 0.7	2.3	13.3	24	-20.6	2	0	24	- 5.0	77	56	5	20	11	1	130	76	4.6	W	17.0	W	19	2	7	19	7.8	39
DETROIT M WAYNE CO	192	993.9	1019.1	3.9	- 5.0	- 0.6		13.9	18	-19.4	2	0	24	- 5.0	77	52		19	10	1	127	102	4.9	NE				1	5	22	8.3	
DETROIT WILLOW RUN	220	989.5	1019.1	4.4	- 5.0	- 0.3	2.9	13.9	18	-21.7	2	0	24	- 5.0	77	49	5	21	9	1	86	102	5.6	NE	16.1*	NNW	25	2	4	22	8.3	
ESCANABA U	181	996.3		- 0.6	- 9.4	- 4.9	3.1	6.1	9	-23.3	2	0	28		75	37	3	11	6	0	302	279	4.1		15.2	N	18	9	8	11	6.1	53
FLINT	233	991.5	1019.9	2.8	- 7.8	- 2.5	2.3	12.2	18	-21.7	5+	0	25	- 5.6	79	41	- 1	16	8	1	236	102	4.4	WNW	13.0*	SW	23	4	4	20	8.0	
GRAND RAPIDS	208	993.2	1019.6	3.3	- 6.7	- 1.6	3.0	11.7	18	-20.0	2	0	24	- 5.0	78	23	- 20	9	8	1	107	279	4.2	W	14.3	SW	18	5	4	19	7.8	40
LANSING	260	986.1	1019.4	3.3	- 8.3	- 2.3	2.0	12.8	18	-23.3	2	0	26	- 6.1	79	41	- 5	17	9	1	251	203	5.6	W	20.1	W	19+	4	5	19	7.6	49
MARQUETTE U	206	991.2		0.0	- 8.3	- 4.0	3.3	13.3	22	-22.8	3	0	28		72	48	5	26	11	0	513	483	3.3	W#	12.5	SW	21	8	4	16	6.9	48
MUSKEGON	191	995.6	1019.6	2.2	- 6.7	- 2.3	1.9	12.2	22	-20.0	2	0	25	- 5.0	80	20	- 21	13	8	0	13	254	4.4	W	13.0*	W	19+	5	5	18	7.7	
SAULT STE MARIE	220	995.9	1019.9	- 2.2	-12.2	- 7.2	3.1	5.6	22	-27.8	2	0	28	-10.6	77	25	- 14	12	11	0	264	406	3.8	E	10.3*	WNW	14	7	6	15	6.8	52
MINNESOTA																																
DULUTH	429	976.3	1019.4	- 1.7	-11.7	- 6.8	4.8	11.1	22	-23.9	1	0	28	-10.0	80	17	- 14	6	8	0	196	254	5.5	E	13.4	NW	17	9	3	16	6.5	50
INTERNATIONAL FALLS	359	976.0	1019.3	- 1.7	-14.4	- 8.2	5.6	7.8	22	-27.2	19+	0	28	-12.2	75	22	- 1	7	12	0	226	356	3.6	SE	10.7*	W	13	5	6	17	7.1	
MINNEAPOLIS	253	984.8	1020.2	0.6	-11.1	- 5.3	2.4	10.6	11	-22.8	19+	0	28	- 7.8	79	23	0	18	5	0	221	178	3.8	WNW	14.8	W	26	6	6	16	6.6	58
ROCHESTER	395	969.9	1019.7	1.1	- 8.3	- 3.5	4.3	12.8	11	-19.4	19	0	27	- 6.7	79	24	5	16	7	0	191	152	5.1	NW				7	6	15	6.6	
ST CLOUD	315	980.0	1020.0	1.1	-11.1	- 5.1	5.2	12.8	22+	-22.2	4	0	28	- 9.4	73	10	9	5	5	0	119	76						5	9	14	6.9	
MISSISSIPPI																																
JACKSON	93	1006.3	1018.6	17.8	5.6	11.6	1.1	26.7	18	- 4.4	4	0	7	6.7	74	167	38	57	13	4	T	0	2.7	S	12.1	NW	28	6	7	15	7.0	41
MERIDIAN	89	1005.5	1019.0	18.3	5.6	11.7	1.3	25.6	18+	- 4.4	4	0	7	7.8	82	327	191	142	12	7	0	0	3.4	SSW	11.2*	WSW	25	6	7	15	7.1	
VICKSBURG U	71	1008.4		17.2	6.7	12.0	0.8	26.1	18	- 3.9	4	0	2			175	44	41	13	7	T	0	4.1		12.1	NW	24	6	5	17	6.9	44

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MISSOURI																																
COLUMBIA	237	988.5	1018.2	8.3	- 2.8	2.9	2.0	21.7	12	-15.6	4	0	19	- 1.7	74	52	12	31	7	1	114	127	4.9	NE	11.2	W	18	4	6	18	7.6	49
KANSAS CITY	226	982.4	1019.1	9.4	- 1.7	3.7	2.2	23.3	16	-11.1	3	0	20	- 4.4	60	62	33	49	6	2	36	25	4.6	ENE	14.8	SW	17	0	7	21	8.4	55
ST JOSEPH	247	983.4		7.8	- 3.9	1.7	1.8	21.7	16	-13.3	3	0	24			51	26	33	6	1	38	25	4.8	N	13.0*	NW	18+	1	7	20	8.2	
ST LOUIS	163	997.6	1018.9	8.3	- 3.9	2.2	0.1	20.0	23	-16.7	4	0	24	- 2.8	73	52	10	14	9	0	328	229	4.4	ENE	15.2	W	18	3	5	20	7.9	35
ST LOUIS RFC	142			8.9	- 0.6	4.1	1.4	20.6	17	-12.2	3	0	16			67	20	18	9		358	254										
SPRINGFIELD	386	969.5	1018.3	9.4	- 2.2	3.7	1.1	23.3	12	-13.9	3	0	16	- 1.7	73	60	15	19	10	2	330	229	5.2	SSE	15.2	W	18	6	3	19	7.7	46
MONTANA																																
BILLINGS	1087	889.3	1015.3	9.4	- 2.2	3.7	6.9	22.2	10	-13.3	18	0	22	- 8.3	45	5	- 6	4	3	0	53	51	6.4	WSW	20.6	W	25	2	8	18	7.5	63
GLASGOW	694	940.1	1016.9	2.8	-10.6	- 3.9	5.8	14.4	21	-21.1	17+	0	28	- 7.2	80	11	3	6	6	0	46	25						6	5	17	7.0	
GREAT FALLS	1116	885.9	1014.6	7.8	- 3.3	2.2	6.3	17.2	21	-18.9	17	0	20	- 6.7	55	5	- 10	3	4	1	15	0	7.0	SW	21.0	W	25+	2	11	15	7.6	64
HAVRE U	787	924.1	1015.6	5.6	- 8.3	- 1.2	6.1	17.2	21	-20.0	18+	0	26			4	- 6	3	4	0	10	51	4.0	W#	14.3	NW	22	7	7	14	6.5	71
HELENA	1187	872.0	1016.7	8.3	- 3.3	2.6	7.3	18.3	11	-10.6	16	0	24	- 6.1	55	2	- 9	1	3	0	10	0	4.7	WNW	20.1	NW	25+	4	5	19	7.4	50
KALISPELL	904	910.9	1015.9	5.6	- 1.7	1.9	5.8	11.7	24+	- 6.1	26	0	22			34	10	17	13	1	89	25	3.0					0	3	25	9.1	
MILES CITY	801	930.6	1016.8	6.7	- 7.2	- 0.2	6.4	18.9	10	-22.2	17	0	26	- 5.0	72	20	10	6	6	0	152	76	4.2	SSE	20.6*	WNW	25	2	9	17	7.2	
MISSOULA	975	902.8	1019.5	5.0	- 2.8	1.2	4.7	13.3	24+	- 7.8	8	0	27	- 2.2	81	26	5	10	15	0	84	51	2.8	NW	13.9	W	25	0	3	25	9.4	27
NEBRASKA																																
GRAND ISLAND	561	950.9	1019.1	7.2	- 6.7	0.3	2.7	20.6	25	-18.9	3	0	27	- 6.1	67	12	- 4	7	6	1	89	51	4.9	SW				7	3	18	6.9	
LINCOLN U	351			5.6	- 5.0	0.4	1.9	18.3	16	-17.8	3	0	22			28	5	17	10	1	114	76	3.8	S#	15.2	S	16	3	7	18	7.5	55
NORFOLK	471	961.4	1019.0	4.4	- 8.3	- 2.1	2.6	15.6	16+	-22.8	3	0	28	- 7.2	67	23	3	17	7	1	221	152						6	4	18	7.1	
NORTH PLATTE	847	916.0	1018.1	8.9	- 8.3	0.1	1.9	21.7	11	-16.7	3	0	28	- 8.3	59	2	- 7	2	3	1	18	25	4.6	NNW	18.8	NE	16	7	2	19	7.1	53
OMAHA	298	978.3	1020.0	5.0	- 5.6	- 0.5	2.2	18.3	16	-18.9	3	0	26	- 4.4	76	20	- 2	8	8	2	160	102	4.5	SSE	15.6	N	23	4	5	19	7.4	43
OMAHA N OMAHA APT	403	969.9		3.3	- 6.1	- 1.3	2.7	16.7	16	-18.9	3	0	26			22	0	11	8	2	130	102						4	5	19	7.4	
SCOTTSBLUFF	1204	878.4	1018.4	8.3	- 7.8	0.3	2.4	20.6	12	-22.8	19	0	28	- 6.7	63	8	- 2	6	4	0	86	76	5.6	NW	21.0*	WNW	25	9	4	15	6.1	
VALENTINE	789	924.5		6.7	- 8.9	- 1.2	2.5	18.3	22	-22.2	6	0	28		72	5	- 6	2	5	0	102	51	4.4	W#	17.9	NW	25	8	7	13	6.2	72
NEVADA																																
ELKO	1547	847.6	1022.2	6.7	- 5.6	0.6	2.6	15.6	11	-10.6	27+	0	27	- 3.9	69	19	- 5	4	13	1	150	25	2.6	SW	12.5*	WNW	22	2	10	16	7.8	
ELY	1907	810.7	1021.7	7.2	- 7.2	- 0.2	2.0	14.4	11	-13.9	27+	0	26	- 7.2	61	9	- 14	3	5	0	127	51	4.0	S	18.8	SE	11	3	9	16	7.5	71
LAS VEGAS	659	952.9	1019.5	17.8	3.3	10.6	0.3	25.0	22	- 1.1	24	0	3	- 5.6	35	T	- 14	0	1	0	0	0	4.1	WSW	18.3*	NW	22	12	6	10	5.1	81
RENO	1342	865.6	1022.1	13.3	- 3.3	4.8	2.4	20.6	10	- 9.4	23	0	24	- 3.9	57	8	- 19	5	2	0	T	0	2.7	SSE	17.9	S	11	5	9	14	6.6	69
WINNEMUCCA	1310	872.0	1023.0	10.0	- 5.0	2.5	1.1	17.2	21	-13.3	26	0	24	- 2.8	68	15	- 10	10	8	0	5	0	2.8	S	26.4	W	24	1	7	20	8.5	35
NEW HAMPSHIRE																																
CONCORD	103	1006.7	1018.6	3.3	-11.1	- 4.0	2.0	17.8	19	-26.7	3	0	27	- 9.4	66	59	1	27	8	0	274	559	2.4	NW	13.0	NW	26	9	7	12	5.6	59
MT WASHINGTON OBS	1909	798.1		- 8.3	-16.7	-12.5	2.2	2.2	19	-36.7	1	0	28		76	149	29	50	13	1	584	51	15.5	W	45.6Y	W	15	9	4	15	6.5	45
NEW JERSEY																																
ATLANTIC CITY	18	1016.7	1019.6	6.7	- 2.2	2.3	0.8	22.8	19	-20.0	2	0	16	- 2.2	74	115	39	38	13	0	193	127	5.3	W	17.4	ENE	3	2	7	19	8.0	44
ATLANTIC CITY U	9			6.1	- 1.1	2.4	0.6	17.2	19	-17.2	2	0	16			104	22	28	12				6.1		20.6	WNW	26					
NEWARK	3	1018.1	1019.4	6.7	- 2.2	2.1	2.3	19.4	24	-18.9	2	0	15	- 3.9	66	101	22	62	9	0	592	660	4.3	NE	17.9*	NE	4	4	7	17	7.2	
TRENTON U	17	1011.3		6.1	- 1.7	2.1	1.7	20.0	24	-18.9	2	0	14			77	10	35	13	2	267	305	3.9	NW	17.4	S	25	3	7	18	7.7	44
NEW MEXICO																																
ALBUQUERQUE	1618	848.3	1016.7	11.7	- 2.2	4.8	0.6	19.4	12	- 8.9	7	0	21	- 6.7	48	3	- 6	1	5	0	10	0	3.2	N	18.8	E	27	15	6	7	4.2	82
CLAYTON	1515	844.2	1016.6	10.0	- 5.0	2.3	-0.2	22.8	12	-17.8	7	0	25			5	- 5	2	4	0	66	51						10	9	9	5.2	
RATON	1944	803.6	1017.3	8.3	- 8.3	0.1	0.1	18.3	12	-16.1	7	0	28			7	- 3	4	6	0	74	51						9	11	8	5.3	
ROSWELL	1101	892.7	1015.9	16.7	- 5.6	5.8	-1.3	27.8	26+	-11.1	7	0	27	- 5.6	53	1	- 11	1	2	0	10	0	3.6		16.1	NW	28	14	7	7	4.0	
SILVER CITY	1662	833.4	1015.1	15.0	- 2.2	6.3		21.7	11	- 8.3	6	0	24			T		0	1	0	T	0						17	10	1	3.0	
NEW YORK																																
ALBANY	84	1015.4	1019.3	1.7	- 8.9	- 3.6	1.4	12.8	24	-27.8	2	0	23	- 7.2	74	63	11	29	9	0	277	483	3.8	S	18.3	NW	14	7	7	14	6.4	57
BINGHAMTON	485	956.6	1018.4	0.6	- 7.8	- 3.6	2.2	12.2	24	-26.1	2	0	24	- 8.9	69	86	27	39	11	0	706	711	4.2	WNW	16.1	NW	26	3	8	17	6.9	48
BUFFALO	211	990.0	1019.6	1.1	- 7.2	- 3.1	1.0	13.9	24	-28.9	2	0	23	- 6.1	80	67	1	31	12	0	302	432	4.2	SW	19.2	SW	19	2	6	20	5.2	43
NEW YORK	6	1017.3	1019.2	6.7	- 1.1	2.6	2.3	17.8	24	-18.3	2	0	14	- 3.9	68	104	27	59	10	0	541	660	6.1	NE	23.2	NW	26	6	4	18	7.1	
NEW YORK U	3	1016.5		6.7	- 1.1	2.6	2.3	18.3	24	-18.9	2	0	14	- 4.4	43	101	18	67	9	0	462	610	4.2		21.0	NE	4	6	8	14	6.6	50
ROCHESTER	166	999.7	1019.8	2.2	- 7.2	- 2.5	1.9	15.6	24	-26.7	2	0	23	- 6.1	81	82	20	47	11	0	478	381	5.5	WSW	22.4	NE	26+	2	8	18	7.9	44
SCHENECTADY	66			1.7	- 8.3	- 3.3	2.3	13.3	24	-26.7	3	0	21			59	3	24	9	0	279	508						16	8	4	3.6	
SYRACUSE	129	996.6	1019.8	2.2	- 8.9	- 3.4	0.4	15.0	24	-28.3	2	0	23	- 7.2	74	105	41	51	12	0	655	913	4.6	WSW	16.1	NW	26+	6	7	15	6.9	39
NORTH CAROLINA																																
ASHEVILLE U	671	904.2		12.2	1.1	6.7	1.8	21.1	16	- 9.4	5	0	14			132	59	44	11	1	76	51	4.0		18.3	NW	25	9	4	15	6.4	45

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

FEBRUARY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 32.2 °C or above	Temperature: No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 25 mm. or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	C.	C.	C.	C.		C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
NORTH CAROLINA																																
CAPE HATTERAS R	2	1018.1	1018.9	13.9	5.0	9.5	0.8	21.7	18	- 0.6	12+	0	2	6.1	82	77	- 25	38	9	0	0	0	6.5	NNE	25.0	WSW	26	7	2	19	7.2	59
CHARLOTTE	221	990.8	1019.7	13.9	2.2	8.0	1.1	22.8	14	- 6.1	3	0	9	1.1	67	170	80	73	10	1	20	25	3.4	NE	21.9	SW	25	6	3	19	7.0	44
GREENSBORO	272	986.3	1020.3	12.2	0.0	6.2	1.2	21.7	27	- 9.4	3	0	15	1.1	74	87	8	19	12	1	46	25	4.0	ENE	19.2	SW	25	7	4	17	6.9	54
RALEIGH	132	1006.0	1019.8	13.3	1.1	7.2	1.0	22.8	18	- 7.8	3	0	12	1.1	70	146	63	41	13	1	38	25	3.9	SSW	15.6*	S	25	6	5	17	6.8	50
WILMINGTON	9	1016.5	1019.6	16.7	4.4	10.6	1.3	24.4	18	- 3.3	6	0	7	5.6	78	76	- 8	21	10	0	T	0	4.8	SW	20.1	S	25	7	3	18	6.8	51
WINSTON SALEM	295	983.5	1019.7	11.7	1.1	6.3	1.2	21.7	27+	- 9.4	3	0	12	- 0.6	66	107	21	24	11	0	43	25	4.4	NE	33.5*	SSW	25	7	3	18	7.0	
NORTH DAKOTA																																
BISMARCK	502	956.0	1019.3	- 1.1	-13.3	- 7.2	3.5	15.0	21	-29.4	2	0	28	-11.7	71	14	3	8	7	0	196	127	4.5	WNW	17.9	NW	25	1	9	18	7.6	59
DEVILS LAKE U	448	962.4		- 3.9	-14.4	- 9.2	3.8	7.2	21	-26.1	2	0	28		79	16	5	5	11	0	173	254	3.8	NW#	13.0	NW	26	8	8	12	6.1	69
FARGO	274	983.1	1020.0	- 2.8	-12.2	- 7.4	4.4	7.8	22	-24.4	2	0	28	-10.0	80	5	- 12	2	6	0	58	76	6.8	S	20.1	NW	26	6	8	14	6.9	56
WILLISTON U	572	947.2	1017.6	1.1	-11.7	- 5.3	4.9	13.9	21	-23.3	2	0	27	- 9.4	73	32	20	18	6	0	292	178	2.7	S#	11.6	N	25+	1	11	16	7.4	61
OHIO																																
AKRON	369	979.8	1019.1	5.0	- 4.4	0.4	2.6	20.0	24	-21.7	2	0	24	- 3.3	78	75	21	40	13	0	340	229	4.8	NE				2	4	22	8.4	
CINCINNATI OBS	232			8.3	- 0.6	3.9	2.4	22.2	24	-12.8	2	0	18			103	39	51	9	1	272	127	3.3	S	13.0	W	25					34
CINCINNATI	265	985.8	1018.6	8.3	- 1.1	3.7	2.7	21.1	24	-12.8	2	0	17	- 1.7	73	90	26	39	10	0	338	127	4.5	NE	13.9	WNW	25	3	4	21	8.6	
CLEVELAND	240	990.0	1019.0	4.4	- 5.0	- 0.2	1.7	20.6	24	-20.0	2	0	24	- 3.9	80	82	28	36	12	2	173	152	4.8	S	19.2	NW	25	1	6	21	8.4	44
COLUMBUS	248	988.1	1019.1	7.2	- 1.7	2.7	3.2	22.2	24	-16.1	2	0	23	- 2.2	73	74	16	30	9	1	333	152	3.7	NE	15.6	S	25	2	5	21	8.3	43
COLUMBUS U	221			7.2	- 1.1	3.1	2.8	20.6	24	-16.7	2	0	18			74	20	37	11	1	323	152										
DAYTON	305	981.5	1019.0	6.1	- 2.2	2.1	2.4	19.4	24	-15.6	2	0	21	- 2.2	76	101	48	47	10	1	229	152	5.4	ENE	26.4	NW	25	1	4	23	8.6	26
MANSFIELD	395			5.0	- 3.9	0.6		19.4	24	-21.1	2	0	23			109		71	12	1	224	152						1	3	24	8.4	
SANDUSKY U	184	996.5		5.0	- 3.9	0.4	1.9	20.0	24	-17.8	2	0	23			91	42	39	9	1	114	127	3.9		24.1	NW	25	1	12	15	7.1	49
TOLEDO	206	993.2	1019.6	5.0	- 5.6	- 0.4	2.2	15.0	18	-16.1	2	0	26	- 3.9	78	67	20	22	8	2	84	76	4.3	ENE	13.9	N	25	1	6	21	8.3	46
YOUNGSTOWN	359	974.8	1018.9	4.4	- 4.4	- 0.1	2.0	19.4	24	-23.9	2	0	25	- 3.9	78	72	3	29	12	0	234	178	4.5	SE	13.9*	NW	26	1	7	20	8.4	
OKLAHOMA																																
OKLAHOMA CITY	390	973.9	1018.5	11.7	0.0	5.9	0.5	25.6	11	- 7.8	3	0	16	0.0	70	50	19	22	9	1	183	127	5.7	NNE	15.2	N	17	8	4	16	6.5	53
TULSA	205	992.9	1018.1	11.7	0.6	5.9	0.4	25.0	12	-10.0	3	0	15	1.7	79	73	33	35	8	1	132	127	4.5	N	12.1	S	17	6	7	15	6.9	45
OREGON																																
ASTORIA	2	1016.9	1017.2	11.1	5.0	8.1	1.9	15.6	5	- 0.6	26	0	1	6.1	88	556	316	73	28	0	T	0	4.4	SW	12.5*	SSW	21+	0	1	27	9.8	
BURNS U	1265	875.0	1020.9	7.8	- 2.8	2.3	2.7	13.9	10	- 6.7	26+	0	26	- 2.2	75	31	- 0	9	14	0	124	51						1	4	23	8.7	
EUGENE	110	1006.8	1020.7	12.2	4.4	8.2	2.2	17.2	1	- 1.1	26	0	2			294	171	106	23	0	0	0	5.1		24.1*	SSW	24	0	3	25	9.3	
MEACHAM	1234			3.9	- 1.1	1.3	3.0	8.9	10	- 4.4	26	0	21			164	60	26	26	0	762	279						1	0	27	9.3	
MEDFORD	396	973.9	1022.7	11.7	2.2	7.1	1.2	17.2	24	- 1.7	18	0	7	3.9	82	70	18	15	16	0	T	0	2.2	WNW	16.1*	SSW	24	0	1	27	9.3	
PENDLETON	452	964.1	1018.5	11.7	3.3	7.5	4.9	18.3	9	0.0	26+	0	2	2.2	70	62	27	12	21	0	T	0	4.7	W	21.5*	W	24	1	3	24	9.0	
PORTLAND	6	1013.2	1018.8	11.7	5.6	8.4	3.2	15.6	9	1.7	26+	0	0	5.0	80	227	121	49	26	0	T	0	4.3	ESE	18.8	SE	11	0	0	28	9.9	07
ROSEBURG	154	1002.4	1021.3	13.3	3.9	8.7	2.5	18.3	1	- 0.6	26	0	3			227	131	108	20	0	0	0	2.1	S#	17.0	SW	24	0	3	25	9.5	26
SALEM	59	1012.5	1019.8	11.7	4.4	7.8	1.8	16.1	5	- 1.1	26	0	1	6.1	88	275	140	75	26	0	0	0	5.0	S	14.3*	S	11	0	1	27	9.4	
SEXTON SUMMIT R	1169	885.9	1021.7	5.6	0.0	2.8	0.3	13.3	5	- 4.4	26+	0	17			263	171	101	19	0	340	102	6.6	S				0	2	26	9.6	
PACIFIC AREA																																
CANTON ISLAND	2	1007.8	1008.2	31.7	26.1	28.7	0.4	32.2	20+	25.0	26+	8	0	22.2	74	8	- 6	5	5	0	0	0	7.0	E	11.2*	E	15	2	6	20	8.3	
ENIWETOK	4	1009.1	1009.8	30.0	26.1	27.9		30.6	26+	23.9	9	0	0	22.8	74	10		4	8	0	0	0	9.3									
JOHNSTON	2	1013.9	1014.5	28.3	23.3	25.7		28.9	28+	19.4	10	0	0	20.6	74	28		10	10	1	0	0	7.1		17.0	NE	10	10	16	2	4.2	66
KOROR R	29	1005.8	1009.6	30.6	24.4	27.3	0.4	31.7	27+	22.8	11	0	0	24.4	85	257	54	44	24	3	0	0	3.2	ENE	11.2	NE	11	0	1	27	9.8	60
KWAJALEIN	2	1008.8	1009.7	30.6	25.0	27.8		31.1	28+	23.3	15+	0	0	23.3	77	50		11	16	0	0	0	9.2	ENE	15.6*	ESE	12	6	16	6	5.5	
MAJURO	3	1008.8	1009.1	30.0	25.6	27.7		30.6	28+	23.9	9+	0	0	23.9	79	165		45	22	1	0	0	7.0	E	14.8	E	12	4	7	17	7.3	
PONAPE R	37	1003.4	1008.7	30.0	24.4	27.2	-0.6	31.1	28	22.2	23+	0	0	24.4	85	454	254	175	25	5	0	0	3.4	NE	9.8	SE	19	1	3	24	9.3	49
TAGUAC GUAM R	110			28.9	23.3	26.2	0.9	30.0	8	20.6	10	0	0			70	- 2	24	15	0	0	0	3.7	NE#	9.8	NE	19					59
TRUK MOEN ISLAND	2	1008.8	1009.1	30.0	25.6	27.6	0.4	31.7	1	23.3	20+	0	0	23.9	79	194	13	44	16	1	0	0	3.6	NE	8.9	NE	20	0	2	26	9.5	33
WAKE ISLAND	3	1014.6	1015.0	28.9	23.3	26.2	1.0	30.0	27+	20.6	2	0	0	21.1	75	14	- 24	11	4	0	0	0	5.5	ENE	11.2*	ENE	8	19	5	4	3.4	
YAP R	17	1007.5	1009.5	30.0	25.0	27.4	0.4	31.7	3	22.8	1	0	0	24.4	82	144	19	60	19	0	0	0	4.3	NE	14.8	SE	1	0	1	27	9.8	35
PENNSYLVANIA																																
ALLENTOWN	115	1005.0	1019.9	3.9	- 5.6	- 0.8	1.1	17.8	24	-21.7	2	0	22	- 5.0	75	81	13	41	11	0	478	559	4.2	NE	16.1*	S	25	5	8	15	7.1	
ERIE	223	991.7	1019.0	2.8	- 5.6	- 1.4	1.6	16.7	24	-21.1	2	0	24	- 4.4	80	102	50	55	13	1	345	229	5.0	NE	15.6*	WSW	19+	3	5	20	8.0	
HARRISBURG	102	1005.3	1019.9	5.0	- 3.3	0.9	0.8	19.4	24	-18.3	2	0	19	- 4.4	71	78	21	33	13	0	475	559	3.0	WNW	16.5	NW	26	2	6	20	8.0	40
PHILADELPHIA	2	1014.4	1019.2	5.6	- 3.3	1.1	0.2	19.4	24	-20.0	2	0	18	- 3.9	70	80	3	39	12	0	300	381	4.0	N	17.0	NW	26	2	8	18	8.1	36
PHILADELPHIA U	11			7.2	0.0	3.6	1.9	20.6	24	-17.8	2	0	12																			
PITTSBURGH	351	988.0	1019.4	5.0	- 4.4	0.2	1.4	18.9	24	-21.7	2	0	24	- 3.9	75	80	19	26	13	0	572	406	4.2	ENE	16.5*	SSW	25	2	2	24	8.8	29
PITTSBURGH U	228			6.7	- 1.7	2.6	1.7	21.1	24	-19.4	2	0	17			85	25	24	11		498											17

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm. or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm			Mm.	Mm	M.p.s.		M.p.s							%
PENNSYLVANIA																																
READING U	81	1007.6		6.1	- 2.8	1.6	1.2	20.0	24	-18.3	2	0	14			71	3	36	11	0	518	686	4.5		22.4	E	3	3	6	19	7.7	49
SCRANTON	287	984.2	1020.0	2.8	- 6.7	- 1.7	1.0	15.6	24	-23.9	2	0	21	- 6.7	71	49	- 3	28	10	0	429	660	3.9	SW	17.0	W	26	5	6	17	7.1	54
WILLIAMSPORT	161	1000.4		4.4	- 6.7	- 1.1	0.5	15.0	25	-23.3	2	0	23			81	21	39	13	0	498	533						5	7	16	7.0	
RHODE ISLAND																																
BLOCK ISLAND	34	1013.1		2.8	- 2.8	- 0.1	0.6	11.7	24	-18.9	2	0	17			93	11	43	10	0	429	305						6	8	14	6.6	
PROVIDENCE	17	1012.0	1018.4	4.4	- 5.6	- 0.8	1.1	15.6	19	-21.1	2	0	21	- 6.1	68	119	47	64	10	0	475	762	4.6	N	17.0*	NNE	4	6	7	15	6.4	57
SOUTH CAROLINA																																
CHARLESTON	12	1017.8	1019.9	17.8	5.0	11.4	0.4	26.1	15	- 3.9	6	0	8	6.7	79	105	26	37	10	1	0	0	4.5	SSW	22.8	S	25	4	7	17	7.4	50
CHARLESTON U	3			16.1	7.2	11.7	0.2	23.9	15	- 1.1	4	0	3			120	42	35	9		0	0	4.9		18.8	SW	25					
COLUMBIA	66	1006.7	1019.9	16.7	3.3	10.1	0.9	25.6	28	- 6.1	6	0	9	4.4	74	220	128	78	11	4	23	25	3.3	WSW	17.9*	WSW	25	6	5	17	6.9	46
FLORENCE	45	1013.4	1019.2	16.7	3.9	10.2	1.6	25.0	28+	- 5.0	4	0	8	3.9	71	90	6	26	11	1	5	0	4.1	SW	13.0*	WSW	25	6	7	15	6.7	
GREENVILLE	310	981.5	1019.6	14.4	2.8	8.7	1.3	25.0	28	- 6.1	3	0	10	1.7	67	212	104	97	12	2	25	25	3.8	NE	16.1	SW	25	7	4	17	6.7	50
SPARTANBURG	244	988.7	1019.4	13.9	2.2	8.2	0.7	23.3	16	- 7.2	3	0	11	2.2	72	196	88	85	11	1	30	25	3.3	SW	19.7*	SW	25	7	3	18	6.9	
SOUTH DAKOTA																																
HURON	391	970.5	1020.0	- 1.7	-12.2	- 7.0	1.0	8.9	22	-27.2	2	0	28	- 8.9	85	10	- 2	9	4	0	145	203	5.2	SSE	15.6	NW	23	7	8	13	6.3	79
RAPID CITY	965	900.4	1017.6	7.8	- 6.7	0.7	5.2	21.7	10	-15.0	18	0	25	- 7.2	61	6	- 3	3	4	0	56	51	4.2	NNW	19.2	N	22	6	9	13	6.3	55
SIOUX FALLS	433	966.1	1019.7	1.1	-10.6	- 4.7	2.3	10.6	28	-25.0	3	0	28	- 9.4	70	23	5	18	5	0	295	203	3.8	NW	12.5*	NW	26+	8	4	16	6.6	
TENNESSEE																																
BRISTOL	463	963.0	1018.7	12.2	0.6	6.6	2.1	22.2	13	- 9.4	5	0	14	1.7	75	153	67	45	13	1	188	76	2.9	NE	20.6*	WSW	25	4	7	17	7.4	
CHATTANOOGA	204	990.7	1019.0	13.9	2.8	8.6	1.9	22.8	12	- 7.2	4	0	11	3.9	77	235	106	76	14	3	T	0	3.2	S	16.1	W	25	7	4	17	7.0	46
KNOXVILLE	290	982.7	1018.9	13.9	2.8	8.2	2.3	22.8	13	- 6.7	4	0	11	3.3	74	199	78	58	13	3	86	25	4.0	NE	26.8	SW	25	7	3	18	6.9	40
MEMPHIS	80	1003.2	1018.1	13.9	2.8	8.4	1.5	25.0	18	- 7.2	4	0	12	3.3	74	175	58	63	13	2	5	0	4.7	SSW	11.6	NW	25+	4	5	19	7.6	46
MEMPHIS U	83			13.3	4.4	8.8	1.9	23.3	16	- 6.1	4	0	8			184	77	55	13													
NASHVILLE	176	997.6	1018.1	14.4	2.2	8.3	2.6	23.9	12	-10.6	4	0	10	2.8	74	135	30	31	11	1	41	25	3.8	S	14.3	W	25	7	5	16	6.8	43
OAK RIDGE	276	984.5		13.9	2.2	8.1	3.1	22.2	12	- 7.8	4	0	12			200	53	65	12	1	43	0	2.0		18.8Y		25	8	4	16	6.6	
TEXAS																																
ABILENE	536	955.0	1017.2	15.6	2.2	8.9	-0.1	26.7	26+	- 5.6	7	0	12	1.7	65	39	15	27	6	2	119	102	4.5	SSW	13.4	S	17	10	7	11	5.6	65
AMARILLO	1094	888.6	1017.0	11.7	- 3.3	4.1	-0.2	26.1	12	-10.0	5	0	23	- 5.0	60	7	- 9	5	3	0	79	51	7.2	W	15.6	NE	26	7	11	10	5.6	72
AUSTIN	187	995.3	1017.5	18.9	6.7	12.7	0.4	26.7	17	- 1.1	8+	0	2	6.7	71	123	58	57	7	2	T	0	4.8	S	13.0	NW	24+	11	5	12	5.1	60
BROWNSVILLE	5	1014.6	1017.5	22.2	11.7	16.8	-0.9	27.2	17	2.8	7	0	0	12.8	80	8	- 22	3	7	0	0	0	5.4	SSE	17.0	NW	24	7	6	15	6.4	51
CORPUS CHRISTI	13	1016.3	1017.8	20.6	10.0	15.3	-0.4	28.3	27	0.6	7	0	0	11.1	78	53	16	23	7	2	0	0	5.2	SE	20.1	NW	24	8	5	15	6.3	55
DALLAS	147	998.6	1017.9	16.7	5.0	10.8	0.9	26.7	12	- 2.2	9	0	7	4.4	70	82	15	28	10	1	74	76	5.1	S	15.2	NW	24	7	5	14	6.1	53
DEL RIO U	292			20.0	6.7	13.4	-0.6	27.8	18	- 1.7	7	0	1			14	- 13	13	2	1	T	0										
EL PASO	1194	886.6	1016.4	17.2	0.6	8.8	-0.7	24.4	26	- 5.0	25	0	15	- 6.1	38	T	- 9	T	0	0	0	0	5.3	S	22.4	W	26	17	7	4	3.3	91
FORT WORTH	166	997.0	1018.1	16.1	4.4	10.2	0.3	26.7	23	- 2.2	8	0	9	5.0	75	56	- 9	20	8	1	74	76	5.6	SSW	12.1*	WNW	27+	10	4	14	5.9	
GALVESTON U	2			16.7	10.6	13.6	-0.5	21.7	18	2.8	8+	0	0			47	- 26	28	9		0	0	5.8		19.7	NW	24					60
GALVESTON	2	1015.9	1018.5	16.1	10.0	13.1	-0.9	21.1	18	2.2	8	0	0	9.4	80	63	- 17	35	9	3	0	0	4.8	S				8	4	16	6.5	
HOUSTON U	12	1012.5		18.9	9.4	14.3	0.1	27.2	18	2.2	8	0	0			164	93	72	10	7	0	0	4.6	SE	16.1	NW	24	9	5	14	6.2	54
HOUSTON	15	1015.6	1018.7	20.0	8.9	14.4	0.7	27.8	18	- 0.6	8	0	1	10.6	81	99	30	43	12	5	0	0	4.2	S				9	4	15	6.5	
LAREDO	152	1001.7	1017.0	23.3	8.9	16.1	-0.6	30.6	17	- 1.1	7	0	1	6.7	61	9	- 12	6	3	2	0	0	4.9	SE	19.7*	NNW	24	12	6	10	4.9	
LUBBOCK	998	903.5	1017.8	12.8	- 2.2	5.3	-0.9	26.7	11	- 7.2	6	0	21	- 1.7	67	64	50	55	5	0	348	305	6.2	N	16.5*	SW	17	9	8	11	5.4	
MIDLAND	870	915.7	1016.0	16.7	0.6	8.8	-0.6	27.8	12	-10.0	7	0	15	- 1.7	57	11	- 7	6	2	0	56	51	5.0	SSW	14.3*	N	24+	11	5	12	5.2	
PORT ARTHUR	5	1016.3	1018.0	20.0	7.8	13.7	0.4	25.6	18	- 0.6	8	0	1	10.0	81	111	4	32	11	4	0	0	4.7	S	18.8	NW	24	7	6	15	6.5	44
SAN ANGELO	580	948.9	1017.0	17.8	2.2	10.1	-0.8	28.3	12	-10.0	7	0	10	1.7	61	19	- 6	10	5	0	119	102	5.6	W	15.6*	N	23+	11	7	10	5.0	
SAN ANTONIO	241	992.2	1017.6	20.0	6.1	13.3	0.4	27.8	18	- 1.1	8+	0	3	6.7	69	45	5	42	7	1	T	0	4.8	N	17.9	NW	24	11	6	11	5.1	60
VICTORIA	34	1012.9	1017.6	20.0	8.3	14.1	-0.8	27.8	18	- 0.6	7	0	2	9.4	73	69	19	37	7	2	0	0	6.2	SSE	22.8Y	NNW	24	8	7	13	6.1	
WACO	152	996.6	1018.0	17.8	5.6	11.8	0.8	26.1	23	- 1.7	8	0	2	6.7	75	98	31	54	8	2	8	0	6.7	S	17.9*	NNW	24	11	8	9	5.4	
WICHITA FALLS	303	980.0	1017.6	13.9	1.7	7.8	0.1	28.3	12	- 4.4	8+	0	11	1.7	68	26	- 12	11	6	1	145	127	5.1	N	13.0*	N	27	9	6	13	6.1	
UTAH																																
MILFORD	1533	846.6	1021.0	8.9	- 5.0	2.2	2.8	17.2	11	-12.8	27	0	26			7	- 11	7	3	0	43	25						1	16	11	7.0	
SALT LAKE CITY	1286	870.6	1022.0	8.9	- 2.2	3.4	2.6	18.3	11	-11.1	26	0	20	- 1.7	74	52	21	18	11	1	406	152	3.9	S	13.0	S	11	4	4	20	8.0	42
WENDOVER	1291	874.0	1022.7	8.9	- 2.2	3.2		18.9	11	- 7.8	27	0	24			6		2	9	0	10	0						3	8	17	7.3	
VERMONT																																
BURLINGTON	101	1003.6	1019.2	- 1.7	-13.3	- 7.4	0.3	7.8	25+	-28.9	1	0	28	-11.7	71	42	3	28	6	0	61	127	3.4	SSW	14.5	W	19	9	6	13	6.1	59

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

FEBRUARY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
VIRGINIA																																
LYNCHBURG	289	985.4		9.4	- 0.6	4.7	0.7	22.8	24	-11.7	3	0	14			133	70	33	11	1	206	127	3.8		22.4	S	25	7	3	18	7.3	43
NORFOLK	8	1018.5	1020.0	11.7	1.1	6.4	0.9	25.6	19	- 9.4	2	0	15	2.8	80	116	38	43	9	0	30	25	5.5	SW	20.1	SW	25	8	3	17	6.7	51
RICHMOND	49	1013.7	1020.3	11.7	0.0	5.7	1.4	25.6	19	-10.6	2	0	17	- 0.6	68	137	67	39	10	1	127	51	3.7	NNE	17.0	SW	25	6	4	18	7.3	39
ROANOKE	358	976.3	1019.6	10.0	0.0	5.1	1.1	22.2	27	- 9.4	6+	0	13	- 1.7	67	114	49	37	12	0	526	330	4.3	SE				6	4	18	7.3	
WASHINGTON U	22			8.9	0.0	4.3	1.2	22.2	27	-14.4	2	0	12			128	61	31	11													
WASH NATL AP	4	1015.1	1019.7	7.8	- 0.6	3.5	0.7	21.1	27+	-15.6	2	0	13	- 1.1	74	145	83	41	12	1	457	330	4.2	S	25.5	SW	25	5	6	17	7.5	36
WASHINGTON																																
OLYMPIA	58	1009.8	1017.0	10.0	3.3	6.7	2.3	16.7	5	- 1.7	18	0	2	5.0	87	335	178	57	27	0	5	0	4.3	SW	12.5*	SW	18+	0	1	27	9.6	
SEATTLE TACOMA	122	1003.1	1017.1	9.4	4.4	6.9	1.9	13.9	5	1.1	26+	0	0	3.9	81	231	131	39	26	0	T	0	5.0	S	20.6*	SSW	21	0	1	27	9.5	
SEATTLE	4	1015.4	1016.4											4.4	78								4.2	SSE								
SEATTLE U	4			10.6	6.1	8.3	1.9	13.3	9+	2.8	24	0	0			197	102	39	26		T	0			18.3	SW	9					25
SPOKANE	718	947.5	1017.5	5.6	0.0	2.8	4.1	11.1	20	- 5.6	26	0	17	0.0	83	100	63	24	20	0	198	25	4.9	SSW	16.1	SW	11	0	2	26	9.6	23
STAMPEDE PASS R	1206	877.1	1017.9	0.6	- 3.3	- 1.3	1.5	4.4	20	- 6.1	26	0	26			528	247	62	28	0	3929	3353						0	1	27	9.8	
TATOOSH ISLAND	31	1011.2	1014.0	9.4	4.4	6.9	0.7	13.9	5	- 1.1	25	0	1	5.0	85	537	316	69	27	0	T	0	9.1	SSE	32.2	S	23	0	1	27	9.5	16
WALLA WALLA U	289	981.7	1018.0	12.2	4.4	8.4	4.9	18.3	9	1.7	26	0	0			76	38	22	21	0	0	0	3.1	S#	21.0	W	24	1	4	23	9.1	34
YAKIMA	323	978.3	1017.9	10.0	- 0.6	4.8	3.6	16.7	20	- 5.6	26	0	18	0.0	74	62	42	22	11	0	T	0	3.4	WNW	20.6*	SW	24	0	5	23	9.0	
WEST INDIES																																
SAN JUAN P.R. U	14			27.2	21.7	24.4	0.6	28.9	10+	20.0	26+	0	0			47	- 21	16	12													
SAN JUAN P.R.	5	1015.5	1018.6	28.9	20.0	24.2	0.8	29.4	23+	17.2	11	0	0	19.4	75	33	- 47	17	12	0	0	0	5.3	E	13.0	ENE	27	13	12	3	4.4	75
SWAN ISLAND	10	1013.5		28.9	23.9	26.3	0.6	29.4	26+	18.9	11	0	0			189	147	79	14	2	0	0						16	9	3	4.0	
WEST VIRGINIA																																
CHARLESTON	290	982.5	1018.8	9.4	- 0.6	4.4	1.0	21.7	24	-10.6	6	0	18	- 1.1	71	92	3	24	14	1	165	51	3.1	WSW	15.6*	W	25	3	4	21	8.4	
HUNTINGTON U	173			11.1	0.0	5.6	1.7	23.3	13	- 9.4	2	0	15			89	11	25	13		122	51										
PARKERSBURG U	187			9.4	- 0.6	4.4	2.4	22.8	24+	-15.0	2	0	19			92	25	35	12	4	292	178	2.8		13.4	W	26+	2	4	22	8.4	28
WISCONSIN																																
GREEN BAY	210	996.3	1019.9	0.6	- 7.8	- 3.8	4.4	8.3	22	-21.1	1	0	27	- 6.7	81	24	- 11	10	6	0	97	51	5.1	NE	17.9	NE	18	7	6	15	6.5	44
LA CROSSE	199	994.2	1020.1	2.8	- 7.8	- 2.4	4.7	11.1	11	-20.0	4	0	27	- 6.7	74	33	5	23	3	0	114	102	3.7	S	11.2*	WNW	26	7	6	15	6.4	
MADISON	261	982.4	1019.3	3.9	- 7.8	- 2.1	3.6	10.0	22+	-16.7	5	0	26	- 7.2	69	26	- 3	13	7	0	10	0	4.3	W	11.6	NE	2	4	6	18	7.3	58
MILWAUKEE	204	993.9	1020.0	3.3	- 5.6	- 1.2	3.1	10.6	21	-14.4	5	0	26	- 5.6	74	31	- 1	18	7	0	61	51	4.7	WNW	12.5	W	19+	5	5	18	7.4	42
WYOMING																																
CASPER	1621	835.8	1017.1	5.0	- 6.1	- 0.3	3.1	12.8	11	-13.3	5	0	26	- 6.7	66	13	- 5	5	6	0	196	76	7.2	SW	17.0*	WSW	25	4	8	16	7.0	
CHEYENNE	1869	809.3	1017.2	6.7	- 6.7	- 0.1	2.3	18.9	11	-16.1	18	0	26	-10.0	50	9	- 7	7	6	0	97	51	7.1	WNW	24.1	W	12+	5	10	13	6.2	69
LANDER	1696	834.1	1018.3	4.4	- 7.8	- 1.6	3.5	13.3	10	-16.1	6	0	28	- 8.3	62	30	15	11	5	0	536	178	2.7	SW#	19.2	SW	25	3	12	13	6.9	70
SHERIDAN	1202	883.2	1017.5	7.2	- 5.0	1.2	6.1	17.2	10	-12.2	18	0	27	- 4.4	68	25	9	13	9	0	224	102	4.2	NW	25.5	NW	25	2	9	17	7.5	66

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

A Maximum hourly average.

\+ And also on an earlier date or dates.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

B Number of days maximum 21.1°C. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period July through this month	Normals July through this month
ALABAMA			
Birmingham	356	2322	2244
Huntsville	415	2640	
Mobile	214	1506	1343
Montgomery	302	2059	1769
ALASKA			
Anchorage	1312	7076	7718
Annette	755	4369	4773
Barrow	2579	14100	13196
Barter Island	2557	13422	
Bethel	1965	8989	8928
Cold Bay	1164	6248	6299
Cordova	1003	6046	6519
Fairbanks	1948	10164	10600
Juneau	932	5667	6225
King Salmon	1699	7644	7821
Kotzebue	2186	10240	10802
McGrath	1974	10178	10472
Nome	1884	9095	9468
St. Paul	1313	7188	6907
Shemya	930	6203	
Yakutat	962	5751	6301
ARIZONA			
Flagstaff	868	4726	5212
Phoenix (U)	160	866	1255
Phoenix	259	1199	1428
Prescott	619	3077	3358
Tucson	331	1418	1453
Winslow	667	3910	3610
Yuma	73	560	849
ARKANSAS			
Ft. Smith	532	2741	2619
Little Rock	480	2749	2441
Texarkana	397	2160	1954
CALIFORNIA			
Bakersfield	296	1945	1730
Bishop	565	2967	3179
Blue Canyon	703	3165	3708
Burbank	140	799	1284
Eureka (U)	409	3026	3050
Fresno	369	2209	2040
Long Beach	209	990	
Los Angeles (U)	111	578	1023
Los Angeles	193	945	1380
Mt. Shasta (R)	697	3584	4111
Oakland	329	2069	2190
Point Arguello (R)	347	2381	
Red Bluff	365	1997	1982
Sacramento (U)	328	1999	1997
Sacramento	363	2033	2142
Sandberg (R)	582	2600	2862
San Diego	160	711	1060
San Francisco (U)	262	2175	2045
San Francisco	324	2083	2288
San Jose (U)	277	1574	1690
Santa Maria	311	1936	1936
COLORADO			
Alamosa	1106	6239	6288
Colorado Springs	892	4445	4443
Denver	828	4306	4413
Grand Junction	774	4005	4488
Pueblo	824	4017	4248
CONNECTICUT			
Bridgeport	916	4186	4177
Hartford	1045	5078	4508
Middletown	996	4943	
New Haven	932	4391	4281
DELAWARE			
Wilmington	843	4068	3700
DIST. OF COLUMBIA			
Washington (U)	704	3424	3258
Washington	740	3577	3304
FLORIDA			
Apalachicola (U)	193	1184	1090
Daytona Beach	165	859	720
Fort Myers	52	334	345
Jacksonville	162	722	1051
Key West	9	81	70
Lakeland (U)	91	623	554
Miami	29	169	166
Miami Beach	21	106	114
Orlando	97	611	558
Pensacola (U)	191	1276	1187
Tallahassee	219	1382	1278
Tampa	92	579	572
West Palm Beach	47	231	215
GEORGIA			
Athens	467	2528	2253
Atlanta	429	2428	2269
Augusta	388	2231	1768
Columbus	347	2073	1951
Macon	316	1996	1712
Rome	482	2869	2516
Savannah	295	1722	1429
Thomasville (U)	201	1376	1232
IDAHO			
Boise	661	3947	4377
IDAHO (Cont'd.)			
Idaho Falls 46W (R)	988	5766	6234
Idaho Falls 42NW(R)	988	5983	6541
Lewiston	624	3813	4122
Pocatello	830	4803	5082
ILLINOIS			
Cairo (U)	612	3170	3004
Chicago (Midway)	853	4346	4648
Chicago (O'Hare)	935	4690	
Moline	954	4692	4805
Peoria	922	4672	4591
Rockford	934	4921	
Springfield	877	4249	4317
INDIANA			
Evansville	706	3675	3424
Ft. Wayne	917	4651	4618
Indianapolis	861	4399	4201
South Bend	961	4654	4775
IOWA			
Burlington	927	4461	4601
Des Moines	970	4636	4894
Dubuque	979	5188	5402
Sioux City	1107	4974	5326
Waterloo	1049	5340	5383
KANSAS			
Concordia (U)	815	3815	4091
Dodge City	758	3600	3867
Goodland	856	4153	4650
Topeka	816	3831	4037
Wichita	771	3526	3564
KENTUCKY			
Lexington	672	3690	3746
Louisville	721	3760	3444
LOUISIANA			
Alexandria	353	1913	
Baton Rouge	251	1603	1332
Lake Charles	232	1385	1293
New Orleans (U)	162	1094	993
New Orleans	216	1323	1096
Shreveport	342	1923	1784
MAINE			
Caribou	1462	6955	7209
Greenville (U)	1382	6870	
Portland	1140	5551	5438
MARYLAND			
Baltimore (U)	705	3366	3193
Baltimore	780	3880	3613
Frederick	896	4394	3707
MASSACHUSETTS			
Blue Hill Obs. (R)	983	4704	
Boston	928	4199	4130
Nantucket	943	4128	4047
Pittsfield	1101	5575	5503
Worcester	1036	5170	
MICHIGAN			
Alpena	1187	6053	5583
Detroit (City AP)	950	4531	4608
Detroit (M. Wayne Co.)	949	4684	
Detroit (Willow Run)	935	4597	4703
Escanaba (U)	1169	5777	6013
Flint	1045	5154	5132
Grand Rapids	997	4836	5081
Lansing	1037	5047	
Marquette (U)	1119	5756	5893
Muskegon	1033	4830	4970
S. Ste. Marie	1279	6356	6604
MINNESOTA			
Duluth	1261	6687	7112
Internat. Falls	1334	7416	7763
Minneapolis	1184	5982	5867
Rochester	1096	5728	6032
St. Cloud	1176	6162	6612
MISSISSIPPI			
Jackson	336	2057	1822
Meridian	331	2118	1930
Vicksburg (U)	324	1935	1656
MISSOURI			
Columbia	768	3677	3940
Kansas City	732	3519	3811
St. Joseph	830	3975	4153
St. Louis (RFC)	714	3393	3478
St. Louis	810	3761	3642
Springfield	728	3503	3632
MONTANA			
Billings	733	4250	5161
Butte	927	6120	6898
Glasgow	1116	5879	6549
Great Falls	807	4478	5401
Havre	*982	5253	6102
Helena	789	5082	5983
Kalispell	821	5573	5840
Miles City	927	5024	5841
MONTANA (Cont'd.)			
Missoula	856	5650	5784
NEBRASKA			
Grand Island	904	4418	4805
Lincoln (U)	899	4196	4490
Norfolk	1020	4907	5320
North Platte	914	4619	4868
Omaha	942	4346	4733
Omaha N. Omaha AP	985	4649	
Scottsbluff	901	4798	4955
Valentine	978	4990	5191
NEVADA			
Elko	889	4921	5266
Ely	925	4957	5265
Las Vegas	384	2045	2045
Reno	674	4104	4278
Tonopah	759	3858	4183
Winnemucca	791	4414	4619
NEW HAMPSHIRE			
Concord	1121	5558	5525
Mt. Washington Obs. (R)	1552	9698	
NEW JERSEY			
Atlantic City	804	3760	
Atlantic City (U)	795	3738	3331
Newark	814	3824	3883
Trenton (U)	815	3926	3760
NEW MEXICO			
Albuquerque	678	3397	3441
Clayton	800	3791	3781
Raton	915	4614	4661
Roswell	627	3366	2768
Silver City	601	2935	
NEW YORK			
Albany	1101	5268	5080
Binghamton	1099	5342	5408
Buffalo	1072	5049	4823
New York (U)	788	3741	3670
New York(LaGuardia)	784	3596	3631
Rochester	1045	4963	4913
Schenectady	1084	5050	5172
Syracuse	1091	4987	4711
NORTH CAROLINA			
Asheville (U)	582	3232	3105
Cape Hatteras (R)	440	2122	1802
Charlotte	513	2651	2555
Greensboro	607	3159	2991
Raleigh	559	2914	2649
Wilmington	394	2197	1865
Winston-Salem	597	3024	2921
NORTH DAKOTA			
Bismarck	1283	6083	6718
Devils Lake (U)	1381	6910	7345
Fargo	1292	6635	6917
Grand Forks CAA	1358	6961	
Pembina	1430	7080	
Williston (U)	1186	5864	6713
OHIO			
Akron	897	4675	4497
Cincinnati (U)	676	3467	3465
Cincinnati	729	3820	3899
Cincinnati Obs.	719	3774	3696
Cleveland	930	4775	4332
Columbus	782	4244	4179
Columbus (U)	760	4084	3953
Dayton	811	4309	4163
Mansfield	889	4644	
Sandusky (U)	897	4362	4235
Toledo	938	4758	4629
Youngstown	922	4765	4467
OKLAHOMA			
Oklahoma City	618	2860	2932
Tulsa	619	2857	2882
OREGON			
Astoria	511	3167	3346
Burns (U)	803	4751	5049
Eugene	507	3120	3394
Meacham	851	5005	5356
Medford	558	3160	3338
Pendleton	540	3593	3956
Portland (U)	463	2661	3012
Portland	494	3003	3331
Roseburg	480	2878	3216
Salem	524	3008	3262
Sexton Summit (R)	781	3824	4079
PENNSYLVANIA			
Allentown	959	4636	4356
Erie	989	4586	4577
Harrisburg	871	4242	3943
Philadelphia (U)	734	3458	3394
Philadelphia	862	4158	3656
Pittsburgh (U)	784	3935	3761
Pittsburgh	907	4574	4370
Reading (U)	838	4012	3790
Scranton	1005	5008	4441
Williamsport	976	4856	4387
RHODE ISLAND			
Block Island	920	4022	3944
Providence	955	4468	4365
SOUTH CAROLINA			
Charleston (U)	326	1640	1466
Charleston	347	1911	1629
Columbia	412	2270	2012
Florence	406	2222	2090
Greenville	480	2518	2425
Spartanburg	508	2636	2430
SOUTH DAKOTA			
Huron	1269	6229	5923
Pierre	1028	5267	
Rapid City	884	4687	5370
Sioux Falls	1153	5560	5911
TENNESSEE			
Bristol	586	3372	3203
Chattanooga	486	2934	2693
Knoxville	507	2997	2844
Memphis (U)	473	2577	2432
Memphis	490	2764	2547
Nashville	501	3066	2786
Oak Ridge (U)	513	3121	3192
TEXAS			
Abilene	473	2280	2200
Amarillo	714	3348	3362
Austin	299	1601	1452
Brownsville	123	697	543
Corpus Christi	186	1014	887
Dallas	382	2011	1909
Del Rio (U)	260	1443	
El Paso	473	2457	2201
Ft. Worth	409	2105	1958
Galveston (U)	235	1174	1005
Galveston	260	1201	1029
Houston (U)	224	1226	1083
Houston	227	1211	1168
Laredo	162	1021	710
Lubbock	653	2995	2869
Midland	474	2366	2153
Port Arthur	240	1372	1267
San Angelo	411	2045	1788
San Antonio	272	1407	1355
Victoria	233	1217	969
Waco	333	1826	1696
Wichita Falls	525	2457	2475
UTAH			
Milford	808	4356	4783
Salt Lake City	743	4131	4358
Wendover	757	4247	
VERMONT			
Burlington	1297	6069	5698
VIRGINIA			
Lynchburg	681	3422	3193
Norfolk	595	2900	2630
Richmond	632	3259	3068
Roanoke	663	3384	3194
WASHINGTON			
Olympia	579	3686	3822
Seattle (U)	503	2851	3131
Seattle	509	3167	3389
Seattle-Tacoma	569	3367	3700
Spokane	775	4670	4981
Stampede Pass (R)	982	6043	6175
Tatoosh Island (R)	573	3592	3803
Walla Walla	534	3509	
Walla Walla (U)	495	3326	3737
Yakima	673	4299	4519
WEST VIRGINIA			
Charleston	696	3678	3357
Huntington (U)	637	3496	3162
Parkersburg (U)	696	3655	3599
WISCONSIN			
Green Bay	1109	5677	5977
La Crosse	1040	5284	5739
Madison	1018	5343	5476
Milwaukee	978	5159	5141
WYOMING			
Casper	936	4997	5440
Cheyenne	923	4819	5181
Lander	997	5504	6012
Sheridan	862	4927	5675

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

* Airport Data after January 25, 1961

STORM SUMMARY

FEBRUARY 1961

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
Alabama	3	3	0	6	5																								
Alaska *																													
Arizona *																													
Arkansas *																													
California										1	6	4	0													0	0	4	0
Colorado *																													
Connecticut																		10	0	5	0								
Delaware *																													
Florida	2	1	0	0	3					0	0	4	0																
Georgia	7	2	0	0	5																					0	0	5	4
Hawaii *																													
Idaho *																													
Illinois																		8	20	5	0								
Indiana																		2	?	6	0								
Iowa																						3	30	6					
Kansas	2	1			3			5								3													
Kentucky																		5	N	5									
Louisiana	1	1	0	9	5	0	0	3	0																				
Maine										0	0	3	0					0	0	4	0					0	0	5	0
Maryland *																													
Massachusetts										0	0	5	0					4	0	5	0					0	0	5	0
Michigan												4												4					
Minnesota *																													
Mississippi	5	2	0	12	5																								
Missouri *																													
Montana										0	0	4	4																
Nebraska														0	0	3	0					0	?	5	0				
Nevada *																													
New Hampshire																		0	0	3	0					0	0	5	0
New Jersey																		0	0	5	0								
New Mexico *																													
New York												5								7				4					
North Carolina	1	1	0	0	3					0	0	°5						0	U	4	0	2	U	5	0				
North Dakota *																													
Ohio	1	1	0	0	5					0	0	6	0																
Oklahoma	4	1	0	19	6	0	1	3	0																	0	0	5	0
Oregon										0	0	6	3													3	S	6	4
Pennsylvania												4						15	6	5									
Puerto Rico *																													
Rhode Island																		1	1	5	0								
South Carolina	3	1	0	5	4					0	0	4	0									0	0	4	0				
South Dakota																		2	1										
Tennessee										0	0	4	0																
Texas	1	1	0	0	3					0	0	5	0					1	0	5	4					1	0	0	0
Utah *																													
Vermont																		0	0	3	0					0	0	4	0
U. S. Virgin Is.*																													
Virginia										?	?	?	?					4	?	?	?					2	?	?	
Washington																												5	
West Virginia				1	5																	1							
Wisconsin *																													
Wyoming *																													

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
° Includes crop damage.
N Numerous.
S Several.
U Unknown.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

RECORD TO NEAR RECORD FLOODS IN THE EAST GULF OF MEXICO DRAINAGE

FEBRUARY 1961

Prolonged heavy rains during the period February 17 to the 25th caused moderate to severe floods in Georgia, Alabama and Mississippi with record to near record stages in many streams during the latter part of February and the first part of March. Property damage was high over the flood area and will total many millions of dollars. At least 4 lives were lost in these floods.

Antecedent Precipitation

The antecedent precipitation index was unusually low when the rains began on February 17. Precipitation during the 3 preceding months averaged about 50 percent of normal.

Precipitation

Numerous and frequent heavy rains continued more or less with few interruptions during the period from the 17th to the 25th. The rainfall that caused these floods is shown in figure 1. The daily rainfall amounts and the total amounts for each station are shown in table 1.

Meteorological Analysis

Quasi-stationary fronts and a maritime tropical air mass across the Gulf and southeastern states combined with a long wave trough in the western states produced the very heavy rains. The rains began on the 17th in a strong southerly flow as a cold front moved into the lower Mississippi Valley, becoming weak and diffuse. On the 18th, a second and stronger cold front oriented northeast-southwest moved into the Gulf States reaching central Alabama on the morning of the 19th. The front became stationary from Alabama southwestward along the Texas coast, while the northern portion of the front moved on to the east so that by the 20th a stationary front extended from South Carolina westward across southern Alabama to the Texas coast. On the 20th a wave developed on the front off the Texas coast. This wave moved northeastward and the front across south Alabama moved northward as a warm front yielding from 4 to 8 inches of rain in north-central Alabama in a 24-hour period. By the morning of the 22d the wave had deepened slightly and moved to western Kentucky, with a cold front southward into western Alabama and a warm front across southern Georgia and Alabama. The cold front moved into central Georgia and became diffused the following day. A sharp cold front oriented northeast-southwest moved rapidly into the Gulf States on the 24th, while a warm front developed and extended from Georgia westward across south Alabama to the Texas coast. As the cold front reached the Texas coast a wave developed and, deepening, moved rapidly northeastward. The heaviest rains of the period occurred with this system, with 6 to 9 inches falling in less than 24 hours in central Alabama. On the 25th, the front moved to the Atlantic coast and the low to the Ohio Valley bringing an end to the flood-producing rains.

Except for a shallow easterly flow across north and central Alabama and Georgia much of the time, this period of rain was marked by very strong south to southwest winds to great heights. Unstable tropical air, either at the surface or aloft, was prevalent as there were numerous thunderstorms and rainfall intensities varied considerably from hour to hour. From the 17th through the 24th a long wave trough at 500 mb. remained near the southern Rockies, finally deepening and moving rapidly eastward to the Mississippi Valley on the 25th.

The Floods

APALACHICOLA RIVER SYSTEM

Moderate to severe flooding occurred in the Chattahoochee, Flint, and Apalachicola Rivers during the latter part of February and early March. Owing to the distribution of the heavy rains, the rise in the Chattahoochee was the more important and was the greatest since March 1929. The flood this year ranks as the fourth highest of record. The Flint River rose mostly about 4 feet above flood stage, except as much as 9 feet above flood stage at Albany, Ga. The crest of about 24 feet at Montezuma, Ga., was the highest since December 1948, but crests at other places downstream were not as high as those of April 1960. The Apalachicola reached the highest stage at Chattahoochee, Fla., since December 1948 and the highest at Blountstown, Fla., since March 1929.

ALABAMA RIVER AND TRIBUTARIES AND CHOCTAWHATCHEE

Record floods occurred on the Alabama, Coosa, and Cahaba Rivers in Alabama from the excessive rainfall during the 9-day period. The rainfall was heaviest over northwest Georgia and northern Alabama during the period from the 18th to the 21st. (See table 1).

Floods in the Birmingham, Ala., area were one of the most severe in its history. Rainfall during the period from the 17th to the 22d totaled 14.37 inches. Local flooding was widespread along all creeks in Jefferson County. Village Creek in Birmingham and Valley Creek in Bessemer were out of their banks from the 20th to the 22d. Streets in the downtown area and main traffic arteries were covered for prolonged periods with water which ranged upward to 1 foot deep.

TOMBIGBEE RIVER AND TRIBUTARIES

Heavy rainfall during the 24-hour period ending on the morning of the 18th caused a flash flood on the lower Tombigbee before runoff from upstream affected the area. Over 6 inches of rain was reported overnight from the Jackson, Ala., area. Almost continuous rains occurred for 6 days, causing near record floods on the Warrior and the lower reaches of the Tombigbee. The floods on the Black Warrior at Tuscaloosa, Ala., were the highest in more than 60 years.

PASCAGOULA AND PEARL RIVER AND TRIBUTARIES

Record floods occurred in the Pascagoula River Basin on the Chickasawhay and Leaf Rivers in Mississippi from the heavy rains from the 17th to the 22d. The Pascagoula River at Merrill, Miss., approached within 0.4 foot of the record 31.0-foot stage of July 1916. Crest stages for the April 1900 flood, obtained from high water marks, were generally higher than this flood except at Enterprise and Beaumont, Miss.

In the Pearl River Basin, the Bogue Chitto River exceeded slightly the previous record stage at Franklinton, La., of 18.46 feet established in March 1943. Record stages also occurred on the Pearl River at Edinburg, Miss., and Bogalusa, La.

Flood Forecasts and Warnings

Flood forecasts and warnings were adequate and timely. Civil Defense and the American Red Cross moved into the danger areas as soon as the flood forecasts and warnings indicated such a need. The savings in lives were great; thousands were evacuated. The forecasts and warnings were up-dated and timed to provide effective rescue observations. To provide the necessary observations several river-rainfall observers made their way by boat at night over dangerous flood waters to obtain the data needed. Others obtained data from gages on weakened bridges to closed roads. These prompt reports enabled the River Forecasters to keep the forecasts and warnings ahead of the impending floods and in time for planning by evacuation forces.

Flood Damages

Reports on flood damages are incomplete, but preliminary estimates indicate that the damages will be in at least 8 figures. The Red Cross reported that it would have to spend $1 million or more for the care of victims of the floods. More than 13,000 families in Georgia, Alabama, Mississippi, and Louisiana were affected by the floods.

The Small Business Administration designated 15 counties in Alabama, 6 in Mississippi, and 2 in Georgia as disaster areas resulting from flood damage.

Heavy damages occurred on the Chattahoochee at West Point, Ga., where water overspread much of the city and business area to depths of 2 to 4 feet or more. Many persons had to be evacuated to temporary places of safety. Considerable rehabilitation of property, refurnishing of flooded furnishings, and other cleaning up will be necessary. At Columbus, Ga., the Chattahoochee rose about 8 feet above the safety level for all parts of the city. Some evacuation of persons was necessary in some outskirts of the city. Most of the city is on high enough ground to escape a flood like the one this year. Below Columbus most of the flooded areas involved woodlands or agricultural fields, and most homes were beyond the reach of flooding waters. Considerable stock had to be removed from lowland grazing areas, and none are known to have been lost. Some damages were sustained to construction work at both the Walter F. George Dam at Fort Gaines and the Columbia Lock and Dam construction at Columbia, Ala. On the Apalachicola River some damages occurred at lumbering posts, especially around Blountstown, Fla.

Approximately 7,800 families in the State of Alabama sustained flood losses. Public property damage is estimated to exceed $8 million, not including highways and bridges which sustained damage estimated at $1.5 million. Agricultural losses were heavy, mostly buildings and livestock. Cattle losses have been estimated at 2,500 head in Elmore and Montgomery Counties alone. Many roads in southern Alabama were closed, including U. S. Highways 80 and 29.

Property damage was heavy in Mississippi, particularly in the Pascagoula River Basin. The greatest damage occurred on the Leaf River in the Hattiesburg area where approximately a third of the city was inundated. At least 4 persons were drowned in this area.

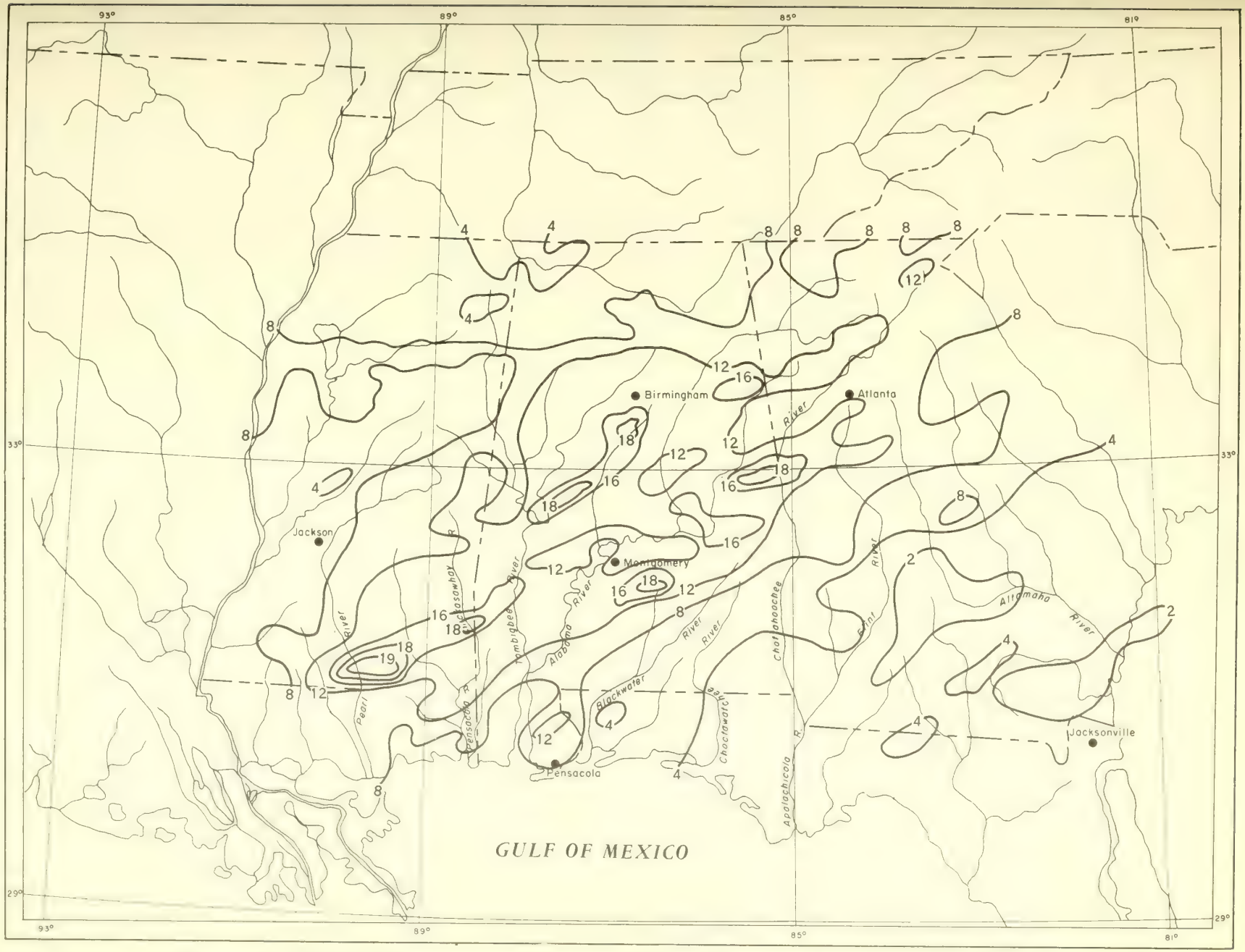


Figure 1 TOTAL PRECIPITATION, (Inches) FEBRUARY 17-25, 1961

TABLE 1, PRECIPITATION FEBRUARY 17-25, 1961

ALABAMA	17	18	19	20	21	22	23	24	25	Storm Totals
Abbeville 1 NNW			1.41	0.33			1.90		0.25	3.89
Addison Central Tower	*	*	*	*	4.45	2.53	.23		.71	7.92
Alberta		3.47	1.57	.89	1.48	.02	.40		3.28	11.11
Albertville 2 SE		.23	.48	.79	2.45	2.22	1.69		1.29	9.15
Alexander City 6 NE		2.20	2.60	.69	1.30	.60	1.40	1.81	2.64	12.88
Aliceville		.75	.43	1.30	2.76	4.80	.68		.94	11.66
Andalusia 1 NW		.44	2.78	.08		.35	1.67		1.05	6.37
Anniston FAA AP	.35	1.45	1.56	2.47	2.93	3.08	.02	1.79	.63	14.28
Arley 3 S		.56	.76	1.02	3.95	2.45	1.29		.84	10.87
Ashland	.08	3.08	2.45	.63	1.97	.12	.60	.82	2.48	12.53
Ashville 4 W		.38	1.23	.96	4.67	2.26	2.70		1.26	13.45
Athens		.41	.06	.45	1.66	1.24	.38		.75	5.45
Athens 2	.06	.55	.33	.97	.90	1.35			.68	4.86
Atmore State Farm	.03	4.00	.62	.20	.02	1.32	.65	.32	1.40	8.56
Auburn 3 SW		3.12	1.22	1.96	.12	*	1.95	.06	7.83	16.26
Autaugaville		1.73	2.44	1.83	1.04	.11	.88		4.24	12.27
Bankhead Lock & Dam		.40	.91	1.67	4.61	1.62	.52		1.12	13.88
Bay Minette		*	1.71			1.32	.42	*	1.42	4.90
Belgreen	.02	.71	.23	.89	1.45	.25	.05		.50	4.10
Belle Mina 2 N	.05	.50	.66	1.25	.40	2.18	.03	.02	.85	5.94
Bessemer 4 SW		.54	1.55	.91	4.63	4.77	4.13		1.30	17.83
Bethlehem		.30	.01	.11	1.21	.86	.89		.84	4.82
Billingsley 1 SE	1.75	2.70	2.87	1.71	.29	.85		3.04		13.21
Bingham Mountain		.16	.95	.10	1.89	1.76	1.86		.89	7.61
Birmingham WB AP	.15	.64	1.22	3.02	5.46	3.88		.66	.43	15.46
Bishop		.65	.88	.50	1.80	.13	.08		.60	4.64
Boaz		.14	.64	.92	3.50	1.32	1.93		1.15	9.60
Brantley		1.92	2.00	.43		.36	1.12		1.46	7.29
Brewton 3 SSE		.09	4.53	.22		.22	1.90	.03	1.00	7.09
Bridgeport 2 W	.08	.79	.19	.87	1.27	2.99	.44	.07	.88	7.58
Brookwood	.01	.82	.43	1.19	4.70	4.52	1.29		1.39	14.35
Brundidge		.95	1.50	.92		.95	1.15		.92	6.39
Calera 2 SW		2.34	1.63	1.08	3.52	2.96	.73	1.50	.78	14.54
Camden 3 NNW	.64	3.67	1.38	.09	2.54	.21	.73	2.39	1.04	12.69
Camp Hill 2 NW		1.68	3.85	3.40	.54	.64	2.38		6.00	18.49
Carbon Hill		.67	.76	1.30	4.61	4.52	.21	T	.47	12.54
Center Grove	T	.29	.92	.64	2.39	1.88	1.52		.94	8.58
Centre 5 SW		.19	1.06	.83	4.15	1.40	2.33		1.29	11.25
Centreville		2.25	1.05	1.75	4.45	1.98	3.01		2.97	17.46
Chatom	1.08	6.48	1.57	.02	1.56	.72	.16	.53	.34	12.46
Childersburg		1.10	2.12	1.58	2.10	1.68	1.24		2.40	12.22
Childersburg Wtr Plant	.01	2.33	1.86	.77	3.82	1.61	.64	1.31	1.24	13.59
Citronelle	.37	3.70	1.55	.12		.22	.06	4.40		10.42
Clairborne		2.82	1.88	1.04	T	.02	.37		6.95	13.08
Clanton		1.50	1.85	2.25	1.75	.80	.95		2.80	11.90
Coden		1.70	.61	.02		.83	.40	.05	.73	4.34
Coffee Springs 2 NW			1.85			.27	1.40		.22	3.74
Colbert Steam Plant		.31	.35	.15	1.65	.16	.10		.49	3.21
Collinsville		.15	.89	.70	3.88	.97	1.77		.95	9.31
Columbia			.90	.05			1.35		.62	2.92
Cordova		.38	1.18	1.63	4.15	1.20	1.30		.92	13.76
Cottonton		.15	1.30	1.64	.01	.01	1.33		.72	5.16
Cuba		2.76	.90	1.10	1.66	7.32	.26		1.37	15.37
Dadeville		1.13	2.43	3.45	1.39	.22	1.27		5.77	15.66
Dancy 4 N	.78	.31	1.22	3.00	4.14	.58		*	.74	10.77
Danville		.42	.46	1.17	1.01	2.84	1.69		.75	8.34
Dayton		4.21	.56	1.00	2.40	.78	1.56	.64	.40	11.55
Decatur		.20	1.45	.29	1.69	1.00	1.54		.10	6.27
Decatur 4		.19	1.29	.29	1.64	.89	1.07		.71	6.08
Decatur Substation	T	.17	1.22	.46	1.38	1.89	.55		.77	6.44
Delta		.37	2.24	2.09	2.32	.88			3.40	11.30
Demopolis Lock & Dam		2.35	1.10	2.18	2.93	3.82	.98		2.96	16.32
Dothan FAA Airport		1.00	.13			.58	1.15	.07	.12	3.05
Double Springs	.02	.48	1.12	.93	2.03	2.82	.53	.02	.64	8.59
Elba		.20	1.20	1.04		.55	2.45		.60	6.04
Elkmont		.41	.40	.45	1.07	.97	.47		.74	4.51
Elrod			.65	1.92	4.50	3.10	.40		.70	13.27
Enterprise						.73	1.19	T		1.92
Eufaula	T	.02	1.22	1.31	.02	T	2.46		.64	5.67
Evergreen FAA AP	.32	3.11	.15	T	T	2.14	.08	1.38	.18	9.66
Fairhope		7.32	1.81	.03		1.38	.95	.20	.30	11.99
Falco Open Pond Tower		.07	2.22	.04		1.80	1.19	.05	.42	5.79
Falkville		.54	.05	1.61	1.53	*	3.07		.96	7.76
Falls City Blk Pond Twr		.65	.36	1.50	3.13	3.07	1.61		.60	10.92
Farley	.02	.19	.45	.21	2.06	1.61	1.41		.85	6.80
Fayette		.79	.56	2.25	3.60	3.72	.62		.50	12.04
Flat Rock		*	*	*	*	*	5.37		*	
Fort Deposit		2.60	1.64	2.29			1.52	.01	9.46	17.52
Fort Morgan	1.80	.40				.95	.15	.90		4.20
Fort Payne		.17	.74	.44	2.40	.76	1.95		.95	7.41
Frisco City		2.61	2.09	1.52	T	.21	.94		7.30	14.67
Gadsden		.25	1.01	1.15	4.86	1.33	2.16		1.13	11.89
Gadsden Gas Plant		.21	.75	1.30	1.75	1.39	2.14		1.01	11.55
Gainesville	T	1.30	.57	1.15	2.62	4.89	.34		.69	11.86
Garden City	T	.57	.72	1.10	5.16	2.20	2.30		.89	12.74
Garth		.25	.73	.27	2.10	1.85	1.69		1.00	7.89
Geneva			1.19				1.54		.22	3.25
Georgianna		2.00	2.80	1.20	T	.10	1.90	T	1.40	9.40
Gilbertown	1.25	3.52	.65	.14	4.40	2.24	.05	3.32	.31	15.88
Gorgas		.21	.83	1.48	1.53	3.36	1.38		1.00	12.79
Green Bay		.02	1.57	.05		.07	3.60		.67	5.98
Greensboro	.34	2.71	1.83	1.51	5.18	4.22	.14	1.97	.43	18.30
Greenville		2.61	2.19	2.14		.09	3.14	.02	8.32	18.51
Gulf Shores Post Off.	.05	.01	.72	T	.01	T	3.52		.92	5.23
Guntersville	.05	.60	1.10	1.18	1.35	1.12	.44	.10	.20	6.44
Guntersville Evap.	.01	.59	.57	1.53	1.37	2.16	.40	.08	.75	7.46
Guntersville Dam		.05	.45	.40	2.15	1.55	1.80		.70	7.40

ALABAMA	17	18	19	20	21	22	23	24	25	Storm Totals
Haleyville			0.59	0.54	2.73	1.43	0.36		1.01	6.66
Hamilton	.01	.78	.55	.65	3.18	1.06			.43	6.66
Harrisburg Cahaba Twr		2.05	1.25	1.54	2.70	1.10	1.55		2.50	12.69
Hayneville		2.30	1.20	2.70			.33		5.68	12.21
Headland			1.54	.05			1.71		.25	3.55
Heflin		1.47	.90	1.87	5.18	.63	1.20	.70	4.48	16.43
Highland Home		3.00	1.25	2.20		.23	1.55		4.00	12.23
Hightower		.48	2.33	1.37	1.87	.66	.75		1.15	8.61
Hodges		*	.81	.67	2.34	.52	T		.48	4.82
Huntsville Substa		.12	1.10	.13	1.61	1.20	1.72		.56	6.44
Huntsville WB AP	.16	.91	.39	1.46	.77	2.69		.12	.60	7.10
Hustleville		.20	.59	.66	3.10	1.41	1.24		1.04	8.24
Hytop		.40	.95	.60	.95	2.70	.45		1.00	7.05
Ider		.18	.85	.60	1.63	.90	1.88		1.08	7.12
Jacksonville 2 SW	T	.22	.86	1.61	5.02	.73	1.82		1.80	12.06
Jasper 4 N	.21	.74	.63	3.66	2.77	4.22	.04	.12	.70	13.30
Jordan Dam		1.42	2.78	3.00	2.51	1.76	.63		5.46	17.56
Lafayette		2.93	2.80	2.57	1.55	.47	1.19	5.75	1.00	18.26
Lay Dam		1.16	1.45	2.10	1.21	.95	.86		2.62	10.35
Leeds		.70	.80	1.27	2.97	2.11	2.58		1.73	12.16
Leesburg		.24	.47	1.44	4.18	.90	2.10		1.22	10.55
Livingston	1.14	1.81	1.40	1.10	2.12	2.03		1.15	.31	11.06
Lockhart		.07	1.49	.10	T	.16	2.71		.38	4.91
Louisville		.16	1.65	1.15		.33	1.36		.76	5.41
Madison	.07	.21	1.59	.50	1.43	2.55	.68		.81	7.85
Magella		.36	1.19	1.16	4.60	3.45	4.28		1.12	16.16
Marion 1 N		3.25	3.25	1.37	3.08	1.72	.52		1.58	14.77
Marion Junction		3.00	1.65	1.95	1.95	.75	1.25		3.00	13.55
Marion Junction 2 NE	.70	3.77	1.51	.40	2.65	.36	1.06	2.29	.62	13.36
Martin Dam	T	2.93	3.07	.43	.90	.32	1.19	3.44	2.64	14.92
Mathews 1 SSW		2.60	1.83	1.69	T	.21	.98		7.77	15.08
Melvin		4.90	.87	.60	4.75	3.73	.10		2.10	17.05
Mertz Pondville Tower		2.18	1.32	1.65	3.38	2.55	3.15		1.65	15.88
Millers Ferry		2.59	1.50	1.27	.90	1.44	.58	T	4.63	12.91
Milstead		1.96	1.88	2.11		.18	1.30	T	9.27	16.70
Minter 3 NW		2.40	1.20	1.40	1.90	1.10	.60		2.50	11.10
Mitchell Dam		1.29	2.04	2.83	1.30	.25	.87		2.89	11.47
Mobile WB Airport	.07	2.01	.46	.06	.01	.53	.01	2.05	.03	5.23
Mobile		.04	3.00	.17		T	1.10			4.31
Monte Sano	.09	.31	1.12	.47	1.39	1.83	1.73		.68	7.62
Montevallo	T	1.59	2.01	1.53	4.14	2.49	2.58		2.46	16.80
Montgomery WB AP	.23	2.28	3.18	.03	T	.53	.10	5.54	.09	11.98
Moulton	.05	.35	.43	.70	1.30	1.30	.23		.66	5.02
Moulton 2	.03	.60	.28	1.44	.70	1.44		.03	.76	5.28
Muscle Shoals FAA AP	.38	.55	.14	1.77	.24	.39		.39	.22	4.08
Natchez		1.85	1.68	1.91	.02	.03	.33		6.66	13.48
Newburg 2 NE		*	1.13	*	1.72	*	2.21		.59	5.65
New Market		.15	1.09	.11	1.10	1.05	1.10		.80	5.40
New Market 2	T	.78	.44	.85	.40	2.16	.10	T	.88	5.61
Newton		T	1.60	.02		T	1.35		.31	3.28
Oneonta		.40	1.10	1.25	5.04	2.68	2.00		1.02	13.48
Opelika		1.79	1.40	2.40	.01	.34	1.64	.02	6.30	13.90
Orrville		4.02	1.80	.17	1.50		.77	.05	5.70	14.01
Ozark 6 NNW		T	1.62	.45		.07	1.96		.53	4.63
Paint Rock 2 N		.15	.85	.10	2.05	1.40	1.75		.75	7.05
Palmerdale 2 W		.26	.55	1.55	4.85	3.48	2.08		1.03	13.80
Perryville		2.20	2.33	1.84	1.77	.95	1.77		2.25	13.11
Phenix City 2 NNW		.69	1.93	3.23	.06	.05	.80	T	3.50	10.26
Pickinsville		.73	.26	1.95	3.58	4.05	.35		.67	11.59
Pine Hill		*	5.30	1.75	*	*	*	*	6.58	13.63
Pine Level		1.99	2.60	2.83	.03	.21	1.35		2.39	11.40
Plantersville 2 SSE		2.39	3.74	3.05	1.76	.85	.93		3.20	14.92
Pleasant Grove School		.10	*	1.40	.40	2.10	1.80		.90	6.70
Prattville	.18	2.25	1.87	.15	4.54	.48	.22	4.60	1.55	15.84
Primrose Farm	.01	2.02	2.28	1.22		.11	1.89		2.50	10.03
Pushmataha		3.47	.16		1.23	3.00	4.21		.15	12.22
Rainsville		.23	.46	.61	1.98	.71	1.67		1.10	6.76
Red Bay		.80	.40	.60	1.55	.35	.15		.70	4.55
Redstone Arsenal	.09	.48	.90	1.67	.93	2.64	T	.10	.77	7.58
Reform		1.01	.34	2.40	2.91	4.42	.57		.67	12.32
River Falls		.68	2.45	.50	.05	.27	1.75	T	1.40	7.10
Robertsdale 1 E		.02	8.27	.32			1.28	.10	.68	10.67
Rockford		1.20	2.80	1.70	1.30	.55	.80		3.80	12.15
Rock Mills		.73	2.49	2.56	.76	.59	2.20		7.04	16.36
Russellville	.25	.27	.30	.38	2.50	.47	.16		.63	4.96
Russellville 2		.44	.12	.58	2.30	.47	.13		.55	4.59
Saint Bernard		.37	.78	.86	3.64	2.40	1.35		.86	10.26
Sand Mt State Farm Au	.07	.49	.84	1.70	1.86	2.00	1.16	.17	.88	9.17
Sayre		.35	.93	1.53	3.57	3.40	1.70		1.20	12.68
Scottsboro		.10	.70	.81	1.90	1.70	1.80		.86	7.97
Scottsboro Substa		.16	.56	.28	1.75	1.89	1.79		.72	7.15
Seale		2.22	1.27	1.10		.54	.90	3.30	.49	9.82
Selma		2.58	1.75	1.27	1.08	.09	.53		3.67	10.97
Shoemaker Springs		*	.88	.26	2.18	.71	.33		.70	5.06
Slocomb			1.27	.02		T	1.48	.15	.16	3.08
Snow Hill		2.89	2.70	2.40	.08	.11	.09		4.98	13.29
South Hill	.06	.32	.79	.62	1.90	1.28	1.28		.65	6.90
Suttle		2.60	2.23	1.93	1.80	.49	1.60		2.82	13.47
Swain	.06	.44	.98	.79	.68	1.78	2.10		.84	7.67
Sylacauga 4 NE	.05	2.05	2.14	.83	1.60	1.20	.86	1.50	1.32	11.55
Sylvania	.07	.20	.43	.70	1.83	.86	1.67		1.04	6.80
Talladega	.06	2.25	1.18	.70	4.51	1.21	.76	1.42	1.24	13.32
Thomasville		4.64	1.04	.78	1.98	.17	.68	.07	3.83	13.19
Thorsby Exp Station	.14	2.78	2.44	.49	2.24	.47	1.11	1.43	.95	12.05
Thurlow Dam		1.68	1.52	2.63	.15	.32	1.76		7.15	15.21
Toney		.32	.66	.26	1.12	1.08	.35		.62	4.41
Trafford		.33	.91	1.60	3.95	2.92	2.55		.98	13.24

* Precipitation included in following day totals.

TABLE 1, PRECIPITATION FEBRUARY 17-25, 1961

ALABAMA	17	18	19	20	21	22	23	24	25	Storm Totals
Troy		2.98	2.33	0.40	T	0.17	1.38		1.55	8.81
Tuscaloosa FAA AP	.25	.79	1.14	4.06	5.44	.84		.81	.32	13.65
Tuskegee 2		4.12	1.85	.55	.03	.58	.67	2.11	3.20	13.11
Union Springs 5 S		2.51	1.28	2.40		.27	2.90	T	2.80	12.16
Uniontown		3.54	1.23	1.92	2.55	1.35	1.83		2.07	14.49
Valley Head		.14	.18	.32	2.06	.88	2.12		.88	6.58
Vernon		.98	.84	2.00	3.12	1.43	.27		.63	9.27
Wadley		.78	2.14	2.47	.99	.65	1.05	.68	3.44	12.20
Wallace 2 E		1.02	1.88	.25	T	T	2.30		1.37	6.82
Walnut Grove		.10	.50	.90	4.90	1.90	2.15		1.08	11.53
Warrior Lock & Dam		1.68	1.48	.92	1.86	4.63	.71		1.47	12.75
Waterloo	.05	*	.92	.40	1.16	.11	.04		.89	3.57
West Blockton		1.55	1.30	1.50	3.50	3.20	4.00		1.60	16.65
Wetumpka 1 W		1.24	1.56	1.75	1.01	.20	.65		6.10	12.31
Whatley		5.28	1.84	2.98	.07	.02	.59		3.08	13.86
Wheeler Dam		.38	.48	.01	1.85	.35	.35		.52	3.94
Widows Creek Stm Pl		.10	.90	.12	1.77	1.50	1.35		.70	6.44
Wilson Dam		.40	.34	.10	1.54	.29	.16		.34	3.17
Winfield 2 SW		.84	.76	1.12	4.66	1.79	.42		.70	10.29
Yates Hydro Plant		1.65	1.54	3.14	.08	.27	2.18		9.13	17.99
Youngs Store		1.45	.05	.35	1.25	.21			.79	4.10
GEORGIA										
Abbeville			1.05	.15			.40	.20	.25	2.05
Adairsville		.50	.96	.95	2.00	.61	.65		1.87	7.54
Adel 2 S			1.65				2.13	T	.20	3.98
Ailey			.23	.80			*	*	1.06	2.09
Alapaha Exp Station			1.15				1.30	.83	.08	3.36
Albany		T	.94	.23	T	T	.10	.65	.22	2.14
Allatoona Dam 2		.15	1.44	.45	3.54	.27	1.27		2.40	9.52
Alma FAA Airport		.68	.71	T			1.87	.02	.42	3.70
Alpharetta		.21	1.34	.90	4.46	.11	1.25		3.77	12.04
Americus 4 ENE		T	1.23	.64	T	.10	.86	T	.62	3.45
Antioch		.08	.72	1.31	1.81	.14	1.71		2.55	8.32
			1.36	1.10	.65	.04	1.29		3.07	7.51
Ashburn			.98				.08	.52	.25	1.83
Athens		.56	1.66	.65	1.08	.25	.56		3.00	7.76
Athens Col of Agri		2.11	.79	.72	.88	.09	.45	.98	1.55	7.57
Athens WB Airport	T	2.57	.38	.79	.67	.15	.34	2.20	.56	7.66
Atkinson 1 W			.68			.20		.78	.30	1.96
Atlanta Bolton		.17	.69	.67	1.13	.67	.57		1.17	5.07
Atlanta WB Airport	T	1.77	1.35	.90	.96	.13	.76	3.73	1.94	11.54
Augusta WB Airport		.71	.36	1.07	.05	T	.84	3.00	.20	6.23
Bainbridge			.98			.03	1.20	.04	.15	2.40
Ball Ground		.11	1.32	.72	3.82	.09	1.55		3.90	11.51
Beaverdale		.03	1.42	.50	1.56	.75	2.16		1.01	7.43
Blackbeard Island			.45	.05	.05	.65	.03	.45		1.68
Blairsville Exp Sta		.19	.66	.68	1.92	.07	1.49		3.28	8.29
Blakely		1.30	.39	.02	.02	.10	.87		.27	2.97
Blue Ridge	T	1.05	1.03	.98	1.07	.93	.79	.11	1.89	7.85
Blue Ridge Resvr Dam		.06	.95	1.25	2.17	.18	1.92		2.11	8.64
Bowman		.06	1.90	.44	1.04	.83	.65	.05	1.90	6.87
Brasstown Bald		.15	.61	.83	1.95	.05	1.71		2.35	7.65
Brooklet 1 W			.72	.12	.02	.06	1.34	T	.32	2.58
Brunswick			.37	T	T	.50	.85		.32	2.04
Brunswick FAA AP		T	.61	T		.38	.91		.22	2.12
Buena Vista		.61	2.47	.83		.01	3.32	.26	.40	7.90
Butler			1.28	2.40	.02	.03	1.61		1.83	7.17
Butler Creek			.78	.80	.78	.03	.73		2.26	5.38
Cairo 2 NNW			1.30				1.27		.19	2.76
Calhoun Exp Station		.72	1.45	1.31	2.17	.90	.89	.10	1.41	8.95
Camilla			.76				.99	.11	.14	2.00
Camp Stewart			.69	.24	T	.13	1.54	.02	.22	2.84
Canton		.08	1.14	.93	4.89	.23	1.42		3.97	12.66
Carlton Bridge		.05	1.85	.57	.60	.54	.70		2.45	6.76
Carnesville		.14	1.48	.29	3.84	.42	.94		2.08	9.19
Carrollton		.38	2.53	1.34	1.50	.31	.86		3.57	10.49
Carters			.62	1.06	2.42	.26	1.35		1.86	7.57
Cartersville		.42	.45	.65	2.00	.35	.75	.30	2.00	6.92
Cartersville 3 SW		.13	1.26	.65	3.68	.21	1.22		2.44	9.59
Cedartown		.13	1.69	.64	2.90	.45	1.37		2.50	9.68
Chatsworth		.02	.39	1.26	2.12	.23	2.60		1.22	7.84
Chickamauga Park		.09	1.03	.30	1.65	1.15	2.75		1.32	8.29
Choestoe		.23	.85	.58	2.38	.04	2.15		3.80	10.03
Clayton 1 N	.03	1.39	.28	.58	1.89	.43	1.39	.19	3.05	9.23
Cleveland		.39	1.42	.44	3.24	.08	1.88		3.11	10.56
Colquitt			1.10				.80		.43	2.33
Columbus			2.60	2.92	.09	.05	.91		2.24	8.81
Columbus WB Airport	T	2.41	2.65	.18	.01	.30	.50	2.56	.49	9.10
Commerce 1 NE		2.19	.25	.62	4.24	.07	.79	.59	2.40	11.15
Concord	T	2.85	3.80	.30	.90	.20	.40	1.90	3.10	13.45
Cordele Water Works						.02		.76	.13	.91
Cornelia			1.16		3.50	.13	1.05		3.05	8.89
Covington		.49	2.36	1.45	.35	1.00	.48	.02	3.09	9.24
Cumming 1 N		.22	1.45	.68	6.05	.10	1.75		3.80	14.05
Curryville 2 W		.06	.95	1.25	3.16	.25	2.96		1.52	10.15
Cuthbert		.99	1.28	.02	.03	.03	.93	.09	.23	3.60
Dahlonega		.25	1.31	.63	3.66	.10	1.57		3.58	11.10
Dallas 5 SE		.22	1.24	1.28	4.82	.18	1.31		3.83	12.88
Dalton		.07	.78	.44	1.80	.68	2.15		1.23	7.15
Danville			2.37	1.65	.13	.01	3.70	.26	.26	8.38
Dawson		T	2.11	.06			.84	.01	.51	3.53
Dawsonville		.15	1.18	.78	4.03	.10	1.80		3.72	11.76
Dial Post Office		.22	.89	.87	2.10	.06	1.54		2.81	8.49
Doctortown 1 WSW			1.20	.04	.03	.13		.68		2.08
Donalsonville 3 W	T	.18	.81	T	T	T	.75	.14	.23	2.11
Douglas 2 NNE			8.08				2.00		.30	10.38

GEORGIA	17	18	19	20	21	22	23	24	25	Storm Totals
Douglasville		0.15	2.20	1.10	2.26	0.25	1.21		5.19	12.36
Dover			.75	.73			.64		.70	2.82
Dublin 3 S			1.41	1.15		.50	.75	.10	.10	4.01
Eastman 1 W			1.24	.15	.03	.01	.95	.07	.22	2.67
Elberton		*	3.37	*	.70	.27	.30		2.30	6.94
Ellijay		.10	.70	1.01	2.15	.10	1.55		2.70	8.31
Embry		.30	1.14	1.64	4.91	.55	.83		2.91	12.28
Experiment		1.18	2.96	1.81	1.07	.22	.69	.04	3.36	11.33
Fairmount		.42	.48	1.22	2.72	.12	1.23		2.79	8.98
Fitzgerald			1.00	T		.06	.62	.02	.03	1.73
Fleming Exp Station			.81			.30	.85		.33	2.29
Folkston 3 SSW						.50	.05	.90	.30	1.75
Folkston 9 SW			.14			.32	.83		.30	1.59
Forsyth 1 S		2.40	1.45	1.32	.13	.05	.78	1.11	2.95	10.19
Fort Gaines			2.50	.40			1.38		.22	4.50
Fort Valley 3 E		*	*	3.55	.08	*	1.16	.01	.65	5.45
Franklin		*	*	5.37	1.03	.37	1.80		5.60	14.17
Gainesville		.16	1.25	.53	4.45	.35	.85		2.95	10.54
Gibson			1.20	1.20	1.17	T	.93	T	2.03	6.53
Glennville			1.33	.09	T	.10	1.73	T	.37	3.62
Goat Rock	.01	3.29	1.30	1.23	.09	.55	1.12	1.51	1.52	10.62
Godfrey 4 NE			2.94	1.45	.39	.22	.56	.04	2.13	7.73
Greenville 2 W	T	3.15	1.60	1.87	1.90	.40	.94	.87	4.43	15.16
Griffin		.82	3.27	2.85	.41	1.33	.75	.01	3.92	13.36
Hamilton			3.00	1.98	.05	.04	1.33		4.16	10.56
Hartwell		.05	1.85	.20	2.10	1.95	1.10	T	1.70	8.95
Hawkinsville			1.04	.14			.75			1.93
Helen 1 SE	.10	2.00	.40	.82	2.46	.94	1.50	.48	2.90	11.60
Hempton Gap		.22	.82	.90	1.99	.10	1.52		2.72	8.27
Hiawassee		.75	1.13	.68	1.67	.29	1.02		2.50	8.04
Homerville 3 WSW			.92	T			.72		.04	1.68
Jasper 1 NNW		.25	.80	.85	2.50	.10	1.46		3.10	9.06
Jesup 8 S			1.27	.05		.25	.78	.01	.43	2.79
Jonesboro		.75	1.56	2.04	.83	.35	1.14	T	5.75	12.42
Juliette			2.10	2.00	.14	.05	.95		4.20	9.44
Kensington		.08	.89	.56	1.61	1.36	2.33		1.27	8.10
Kingston		.70	1.05	.33	4.00	.57	1.25		1.52	9.42
La Fayette		.08	.58	.32	1.83	1.12	2.20		1.78	7.91
La Grange		.87	2.70	2.30	1.46	.92	1.50	.01	7.82	17.58
Lexington		T	2.15	.80	.45	.25	.65	T	1.80	6.10
Lincolnton			1.14	1.33	.38	.07	1.05	.03	3.48	7.48
Little Hightower		.28	.70	.85	.90	.77	1.00		3.15	7.65
Louisville			2.00	1.02	.10	.02	.72	.27	.12	4.25
Lumber City			.81				.80		.15	1.76
Lumpkin		1.48	.85	.64		.12	2.62	.06	.33	6.10
Macon WB Airport		1.34	2.16	.28	.08	.08	1.10	.61	.23	5.88
Marshallville		.67	*	3.38	.03	.05	1.00	.30	.40	5.83
Maysville		.21	1.48	.46	4.12	.59	1.02		3.27	11.15
Mc Intyre			1.17	2.44		.37	.93	.07	.60	5.58
Metter			1.17	.04	T	.03	.70	.02	.36	2.32
Midville			1.40	1.20	.15	.17	.30		.10	3.32
Milledgeville				3.95	.39		1.17	.10	4.53	10.14
Millen			1.00	.85	.20	.03	1.20	.04	.23	3.55
Millhaven 8 E			.84	.73	.17		.09	.77		2.60
Montezuma 1 NE			.94	1.39	.03		.77	.03	.41	3.57
Monticello		.08	3.12	1.53	.05	.34	.62	.01	3.41	9.16
Morgan 5 NW			3.27	.05			.83		.53	4.68
Moultrie 2 ESE									.16	
Mount Vernon 3 WNW			1.11	.08			.54	.31	.19	2.23
Nahunta			.23	.02		.31	.73		.27	1.56
Nashville 5 SSE			*	1.82		.20	2.00	.20	.35	4.57
Neel Gap		.52	1.26	.50	3.02	.06	2.08		4.25	11.69
Newington 1 NW			.98	.13	.06	.05	.68		.36	2.26
Newnan		.25	1.78	2.72	.68	.60	.74		5.30	12.07
Nickajack		.02	.61	.53	1.49	.95	2.24		1.03	6.87
Noontootla Creek		.60	1.10	1.00	1.30	.06	1.00		1.95	7.01
Norcross 4 N		.04	1.73	1.23	2.45	.59	.67		3.23	9.94
Patterson			1.28			.32		.59		2.19
Plains SW Ga Exp Sta			1.31			.23	.96	.15	.12	2.77
Preston			.81	.37			1.26	.02	.42	2.88
Resaca		.04	.59	.85	2.48	.24	3.05		1.40	8.65
Ringgold		.05	1.35	.42	1.65	1.10	2.35		1.28	8.20
Rising Fawn		.10	.77	.90	1.46	.80	1.87	T	1.15	6.65
Rome		.14	.82	1.24	3.37	.72	1.78		2.00	10.07
Rome WB Airport	01	.44	1.20	2.10	1.90	2.07	.27	.80	.84	9.68
Sandersville		.90	1.27	1.10	.89	.01	.13	.64	1.88	6.79
Sapelo Island			.42	.02		.87	.56		.28	2.15
Savannah USDA Plant Gdn			.70	.04	.01	.29	.01	1.25	T	2.30
Savannah WB AP		.51	.16	T	T	.22	1.03	.01	.25	2.28
Savannah Beach			.52	.86	.02	*	.61		.24	2.25
Siloam			2.39	1.33	.23	.05	.74	T	2.33	7.09
Sparta 2 NNW			1.21	2.09	.48		1.13		6.01	10.92
Stanley Gap		.20	.75	1.10	2.30	.10	2.20		3.45	10.06
Stillmore			.92	.47	T	.44	T	.01	T	1.87
Suches		.54	1.95	.63	2.81	.16	2.38		5.40	13.87
Summerville		.11	.95	.62	2.84	1.07	2.67		1.37	9.03
Surrency 2 WNW			1.10	.02			1.75		.26	3.13
Swainsboro			1.48	.16	.03	.35	1.10		.41	3.55
Sweet Gum		.03	.96	1.05	2.14	.09	1.39		2.25	8.11
Talbotton		*	*	*	5.48	.66	.70		2.70	9.54
Tallapoosa 2 NNW			1.38	5.21	.37	.30			3.82	11.35
Taylorsville		.11	1.17	.58	5.08	.13	.84		2.90	10.87
Thomaston 2 S		1.76	2.10	1.12	.06	.14		1.80	1.84	8.82
Thomasville			1.63				.86		.46	2.95
Thomasville WB City			1.89			T	.89	.53	.10	3.41
Tifton Exp Station			1.09				.78		.18	2.05

* Precipitation included in following day totals.

TABLE 1, PRECIPITATION FEBRUARY 17-25, 1961

GEORGIA	17	18	19	20	21	22	23	24	25	Storm Totals
Titus		0.27	0.85	0.69	2.09	0.09	1.63		3.11	8.73
Toccoa		.14	1.28	.28	3.69	.15	1.00		3.31	9.85
Tray Mountain		.72	1.50	.63	3.01	.05	2.39		4.17	12.47
Tunnel Hill		.98	.49	.85	.84	1.45	1.03		1.01	6.65
Valdosta WB Airport			.78	.02		T	.09	1.82	T	2.71
Valdosta 4 NW			1.36			T	2.28		.18	3.82
Waleska		.12	1.30	.90	3.68	.20	1.52		3.12	10.84
Warrenton			1.10	1.50	.40		1.00		4.30	8.30
Washington		.90	.93	1.10	.32	.11	.89	.02	2.98	7.25
Waycross			.75	.07	.04	.07	.05	.02	.51	1.51
Waynesboro 2 NE			.68	2.53	.25	.06		.75	.40	4.67
West Point		1.32	2.29	3.57	.24	1.14	1.26	T	7.18	17.00
Winder 1 SSE		.65	1.35	.72	2.01	.36	.94		3.54	9.57
Woodbury		.73	1.98	2.02	.10	.02	.83		4.70	10.38
Woodstock		.30	1.46	.34	5.43	.12	1.51		4.08	13.24
Young Harris		.08	.87	1.00	1.62	.05	1.14		2.25	7.01
MISSISSIPPI										
Abbeville	.07	1.09		.70	2.53	.85	T		.11	5.35
Aberdeen	.10	1.12	.20	1.90	3.25	.52			.30	7.39
Ackerman	.10	.80	.03	.60	1.60	.30	.03		.30	3.76
Alcorn A & M College		1.32	.55	1.47	1.10	1.03			.27	5.74
				1.90	3.32				2.22	7.44
Amory 4 W		1.07	.40	2.80	1.60	3.07			.37	9.31
Arkabutla Dam	.11	.76		.41	2.58	.48	.01		.22	4.57
Ashland	.10	1.43	T	.12	2.92	.88	.04		.11	5.60
Belhaven		1.50		*	2.53	.22			.35	4.60
Barlow 6 SE	1.54	.55	.52	2.15	.63	.61		.47	.13	6.60
Batesville	.11	1.50		1.13	3.24	1.00	.02		.05	7.05
Bay Saint Louis		.01	2.01	.05		2.60	.05		.61	5.33
Bay Springs	.03	2.50	.64	1.56	1.34	6.62	.05		1.48	14.22
Beaumont		6.54	1.13	.23	2.46	1.14	.11	.13	1.16	12.90
Belmont		.55	.30	.30	1.80	.50	.15		.60	4.20
Belzoni	.10	2.21	.30	.93	1.51	.77	.02		.33	6.17
Biloxi City	.05	2.92		.05		.10			1.12	4.24
Black Hawk		1.90	*	1.52	1.50	.90			T	5.82
Bluff Lake		.90	*	2.95	1.75	1.30	T	.17	.19	7.26
Booneville	.05	1.36	T	.79	1.15	.20	.01		.30	3.86
Brookhaven	.38	2.37	T	.52	.56	1.32	T		1.40	6.55
Brooklyn 2 SE		4.40	1.60	.34	2.84	1.48	.02	.18	.57	11.43
Brooksville Exp Sta	T	.81	.18	2.28	2.36	2.11	.27		.69	8.70
Bruce	T	1.61	.16	2.34	3.89	.69			T	8.69
Buckatunna		7.16	.86	.24	5.75	1.71	.28		2.31	18.31
Burnsville Substa	T	.64	.15	.27	1.50	.21	T		.08	2.85
Byhalia	.15	.74		.26	2.79	1.10	.01		.15	5.19
Cairo	.02	1.47	.17	.31	1.25	.17	.01		.34	3.74
Calhoun City	T	1.45	.20	2.05	1.80	.65			.25	9.40
Canton	.11	1.63	.43	1.17	.67	.79		*	.33	5.13
Carrollton 1 SSW		2.55	.10	2.00	1.90	1.05			.35	7.95
Carthage	.14	2.07	.24	1.45	2.52	1.98	.02		.35	8.77
Centreville 4 ESE	1.02	1.83	.14	1.19	.43	.62	.03	.06	1.21	6.53
Charleston	.03	1.28	.32	2.00	3.75	.90			.13	8.41
Clarksdale	.08	1.89		.66	2.17	1.03	.01		.24	6.08
Cleveland	.10	1.90	.53	3.27	3.27	1.30	.04		.52	7.66
Clinton Exp Station	.31	1.93	.15	.70	.74	1.02	.02		.56	5.43
Coffeeville	.04	2.41	.47	1.50	4.47	.82	T		.12	9.83
Collins	.32	2.74	T	.97	1.22	7.13	.09		1.56	14.03
Collinsville 3 NE		1.03	.74	1.22	4.00	4.95	.08		1.30	13.32
Columbia	.47	4.15	.24	1.70	2.15	8.62		.08	1.94	19.35
Columbus	T	1.03	.78	2.97	1.85	1.69	.18		.64	9.14
Corinth	.11	.68		1.36	.95	.16			.42	3.68
Crandall 12 N		3.90	.20	.93	3.41	3.77	.12	.11	2.47	14.91
Crawford 5 WSW		1.24	.28	2.45	2.35	2.19	.09		.50	9.10
Crystal Springs 4 NNE	.52	2.83	.08	1.36	.53	1.24			.81	7.37
Dancy		1.50	1.15	1.45	2.58	.80		T	.28	7.76
Decatur	.49	.84	.64	.65	4.75	2.92		1.18	.28	11.75
Dio	.25	1.29	.63	.63	2.00	3.25		.10	1.14	9.29
Edinburg		1.80	.15	1.92	3.40	1.68	.15		.42	9.52
Elliott	.01	1.85	.03	2.00	2.43	.96			.10	7.38
Enid Dam	.05	1.28	.05	1.25	2.63	1.16			.06	6.48
Enterprise		3.17	.52	.98	1.10	6.98	.16		1.84	14.75
Eupora		1.63		1.46	2.06	.67			*	5.82
Forest	.07	.98	1.03	1.07	1.94	3.25			1.10	9.44
Fulton 3 W	.02	.68	.54	.73	2.00	.21	.07		.51	4.76
Germantown	.02	1.42	.66	.84	.64	1.16			.16	4.90
Gholson 8 W		1.01	.14	2.01	3.98	2.90	.07		.59	10.70
Glens	.03	.80	.06	.30	1.42	.24	.02		.44	3.31
Greenville	.07	3.02	.09	1.18	3.57	.71	.05		.30	8.99
Greenville 8 SW	.09	2.13	.03	.95	2.22	.74	.02		.35	6.53
Greenwood	T	2.52	.20	2.07	2.72	.78	.03		.19	8.51
Greenwood FAA AP	1.91	.14	.43	2.37	1.36	.54		.08	.08	7.24
Grenada	.01	2.00	.06	3.08	5.15	.86	T		.19	11.35
Gulfport Naval Center		4.06	1.12	.04	.50	.45	.01	1.40	.32	7.90
Hattiesburg	.06	7.02	.82	.52	2.77	2.62	T	.12	2.75	16.68
Hernando	.15	.64		.41	2.60	.54	.03		.15	4.52
Hickory		1.20	.44	1.23	2.78	4.12	.08		1.14	10.99
Hickory Flat 1 WNW	T	1.06		.53	2.40	.70	T		.17	4.86
Holcomb	T	1.90	.30	2.90	4.25	.87	T		.08	10.30
Holly Bluff	.31	.81	.23	.99	.65	1.05			.53	4.60
Holly Springs 2 N	.11	1.21		.18	3.20	1.12			.18	6.03
Houston 2 NE	.02	1.17	.17	1.59	2.67	.55	.02		.44	9.63
Independence 3 N	.12	.96		.30	3.05	.91			.20	5.54
Iuka	.02	1.30	.20	.38	1.13	.17	.02		.64	3.86

MISSISSIPPI	17	18	19	20	21	22	23	24	25	Storm Totals
Jackson WB Airport	1.38	1.09	1.04	.90	.65	.25		.41	.02	5.74
Kipling	.30	.53	1.87	1.06	4.28	2.95		1.25	.24	12.48
Kosciusko	.06	2.10	.27	1.40	.70	1.35			.18	6.06
Lafayette Springs	.06	1.63	.14	.95	1.87	.63			.17	5.45
Lake Cormorant 1 W	.07	.54		.20	2.08	1.47	.02		.40	4.78
Lambert	.12	2.05		.86	3.95	.55	.05		.36	7.94
Lambs Chapel School		.73	.02	.29	1.34	.21			.43	3.02
Laurel	T	3.64	.16	.21	1.98	3.97	.04		1.86	11.86
Leakesville	2.06	5.95	1.18	.04	3.18	.85	.06			13.32
Lexington 2 NNW		1.88	.35	1.21	1.77	.68			.09	5.98
Liberty	.80	1.63		.70	1.10	.88		.20	1.33	6.64
Louisville		1.47	.55	1.85	2.57	1.17			.38	7.99
Macon 2 NE		.90	.30	2.80	2.70	4.60	T		.72	12.02
Mc Comb FAA AP	3.44	.07	.20	1.12	2.49	.60		1.64	T	9.56
Mc Henry 5 ESE		1.78	4.04	1.85	.02	2.12	.06	.20	1.93	12.00
Meadville	1.98	.99	1.30	.29	.88	.57	T	1.34	.05	7.40
Meridian WB Airport	1.33	1.07	1.57	.82	4.96	.97		1.04	T	11.76
Merrill		5.03	.89	1.57	.17	4.12	.50	.78	2.36	15.42
Midway		1.47	.12	*	*	1.98	.01		.75	4.33
Minter City	.04	2.10	*	4.19	2.90	.60	.01		.31	10.15
Mize	.19	2.17	.86	.79	2.41	4.28	.06	.13	1.42	12.31
Monticello 2 S	.40	2.04	.02	.20	1.61	3.80			1.62	9.69
Montrose		.10	2.53	.93	3.78	4.65		1.00	.46	13.45
Moorhead	.04	2.34	.22	.57	2.67	.45	.02		.36	6.67
Mount Pleasant	.16	.83		.33	2.62	.73			.28	4.95
Natchez	.08	2.22	.30	.23	.42	2.05	.06		.41	5.77
New Albany	.05	1.30		.75	2.00	.42			.26	4.78
Newton Exp Station	.40	.78	.30	1.53	5.15	3.79		1.02	.21	13.18
Nitta Yuma	.17	1.34	.10	.76	3.21	.79			.23	6.60
Oakley Exp Station	.36	1.77	.47	1.10	.77	.98	.01		.38	5.84
Ofahoma	.18	2.36	.92	.60	1.51	2.05	1.56		.65	9.83
Okolona	.07	1.30	.20	5.36	1.50	.36			.38	9.17
Onward	.35	1.18	.10	.84	.68	1.20	T		.45	4.80
Pascagoula Jr. High Sch		4.06	1.12					1.40	2.08	8.66
Paulding		3.19	1.21	.92	1.09	6.96	.06		1.24	14.67
Pearlington 2 NNE		4.28	1.87		1.21			1.80	.16	9.32
Pelahatchie	.24	1.54	.74	2.14	2.17	1.84			1.12	9.79
Philadelphia 1 WSW	.09	1.19	.43	2.09	2.78	2.70	.07		1.30	10.65
Picayune 4 S	.32	3.16	1.19	.17	2.06	.92	.03	1.86	.04	9.75
Pickens	1.32	.55	.34	1.01	.68				.15	4.05
Pleasant Hill	.20	.67		.28	2.58	.90	T		.13	4.76
Pontotoc	.03	1.87	.75	.74	1.97	.44	T		.31	6.11
Pontotoc Exp Sta	.08	1.55	.29	2.17	1.35	.43			.27	6.14
Poplarville Exp Sta	1.54	3.51	.16	.52	2.65	.82		.42		9.62
Port Gibson	.53	1.22	.07	.88	.33	3.35			.76	7.14
Prentiss 2 NNE	.34	2.02	*	.86	1.09	4.83			1.98	11.12
Purvis		8.91	.47	.67	4.12	3.07	T		1.96	19.20
Quitman		3.50	.65	.63	3.01	5.30	.05		1.50	14.64
Richton 3 SSE		5.10	.83	.35	4.45	2.15	T		1.00	13.88
Richton 12 NNE		7.40	1.75	.24	3.00	3.00	.41		1.66	17.46
Ripley	*	1.00		1.76	.97	.33			.33	4.39
Rockport		2.46	.30	.87	2.05	1.90		.10	1.72	9.40
Rolling Fork	.11	1.06	.26	1.12	1.86	.86			.36	5.63
Rosedale	.14	1.92	T	.85	5.50	1.13	.03		.49	10.06
Russell 2 WNW		2.02	1.11	1.32	1.26	6.15	.03	T	.89	12.78
Sarah	.16	1.02		.31	2.77	.75	.03		.33	5.37
Sardis Dam	.05	1.20		1.00	2.90	1.10			.10	6.35
Saucier Ex Forest	.14	2.63	1.73	.04	1.44	.49	.03	1.44	.54	8.48
Scott	.13	2.29	.18	4.10	3.62	1.01	.03		.32	11.68
Senatobia	.11	1.16		.28	3.19	.58	.02		.25	5.59
Shubuta		4.42	.73	.57	4.27	3.34	.16			13.49
Shuqualak		.83	.38	1.23	2.65	4.32	.04		.82	10.27
Sledge	.30	1.24		1.00	2.30				.30	5.14
Standard		.47	2.28	1.52	.02	1.53	.03	.07	1.45	7.37
State University	.05	1.18	.80	2.28	1.35	.60		.06	.22	6.54
State Line		6.34	.61	.81	4.12	1.24	.43	.19	1.29	15.03
Stoneville Ex Sta	.10	3.00	.19	1.28	3.23	1.11	.03		.13	9.07
Sumrall	.19	5.52	.31	.63	2.64	5.04	.02	.11	1.47	15.93
Swan Lake 1 S	T	1.47	.22	1.54	4.92	.53			.28	8.96
Tibbee		1.20	.89	1.87	2.03	.77	.13		.43	7.32
Tunica	.10	.86		.40	2.65	.92			.36	5.29
Tunica 2		1.00		.36	2.60	1.00			.37	5.33
Tupelo	.73	.32	.22	2.70	.14	.23			.02	4.36
Tupelo Substa		.72	.41	.19	2.73	.16	T		.46	4.67
Tylertown 2 N	3.15	2.20	.05	.50	6.30	1.90		1.60	.15	15.85
Union	.03	1.20	.45	1.68	3.06	3.61	.03		1.12	11.18
University	.06	1.19		1.14	2.14	1.09			.04	5.66
Utica	1.40	1.09	.37	1.66	.56	.74		.37	.12	6.31
Vaiden 1 SSW	T	1.66	.22	1.45	2.00	.82	T		.10	6.25
Vance	.10	1.75		1.20	4.60	.55			.43	8.63
Vancleave		.07	4.40	.50		.20	.10		1.72	6.99
Van Vleet	.15	1.05	.01	5.69	1.25	.42			.37	8.94
Vicksburg WB City	1.05	.24	1.34	.71	1.22	.39		.44	.07	5.46
Walnut Grove	.08	1.85	.22	2.35	3.18	2.11			.78	10.57
Water Valley	.02	2.12	.22	1.28	2.68	1.10			.11	7.53
Waynesboro 1 E	1.21	4.84	.44	.15	3.44	2.09	.03	1.83	.26	14.29
Waynesboro 3 WNW		5.29	.44	.41	2.88	3.13	.56		2.00	14.71
West Point	.03	1.07	.38	2.60	1.93	.64	.13		.21	6.99
White Oak	.03	1.29	.73	.60	2.48	3.04			1.73	9.90
Wiggins		6.15	.15	.75	.35	2.40			.68	10.48
Winona 4 ENE	1.12	1.18	.47	.76	.98	1.02			.11	5.64
Woodville	2.12	.18	.54	.57	1.76	.67		1.99		7.83
Yazoo City 5 NNE	.82	.30	.68	2.12	.58	.37		.10	.08	5.05

* Precipitation included in following day totals

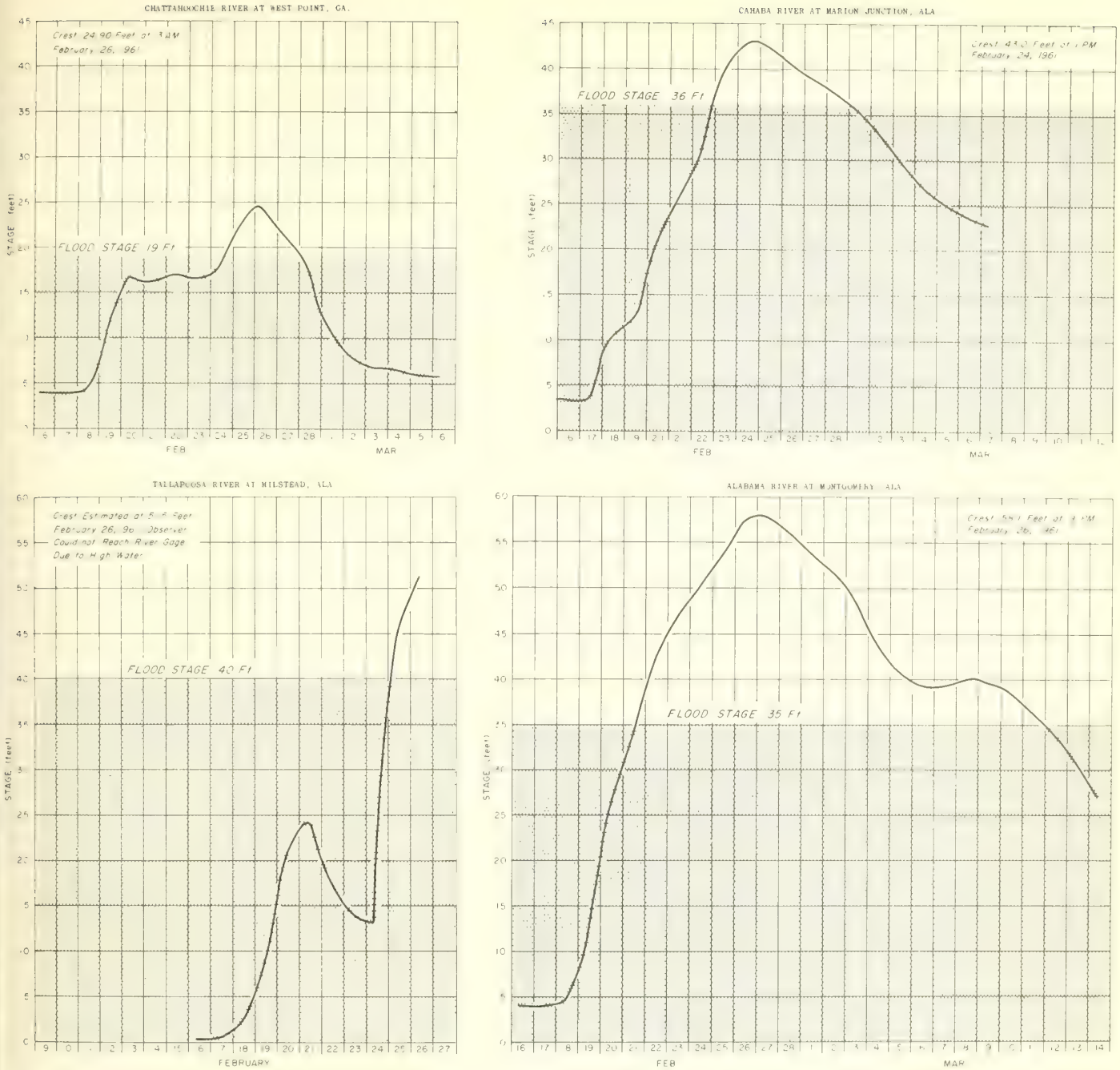
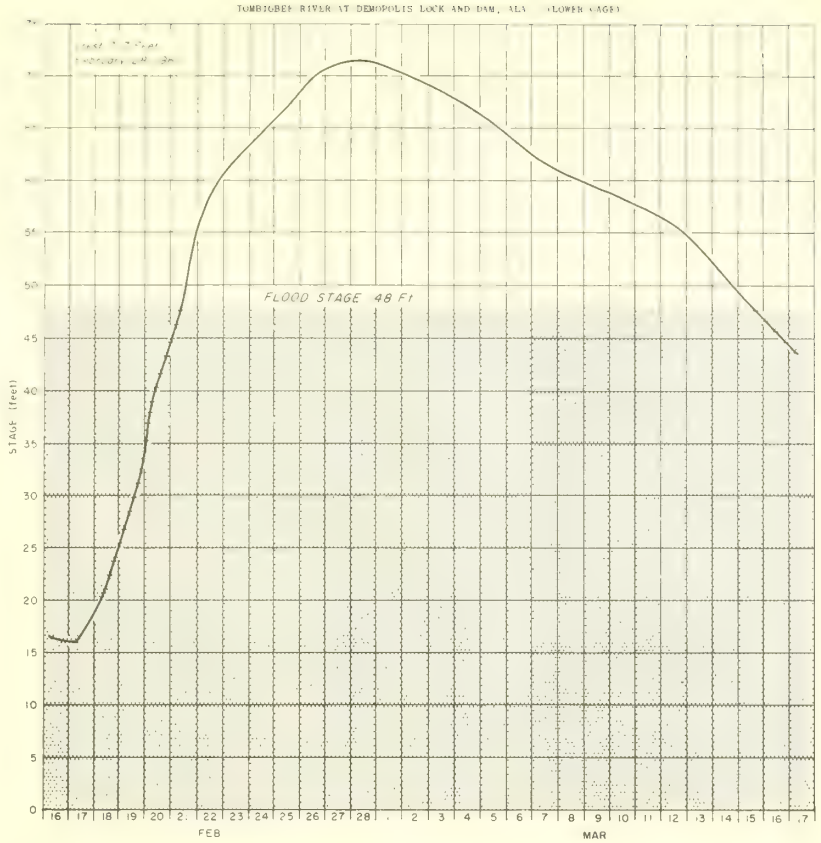
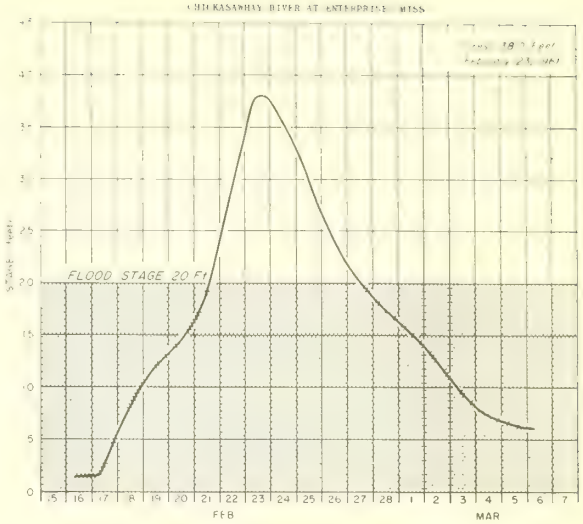
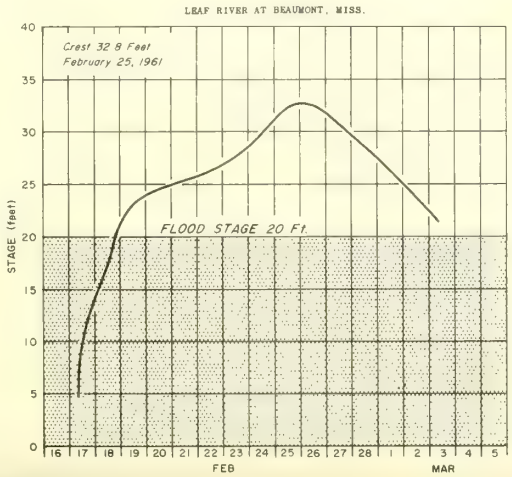


Fig. 2 River Stage Hydrographs, Feb. - Mar. 1961







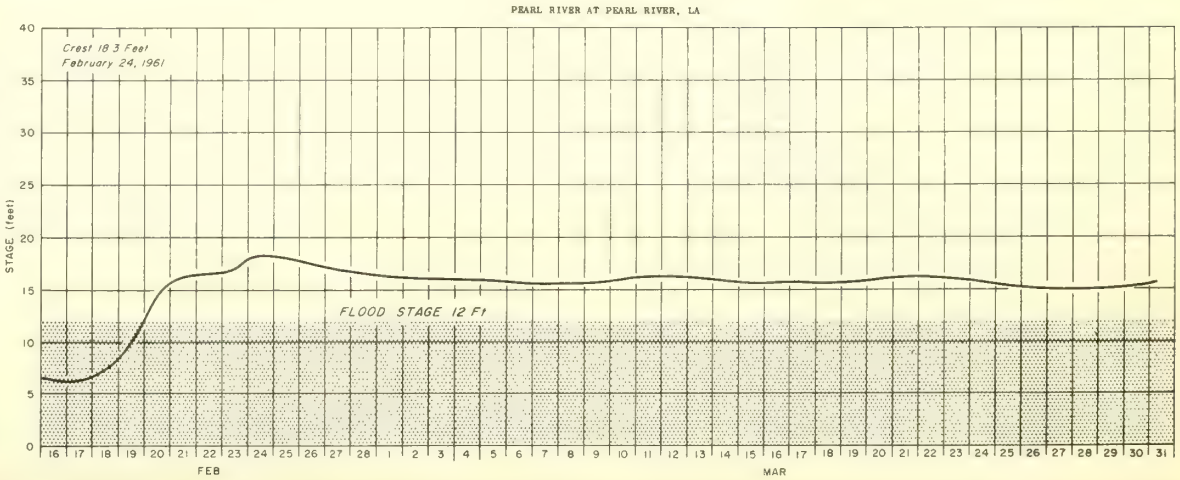


Fig. 3 River Stage Hydrographs, Feb. - Mar. 1961

COMPARATIVE FLOOD STAGES

Table 2. (All dates in February unless otherwise specified) FEBRUARY 1961

River and station	Flood stage	Present Flood Crest		Maximum Previous Flood	
				Crest	Date
	Ft.			Ft.	
Chattahoochee: West Point, Ga.	19	24.9	26	29.3	12-10-19
Columbus, Ga.	34	47.9	26	53.2	3-16-29
Eufaula, Ala.	40	54.1	28	63.8	3-17-29
Fort Gaines, Ga.	38	49.15	28		
Columbia, Ala.	42	47.7	Mar. 1	56.05	3-18-29
Flint: Montezuma, Ga.	20	23.9	28	27.4	3-17-29
Albany, Ga.	20	29.5	Mar. 3	36.6	1-21-25
Newton, Ga.	24	27.8	Mar. 4		
Bainbridge, Ga.	25	26.85	Mar. 6	40.9	1-22-25
Apalachicola: Jim Woodruff Dam, Fla.	[illegible]	70.7	Mar. 3		
Blountstown, Fla.	15	23.7	Mar.3,4	28.6	3-21-29
Choctawhatchee: Caryville, Fla.	12	12.6	27	27.1	3-17-29
Conecuh: Brewton, Ala.	17	18.9	Mar. 2	33.3	3-15-29
Oostanaula: Resaca, Ga.	22	29.2	27	34.75	3-31-51
Rome, Ga.	25	28.7	26	37.2	1-15-1892
Etowah: Canton, Ga.	17	23.1	26	26.7	1- 7-46
Coosa: Gadsden, Ala.	20	30.61	26	32.7	7-15-16
Childersburg, Ala.	20	30.45	23	30.1	3-30-51
Wetumpka, Ala.	45	55.5	25	57.9	4- 8-38
Tallapoosa: Milstead, Ala.	40	51.5	26	54.0	12-10-19
Cahaba: Centreville, Ala.	23	35.37	23	36.63	4- 8-38
Suttle, Ala.	32	44.0	24	42.8	3-30-51
Marion Junction, Ala.	36	43.0	24	42.95	8-16-39
Alabama: Montgomery, Ala.	35	58.1	26	57.1	12-11-19
Selma, Ala.	45	58.35	Mar. 1	56.2	12- 3-48
Millers Ferry, Ala.	40	60.0	Mar. 4	56.6	4-14-38
Claiborne, Ala.	40	55.2	Mar. 7	52.25	4-17-38
Black Warrior: Oliver Lock & Dam, Tuscaloosa, Ala.	47	66.7	22	66.3	7-18-16
Old Town Creek: Tupelo, Miss.	21	23.55	21	27.72	3-21-55

River and station	Flood stage	Present Flood Crest		Maximum Previous Flood	
				Crest	Date
	Ft.			Ft.	
East Fork Tombigbee: Fulton, Miss.	16	17.5	22	25.75	3-22-55
Tibbie Creek: Tibbie, Miss.	23	28.4	23	30.82	3-29-51
Nuxubee: Macon, Miss.	20	29.8	22	32.97	3-30-51
Tombigbee: Amory, Miss.	20	26.6	22	34.47	3-23-55
Aberdeen, Miss.	34	39.55	22	45.3	3-23-55
Columbus, Miss.	29	35.2	24	44.1	4-8-1892
Gainesville, Ala.	36	50.9	27	53.9	1-11-49
Demopolis Lock and Dam, Ala.	48	71.7	28	76.2	4-22-00
Jackson Lock and Dam, Ala.	43	64.2	Mar. 4		
Sowashee Creek: Meridian, Miss.	15	16.8	22	24.0	2- -36
Chickasawhay: Enterprise, Miss.	20	38.0	23	36.2	12-10-19
Shubuta, Miss.	30	45.0	24	47.2	12-11-19
Waynesboro, Miss.	35	47.7	26	47.1	4-11-38
Leaf: Hattiesburg, Miss.	22	31.5	23	31.0	12-11-19
Beaumont, Miss.	20	32.8	25	27.3	3- 9-48
Pascagoula: Merrill, Miss.	22	30.6	27	31.0	7- 9-16
Bogue Chitto: Franklinton, La.	11	18.5	22	18.46	3-21-43
Pearl: Edinburg, Miss.	20	26.8	25	26.3	2-16-50
Goshen Springs, Miss.	18	26.1	26-27	26.4	4- 2-51
Jackson, Miss.	18	35.0	Mar. 1	37.2	4- 1-02
Monticello, Miss	19	25.7	25	ø30.15	4- 8-38
Columbia, Miss.	17	22.8	24	26.7	6- 5-09
Bogalusa, La.	15	21.7	23	20.32	1-13-50
Pearl River, La.	12	18.3	24	19.7	4-19-00

___ Record crests
ø High water mark

FLOOD STAGE DATA

Table 3. (All dates in February unless otherwise specified) FEBRUARY 1961

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
EAST GULF OF MEXICO DRAINAGE	Ft.			Ft.	
Chattahoochee: West Point, Ga.	19	24	28	24.9	26
Columbus, Ga.	34			47.9	26
Eufaula, Ala.	40	25	Mar. 3	54.1	28
Fort Gaines, Ga.	38	26	Mar. 2	49.15	28
Columbia, Ala.	42	27	Mar. 3	47.7	Mar. 1
Flint: Montezuma, Ga.	20	27	Mar 3	23.9	28
Albany, Ga.	20	26	Mar. 7	29.5	Mar. 3
Newton, Ga.	24	Mar.2	Mar. 7	27.8	Mar. 4
Bainbridge, Ga.	25	Mar.4	Mar. 8	26.85	Mar. 6
Apalachicola: Jim Woodruff Dam, Fla.	66	25	Mar. 5	70.7	Mar. 3
Blountstown, Fla.	15	22	Mar. 14	23.7	Mar.3,4
Choctawhatchee: Caryville, Fla.	12	26	Mar. 1	12.6	27
Conecuh: Brewton, Ala.	17	25	Mar. 4	17.6 18.9	27 Mar. 2
Oostanaula: Resaca, Ga.	22	22	Mar. 1	29.2	27
Rome, Ga.	25	22	28	28.0 28.7	23 26
Etowah: Canton, Ga.	17	21 25	22 27	22.2 23.1	22 26
Coosa: Gadsden, Ala.	20	21	Mar. 6	30.6	26
Childersburg, Ala.	20	22	Mar. 2	30.45	23
Wetumpka, Ala.	45	22	Mar. 3	55.5	25
Tallapoosa: Milstead, Ala.	40	25	U	51.5	26
Cahaba: Centreville, Ala.	23	20	26	35.4	23
Suttle, Ala.	32	22	28	44.0	24
Marion Junction, Ala.	36	23	Mar. 1	43.0	24
Alabama: Montgomery, Ala.	35	21	Mar. 11	58.1 40.0	26 Mar. 8
Selma, Ala.	45	23	Mar. 12	58.35	Mar. 1
Millers Ferry, Ala.	40	21	Mar. 20	60.0	Mar. 4
Claiborne, Ala.	40	22	Mar. 22	55.2	Mar. 7
Black Warrior: Tuscaloosa Lock & Dam, Ala.	47	21	27	66.7	22
Old Town Creek: Tupelo, Miss.	21	21	21	23.55	21
East Fork Tombigbee: Fulton, Miss.	16	21	24	17.5	22

River and station	Flood stage	Above flood stages -dates		Crest*	
		From–	To–	Stage	Date
EAST GULF OF MEXICO DRAINAGE (Cont'd.)	Ft.			Ft.	
Tibbie Creek: Tibbie, Miss.	23	21	25	28.4	Mar. 23
Nuxubee: Macon, Miss.	20	20	Mar. 1	29.8	22
Tombigbee: Amory, Miss.	20	21	26	26.6	22
Aberdeen, Miss.	34	21	27	39.55	22
Columbus, Miss.	29	23	28	35.2	24
Gainesville, Ala.	36	22	Mar. 9	50.9	27
Demopolis Lock & Dam, Ala.	48	22	Mar. 15	71.7	28
Jackson Lock & Dam, Ala.	43	19	1/	64.2	Mar. 4
Sowashee Creek:	15	21	22	16.8	22
Chickasawhay: Enterprise, Miss.	20	22	28	38.0	23
Shubuta, Miss.	30	22	Mar. 3	45.0	24
Waynesboro, Miss.	35	23	Mar. 2	47.7	26
Leaf: Hattiesburg, Miss.	22	22	27	31.5	23
Beaumont, Miss.	20	19	Mar. 4	32.8	25
Pascagoula: Merrill, Miss.	22	20	Mar. 8	30.6	27
Bogue Chitto: Franklinton, La.	11	18	25	18.5	22
Pearl: Edinburg, Miss	20	22	Mar. 2	26.8	25
Goshen Springs, Miss.	18	22	U	26.1	26-27
Jackson, Miss.	18	20	Mar. 18	35.0	Mar. 1
Monticello, Miss.	19	21	Mar. 14	25.7	25
Columbia, Miss.	17	22	Mar. 15	22.8	24
Bogalusa, La.	15	18	1/	21.7	23
Pearl River, La.	12	20	1/	18.3	24

* Provisional
1/ Continued at the end of March
U Unknown - record missing

ST. LAWRENCE DRAINAGE

Lake Ontario. --Considerable flooding occurred in Canaseraga Valley below Dansville, N. Y., on the 25th and 26th. The main road west from Groveland was under water for about 2 weeks. Nursery stock was flooded in the flatland upstream. Only minor flooding occurred on Oatka Creek. The Genesee River crested 2 feet above flood stage at Scio, N. Y., on the 25th and 26th and 0.5 foot above flood stage at Portageville, N. Y., on the 26th. Considerable lowland flooding occurred.

ATLANTIC SLOPE DRAINAGE

Warm weather towards the end of February produced a general snowmelt over the Charles and Neponset River basins in Massachusetts causing a continuous rise in these streams. A heavy rain (1 to 1.5 inches) during the night of the 25th, plus snowmelt, caused the Charles River to rise above flood stage on the 28th. The flooding was minor and confined to the meadows and lowlands.

Some minor local flooding occurred on the 26th in the northern sections of the Housatonic River in Connecticut due to ice jams. Ice broke up and moved out of many of the streams in Connecticut and was ready to break up in other southern streams. Much of the ice cover remained in central and northern Vermont and New Hampshire. The rainstorm of the 25-26th brought a little over 1 inch of rain with over 2 inches in the Naugatuck Valley. Except for the minor local flooding on the Housatonic, other streams crested well below flood level.

Minor lowland flooding occurred on the Schoharie River at Middleburg, N. Y., and on the Mohawk River at Schenectady, N. Y., on the 26th. About 17 families were evacuated from the flood area near Schenectady and some roads were blocked, due mostly to an ice jam at Northway bridge.

Moderate rainfall on the 25th together with rapid melt of the remaining snow cover caused excessive runnoff in the Passaic Basin in New Jersey. The snow cover on the Raritan and Assunpink Basins melted during the previous warm period of the 18-19th. Flooding was limited to roads and other low-lying areas and was considered slight. Crests reached were only a little short of what could have been a critical flood situation.

Rainfall of 1 to 1.5 inches on the 24-26th together with snowmelt brought rises to within 2 to 3 feet of flood stages along the lower Delaware River. Except for some minor overflow causing some inconvenience near Yardley, Pa., there was no trouble.

Moderate to heavy flooding occurred along the Susquehanna due to moderate to heavy rain on the 25th. An estimated snow cover with water content of 3 to 3.5 inches covered the basin in New York on the 18th. In Pennsylvania, the snow cover ranged from a trace to 20 inches (water content 5 inches) in the higher elevations. Warm temperatures on the 19th and again on the 23d through the 25th caused rapid melting of snow, resulting in near bankfull stages along all streams. The rainfall on the 25th added to snowmelt caused rivers to rise rapidly with moderate to heavy overflows resulting. The crests on the West Branch Susquehanna at Renovo and Lock Haven, Pa., and on the main stem at Harrisburg, Pa., were the highest reported since November 1950. The crest on the Juniata at Williamsburg, Pa., was the highest since March 1936. Widespread minor damage resulted from the flooding.

Considerable snowmelt together with some rainfall caused a moderate rise and breakup of ice and a light overflow at the Leiter gage near Washington, D. C., from the 20th to the 22d. Another rise towards the end of the month due to snowmelt and moderate rain resulted in light flooding on the North Branch and the lower Potomac. The average depth of the snow cover by the morning of the 9th averaged 24 inches with a water content of 3.5 inches. Most streams were covered with moderately heavy ice from the 1st to near the middle of the month. Damages from the flooding were insignificant.

Minor flooding occurred on the James River near Richmond, Va., on the 19th and 20th. No damages resulted.

Moderate rain on the 7th and 8th caused substantial rises to near bankfull stage on all streams in eastern North Carolina with minor flooding on the Neuse from the 8th to the 20th and on the lower Cape Fear River from the 9th to the 13th. Rains of 1 to over 2 inches on the 20th and 21st caused minor flooding on the Tar, Neuse, and Cape Fear Rivers. The rains on the 22d and 23d prolonged the flooding and caused some flooding on the upper Roanoke. Heavy rain on the 25th caused moderate flooding in the central basins of the Tar, Neuse, and Cape Fear Rivers. No damage was reported.

There were four flash-floods on the Rocky River at Norwood, N. C., during February. Of these, three were minor and one major. The highest crest reached was close to 29 feet, 13 feet above flood stage. This was the second highest stage reached at this point since observations began in October 1956. Crests on the Pee Dee River in South Carolina were 4.5 to 5 feet above flood stage. This was a considerable flood in this area, and the only and highest flood since April 1960. Very shallow flooding of no consequence occurred on the North Fork of the Edisto River in the vicinity of Orangeburg, S. C., during the last few days of the month. Damages were minor. The substantial flood on the Rocky River and tributaries appeared to affect only secondary roads and bridges.

Moderate flooding occurred on the middle reaches of the Saluda and Broad Rivers during the last week of the month. A crest of nearly 8 feet over flood stage occurred on the Broad at Blair, S. C., on the 25th. The Congaree at Columbia crested at 2 feet over flood stage on the 25th and exceeded flood stage only during that day. There was considerable lowland flooding from Columbia to Lake Marion from the 22d through the 28th. The Wateree at Camden exceeded flood stage on the 25th to the 27th, with considerable lowland flooding on the 23d to 28th. The lower Santee reached slightly over flood stage at Pineville, S. C., on the 28th, but flood stages were not exceeded on the lower reaches until after the close of the month. This flooding was due to rainfall which ranged from 4 to 7 inches from the 19th to the 25th. There was considerable inundation of cultivated lowland pastures and swamp pastures, with resulting loss of pasturage.

Rainfall from the 18th to the 26th caused some severe flooding in streams in Georgia. The Oconee River reached a crest of 38.5 feet at Milledgeville, Ga., (flood stage 20 feet) which equalled the flood crest of November 1948 which was the third highest of record. At Macon, Ga., the Ocmulgee River remained above flood stage for a record

of 10 days. The chief damage was to brick plants along the river where flooding of clay pits resulted from the breaking of levees.

MISSISSIPPI SYSTEM

Upper Mississippi Basin. --Rains on the 22d-23d caused an 8-foot rise on the Kickapoo River at La Farge, Wis., to a crest of 10.93 feet (flood stage 11 feet) on the 23d. Minor flooding occurred with some roads temporarily closed due to ice jamming. Minor rises also occurred on the upper Iowa River at Dorchester, Iowa, and on the Mississippi River from Lynville, Wis., to Guttenberg, Iowa. The mean stage of the Mississippi River at Minneapolis, Minn., was 1.4 feet below the long-term average of 6.1 feet, 0.4 foot above at St. Paul (2.5 feet), and 0.3 foot above at La Crosse, Wis., (4.4 feet). The Wisconsin River at Portage, Wis., was 0.8 foot above the long-term average of 11.2 feet.

A comparison of snow depths in the Upper Mississippi Basin on February 28 with that of other years is given in the following table:

COMPARATIVE SNOW DEPTHS (INCHES)

Station	1961	1960	1959	1958	1957	1956	1955
(Minnesota)							
Bemidji	5	5	4	T	14	22	25
Internat. Falls	14	11	17	T	15	12	--
Duluth	8	17	9	3	22	--	--
Alexandria	0	4	1	0	4	12	10
New Ulm	0	T	T	0	0	6	7
Minneapolis	0	2	0	0	T	7	6
Rochester	2	3	13	0	T	6	1
(Wisconsin)							
Park Falls	6	17	10	3	16	20	--
Wausaw	1	5	9	0	1	7	--
Portage	0	4	10	T	0	T	--

Depth of frost as of mid-February ranged from 35 to 50 inches in Minnesota and 25 to 60 inches in Wisconsin.

As the ice broke up and moved out, the Turkey River at Garber, Iowa, rose to a stage of 17.2 feet on February 23 (flood stage 11 feet). Approximately 2,000 acres were inundated. No damage resulted.

Minor flooding developed on streams in southern Iowa from the 18th through the 24th. The flooding was due to rain averaging 1 to 1.5 inches falling on frozen ground and causing considerable runoff. This was followed by additional rains on the 22d that averaged 0.5 inch. Flood damage was minor and confined mostly to low-lying areas.

Missouri Basin. --Mild weather from the 26th to the 28th resulted in considerable snowmelt which caused the Floyd River to rise to flood stage at James, Iowa, a few hours before midnight on the 28th. The Missouri River was frozen as far as Iowa, but the ice was aging from protracted mild weather during the last half of the month. A few patches of open water began to appear by the end of February.

Minor flooding occurred on the Grand River at Sumner, Mo., on the 19th and 20th. Low-lying cropland was inundated, but there was no crop loss.

Ohio Basin. --River levels in the upper Ohio Basin remained near normal through the 12th of the month, when warm temperatures resulted in snowmelt runoff over the western and southern portions of the headwater areas of the Monogahela River Basin. Near bankfull stages were reached on the West Fork River at Weston, W. Va., and Clarksburg, W. Va. The main Monogahela River reflected rises of from 6 to 8 feet throughout its length, with three-quarter bankfull stages being reached but no flooding. This rise moved the ice out of the main Monongahela River. A heavy snow cover remained over the Cheat and Youghiogheny River Basins as of the 16th and also over the entire Allegheny River Basin. The Allegheny River remained frozen over from Freeport, Pa., to Olean, N. Y., with ice from 5 to 20 inches thick.

Light to moderate rain on the 17th and 18th supplemented by snowmelt runoff resulted in moderate rises on the Allegheny, Monongahela, and upper Ohio Rivers. The rise on the Allegheny River started the movement of the ice in the upper reaches. Ice gorges began forming in the area below Parker, Pa., and at East Brady, Pa. At East Brady, Pa., the ice gorge built up to about 20 feet in height and came within 2 feet of the floor level of the highway bridge. This gorge broke on the 20th, resulting in a wave moving downstream with a rise of from 4 to 6 feet from Rimerton to Kittanning, Pa. Only minor flooding was reported at Lock 5, Freeport, Pa.

Light rain supplemented by snowmelt runoff on the 23d resulted in slow rising streams in the upper Ohio. Heavy precipitation occurred on the 23d, with amounts of from 2 to 2.5 inches over the upper Allegheny and 1-inch amounts over the Monogahela and the lower Allegheny River Basins. This precipitation began in the form of rain, changing later to snow. Flooding occurred on the Allegheny from Olean, N. Y., to Warren, Pa., and at Freeport, Pa., between the 25th and 28th.

Minor flooding occurred over the upper Cumberland Basin in Kentucky on the 26th and 27th and was due to precipitation averaging 1.5 inches on the 25th and 26th. No damages resulted as the land flooded was mostly wooded or pastureland that is frequently flooded during these spring rises.

South Chickamauga Creek near Chickamauga, Tenn., was in flood from the 21st to the 27th and crested 7.3 feet above flood stage on the 23d. Minor flooding occurred on First Creek in Knoxville, Tenn., on the 23d and 26th. Several families were evacuated. The Tennessee River rose above flood stage at Whitesburg, Ala., on the 22d and at Florence, Ala., and Gilbertsville, Ky., on the 23d. The Tennessee River was approaching flood stage at Savannah, Tenn., by the end of the month. This flooding was due to rainfall on the 21st, 22d, 23d, and 25th.

Red Basin. --Moderate to locally heavy rains over the Ouachita and Caddo River Basins on the 17th, 18th, 20th, and 21st resulted in minor flooding on the Caddo River at Glenwood, Ark., and on the Ouachita at Camden, Ark. Damage from the flooding was negligible.

Minor flooding occurred on the Sulphur River at Naples, Tex., from the 13th to the 15th and on the 26th and on the Cypress River at Jefferson, Tex., from the 25th to the 27th. These floods resulted from rainfall on the 6th, 7th,

20th, and 21st. The main loss from these floods was the inundation of the grazing lands.

Lower Mississippi Basin. --Heavy rains, ranging from 5 to 11 inches, during the period from the 17th to the 21st caused small streams in Mississippi to rise above flood stage late on the 21st. Most of these streams continued in flood during the remainder of the month. Flooding on the Tallahatchie and Big Black Rivers continued into March. The Yazoo River at Yazoo City, Miss., had risen to within 0.6 foot of flood stage on the 28th and rose above flood stage early in March. Some farm buildings located in low areas were damaged. Moderate to heavy damages resulted to farm- and pasturelands.

WEST GULF OF MEXICO DRAINAGE

The minor flooding on the Calcasieu River at Hineston, La., on the 11th and 12th was due to rainfall ranging from 0.5 inch to 1.75 inches on the 5th and 6th. General heavy rains from the 15th through the 21st produced light flooding on the Mermentau and Calcasieu Rivers in Louisiana, and on the Sabine River in Texas. The heaviest rainfall occurred on the 16th and 17th, with totals ranging from 5 to 6.7 inches. Flooding was confined to the lowlands near the rivers. Fishing camps, some rural roads, and few houses were affected. Oil well drilling operations in the lowlands near Bon Wier, Tex., was interrupted throughout the month.

The Trinity River at Liberty, Tex., began rising on the 7th and continued rising until it crested on the 26th, 4.2 feet above flood stage. This rise was due to heavy rains over the upper Trinity on the 6th. Heavy rains occurred again on the 16th to the 18th which resulted in flooding at Liberty, Tex. The heavy rains on the 5th and 6th caused flooding on the Little River at Cameron, Tex., from the 6th to the 8th. Additional rains on the 15th and 16th resulted in further flooding at Cameron on the 17th and 18th.

The Guadalupe, Navidad, and Lavaca Rivers rose slightly above flood stage from rains of 3 to 4 inches on the 5th and 6th. Very heavy rains on the 15th and 16th over the extreme upper portions of the Lavaca and Navidad Rivers caused a moderate rise in the Lavaca River and a major rise in the Navidad. Light flooding resulted in the Guadalupe Basin. Rainfall on the 21st was confined to the Lavaca and Navidad Basins which resulted in moderate flooding in the lower portions of the Navidad River. Damage along the Guadalupe River was minor and was caused mostly in the small tributaries due to flash flooding, principally on the 15th and 16th. Damage on the Navidad River was more substantial and occurred mostly in the lower portions of the river to farmland, farm fences, and roads.

General rains of 2 to 4 inches with amounts up to 6 inches on the 5th resulted in bankfull stages with some flash flooding on the lower Frio and lower Atascosa Rivers and minor flooding on the lower Nueces River. Gulf drainage streams ran bankfull with flooding on the streams in west and south Neuces County, Texas. Extensive flooding of Highways and streets occurred in the Flour Bluff section of Nueces County where 6.2 inches of rain was reported. Minor flooding was also reported from the towns of Bishop and Agua Dulce in Nueces County.

PACIFIC SLOPE DRAINAGE

Sacramento Basin. --Light to moderate precipitation during the first half of the month caused overflow at the Weirs on the Sacramento River into Sutter and Yolo Bypasses.

California Coast. --Heavy rainfall on the 11th caused the Smith and Eel Rivers to rise sharply to bankfull stage. No flooding occurred on the Smith, and only very minor flooding near the month of the Eel during high tide. There was no damage.

Oregon Coast. --Heavy precipitation during the 24-hour period ending at 7 a.m. on the 10th caused rapid rises in the coastal river basins and the lower Umpqua Basin in Oregon. In the Coquille Valley, the river rose rapidly from a low of 13.3 feet at 8 a.m. of the 9th to a crest of 42.2 feet at 9 p.m. of the 10th at Myrtle Point. It receded below flood stage at midnight of the 12th. In the Drain area, where flood conditions were most pronounced, one of the worst floods in years occurred on Elk Creek and its tributaries from the heavy rain during the night of the 9th-10th. Nearly every stream north of Roseburg, Oreg., went out of its banks except the Umpqua, to cause various amounts of damage and much inconvenience. One death was reported from drowning in the Drain area.

Columbia Basin. --Heavy rains from the 9th to the 11th caused widespread flooding in the Willamette River Basin from the 10th to the 15th. Crest stages exceeded those of December 1955 at a number of points. The stage of the Willamette at Eugene, Oreg., (11.65 feet) was the highest since January 19, 1953 (13.9 feet) and was almost 2 feet over flood stage. The crest of the McKenzie at Coburg, Oreg., (16.1 feet) which was 5 feet over flood stage was barely exceeded by the December 22, 1955 rise. Other Cascade range and coast range tributary streams in the Willamette Basin crested from 2 to 5 feet over flood stage but the rises were not noteworthy compared to recent floods. The Tualatin River remained near flood stage for the remainder of the month after cresting on February 16. The continuation of rainfall after the upper Willamette, McKenzie, and Santiam Rivers had crested resulted in major crest stages on the main stem Willamette at Harrisburg, Corvallis, Albany, and Salem. Flood stage was exceeded by 5 to 8 feet at these points and was generally the highest crests since January 1953. The crest stage of 19.0 feet in the Portland Harbor on the 14th was the highest water observed locally since December 1955. This late-winter rise produced a higher stage in the Portland-Vancouver Harbors than was experienced during the spring freshet last year.

Approximately 80 families were evacuated from their homes in Clackamas County as a precautionary measure. There was very little actual damage to houses, but considerable loss to land as the Clackamas River carried away the front yards of about a dozen homes. About 30 families were affected in Multnomah County as Johnson Creek left its banks and flooded Portland city streets. About 15 homes in Marion County were subjected to flood water and received minor damage. Farm property in the Santiam River delta suffered a repeat of the November 1960 inundation, with the resultant loss of topsoil and litter of debris. There was damage to dwellings and trailers in Lynx Creek, Mohawk Valley, and Fall Creek areas of Lane County.

Grays Harbor and Puget Sound. --Major flooding occurred in the Snohomish and Stillaguamish Basins of west-

ern Washington on the 21st and 22d, with a record crest of 19.8 feet on the Stillaguamish River at Arlington, Wash. Other western Washington streams exceeded flood stage by 1 to 3 feet. This flooding was due to heavy rain and runoff from melting snow. It was the wettest February in 59 years in the Washington coastal drainage. Rainfall was more than 200 percent of normal. The heaviest rain occurred on the 5th, 6th, and 19th to 21st. Damage to property in the Stillaguamish and Snohomish Valleys were estimated at $100,000. Damages elsewhere were negligible.

FLOOD STAGE DATA

(All dates in February unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
	Ft.			Ft.	
ST. LAWRENCE DRAINAGE					
Canaseraga Creek: Groveland, N.Y.	11	25	26	13.5	26
Oatka Creek: Garbutt, N. Y.	5	27	27	5.1	27
Genessee: Scio, N. Y.	8	25	26	10.0	26
Portageville, N. Y.	19	26	26	19.[illegible]	26
ATLANTIC SLOPE DRAINAGE					
Charles: Charles River Village, Mass.	4	27	28	4.35	28
Schoharie: Middleburg, N. Y.	12	26	26	13.3	26
Mohawk: Schenectady, N. Y.	10	26	26	10	26
Ramapo: Mahwah, N. J.	8	26	27	8.9	26
Pompton Lakes, N. J.	2	26	27	2.2	26
Passaic: Chatham, N. J.	6	25	Mar. 3	6.6	26
Little Falls, N. J.	126	26	Mar. 3	127.4	27-28
Millstone: Blackwells Mills, N.J.	8	20	20	8.2	20
Assunpink Creek: Trenton, N. J.	6	19	20	6.4	19
Chenango: Sherburne, N. Y.	[illegible]	26	27	9.85	26
Greene, N. Y.	13	26	27	15.9	26
Whitney Point, N. Y.	12	25	28	16.2	26
Chenango Forks, N. Y.	10	25	27	12.6	26
Chemung: Chemung, N. Y.	12	26	27	17.6	26
Elmira, N. Y.	10	[illegible]	26	E13.0	26
West Branch Susquehanna: Renova, Pa.	16	26	26	16.0	26
Lock Haven, Pa.	21	26	26	21.1	26
Williamsport, Pa.	20	26	27	21.7	26
Juniata: Williamsburg, Pa.	12	26	26	14.1	26
Susquehanna: Bainbridge, N. Y.	13	26	28	17.6	26
Conklin, N. Y.	11	25	Mar. 1	16.0	26
Binghamton, N. Y.	14	26	27	17.0	26
Vestal, N. Y.	18	25	28	24.15	26
Towanda, Pa.	16	26	28	21.2	27
Wilkes-Barre, Pa.	22	26	[illegible]	26.2	27
Danville, Pa.	20	26	28	21.8	28
Sunbury, Pa.	16	26	28	17.9	27
Harrisburg, Pa.	17	26	26	14.1	26
North Branch Potomac: Cumberland, Md.	17	25	26	18.9	26
Potomac: Washington (nr), D. C.	12	20 27	22 27	13.1 12.2	21 27
James: Richmond, Va.	12	19	[illegible]	12.3	19
Roanoke: Altavista, Va.	18	23	24	20.0	23
Randolph, Va.	21	24	25	22.3	24
Tar: Tarboro, N. C.	19	26	28	21.1	28
Greenville, N. C.	13	15 25	15 28	13.1 15.5	15 Mar. 1
Neuse: Neuse, N. C.	14	8 24	14 28	16.[illegible] 16.7	11 26
Smithfield, N. C.	13	9 22	15 28	17.5 18.6	9 26
Goldsboro, N. C.	14	11 24	20 28	16.8 21.8	16 Mar. 2
Kinston, N. C.	14	17 27	22 28	14.8 18.1	19 Mar. 6
Cape Fear: Fayetteville, N. C.	35	25	28	37.5	26
Lock No. 2, Elizabethtown, N.C.	20	10 23	13 28	25.4 29.9	10 27
Rocky: Norwood, N. C.	16	8 21 23 25	[illegible] 23 24 26	19.65 28.9 20.05 21.2	8 21 23 25
Pee Dee: Cheraw, S. C.	30	22	28	34.5 33.5 33.2	22-23 24 27
Peedee, S. C.	19	24	1/	24.0	Mar. 3
Saluda: Pelzer, S. C.	[illegible]	21	28	8.8	26
ATLANTIC SLOPE DRAINAGE (Cont'd.)					
Saluda (Cont'd.) Chappells, S. C.	13	25	27	20.7	26
Broad: Blair, S. C.	14	21	28	21.6	25
Congaree: Columbia, S. C.	19	25	25	21.1	25
Catawba: Catawba, N. C.	9	25	26	10.4	25
Wateree: Camden, S. C.	23	25	27	27.1	26
Santee: Pineville, S. C.	20	28	1/		
Broad: Carlton, Ga.	15	21	23	25.55	22
Savannah: Clyo, Ga.	11	26	Mar. 24	14.7 14.5	Mar. 7-8 Mar. 19
Ogeechee: Midville, Ga.	6	28	Mar. 3	8.5	Mar. 1
Ocmulgee: Macon, Ga.	18	20	28	24.2	27
Hawkinsville, Ga.	25	28	Mar. 4	29.9	Mar. 2
Abbeville, Ga.	12	26	Mar. 10	17.7	Mar. 4
Oconee: Milledgeville, Ga.	20	23	Mar. 1	38.5	25
Dublin, Ga.	21	27	Mar. 5	28.3	Mar. 1
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Iowa: Marshalltown, Iowa	13	18 23	18 23	13.6 13.95	18 23
Skunk: Oskaloosa, Iowa	15	19 23	21 24	19.4 16.0	19 23
Sigourney, Iowa	16			17.8	22
North: Norwalk, Iowa				20.6	20
Middle: Indianola, Iowa	15	18	18	18.6	18
South: Ackworth, Iowa	15	18	18	19.8	18
Des Moines: Tracy, Iowa	14	19	19	15.3	19
Eddyville, Iowa	15	19	19	17.9	19
Ottumwa, Iowa	9	19	19	13.7	19
Missouri Basin					
Grand: Chillicothe, Mo.	24	19	19	21.85	18
Sumner, Mo.	26	19	20	28.85	19
Ohio Basin					
Allegheny: Olean, N. Y.	10	25	28	13.5	26
Salamanca, N. Y.	70	26	27	70.95	26
Warren, Pa.	14	26	26	14.0	26
Lock 5, Freeport, Pa.	21	20 26	20 27	21.2 21.2	20 26
Cumberland: Barbourville, Ky.	27	26	27	29.7	26
Williamsburg, Ky.	21	26	26	21.2	26
South Chickamauga Creek: Chickamauga (nr), Tenn.	10	21	27	17.3	23
Tennessee: Whitesburg, Ala.	560	22	Mar. 2	569.5	26
Florence, Ala.	419	23	Mar. 1	421.8	28
Gilbertsville, Ky.	320	23	1/		
Red Basin					
Caddo: Glenwood, Ark.	10	18 21	18 21	14.95 11.85	18 21
Ouachita: Camden, Ark.	28	23	28	28.8	25
Sulphur: Naples, Tex.	22	13 26	15 26	22.2 22.35	14 26
Cypress: Jefferson, Tex.	18	25	27	18.1	25
Lower Mississippi Basin					
Coldwater: Sarah, Miss.	18	21	22	20.9	21
Tallahatchie: Swan Lake, Miss.	26	22	Mar. 22	28.4	26
Sunflower: Sunflower, Miss.	25	21	Mar. 4	27.2	25
Anguilla, Miss.	45	23	Mar. 13	46.1	Mar. 1
Bovina, Miss.	28	21	[illegible]	34.6	28
Big Black: Pickens, Miss.	16	21	Mar. [illegible]	18.6	25
Bogue Phalia: Leland, Miss.	25	22	27	26.8	24

FLOOD STAGE DATA

(All dates in February unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
	Ft.			Ft.	
WEST GULF OF MEXICO DRAINAGE					
Mermentau Mermentau, La.	5	21	27	6.7	23
Calcasieu Hineston, La.	12	11	12	12.1	11
		18	1/	15.1	23
Oakdale, La.	12	22	25	13.1	24
Kinder, La.	16	19	1/	19.0	20
Old Town Bay, La.	4	19	1/	6.6	23
Sabine: Mineola, Tex.	14	8	11	15.8	10
		19	24	15.7	22
Gladewater, Tex.	26	23	27	26.1	25
Bon Wier, Tex.	17	19	26	19.4	23
Deweyville, Tex.	14		10		
		18	1/	15.2	24
Trinity: Liberty, Tex.	24	16	1/	28.2	26
Little: Cameron, Tex.	30	6	E	34.95	7
		17	18	34.1	17
Lavaca: Edna, Tex.	21	18	18	21.8	18
Navidad: Ganado, Tex.	21	6	8	25.6	7
		17	21	28.2	18
		22	23	25.3	22
Guadalupe: Gonzales, Tex.	20	18	19	22.6	18
Victoria, Tex.	21	9	10	23.0	10
		20	21	21.2	10
Frio: Calliham, Tex.	15	6	E	16.0	6
Tilden, Tex.	12	6	7	14.0	7
Atascosa: Whitsett, Tex.	20	7	7	21.3	7
Nueces: Calallen, Tex.	7	7	12	7.9	11
PACIFIC SLOPE DRAINAGE					
Sacramento Basin					
Sacramento: Colusa Weir, Calif.	62	1	4	64.5	2
		10	11	63.7	10
		12	14	64.3	12
		16	17	62.3	17
Tisdale Weir, Calif.	46	1	6	47.8	2
		10	21	48.0	11
				48.1	12

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
	Ft.			Ft.	
PACIFIC SLOPE DRAINAGE (Cont'd.)					
Columbia Basin					
McKenzie: Coburg, Oreg.	11	10	11	16.1	10
Marys: Philomath, Oreg.	20	10	11	20.5	10
Santiam: Jefferson, Oreg.	15	10	12	22.2	11
South Yamhill: Whiteson, Oreg.	38	10	16	41.1	11
Pudding: Aurora, Oreg.	15	10	20	21.6	11
Molalla: Canby, Oreg.	13	10	11	13.6	11
Tualatin: Dilley, Oreg.	12	10	17	12.5	15
		21	23	12.2	22
Farmington, Oreg.	29	12	21	31.9	16
Willamette: Eugene, Oreg.	10	10	11	11.65	10
Harrisburg, Oreg.	12	10	12	16.5	11
Corvallis, Oreg.	20	11	13	25.9	11
Albany, Oreg.	20	11	13	27.7	12
Salem, Oreg.	20	11	13	25.5	12
Oregon City (Upper), Oreg.	12	11	18	16.4	13
Oregon City (Lower), Oreg.	25	10	19	35.9	13
Portland, Oreg.	18	13	15	19.0	14
Columbia: Vancouver, Wash.	16	12	15	17.5	14
Grays Harbor					
Satsop: Satsop, Wash.	34	21	21	35.2	21
Chehalis: Centralia, Wash.	63	21	23	65.8	22
Grand Mound, Wash.	14	21	23	15.3	22
Puget Sound					
Snoqualmie: Carnation, Wash.	51	6	6	51.0	6
		21	22	55.9	21
Snohomish: Snohomish, Wash.	23	6	6	23.0	6
		20	23	28.8	21
Stillaguamish: Arlington, Wash.	16	21	21	19.8	21

* Provisional
1/ Continued at end of month
E Estimated

RAWINSONDE DATA

Average monthly values

FEBRUARY 1961

Standard pressure surface (mb.)	ALBANY, N. Y. (1008 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	86	- 7.0	81	265	1.9
1,000--	28	147			304	3.5
950----	28	552	- 4.3	70	290	6.0
900----	28	978	- 4.5	62	304	11.3
850----	28	1,427	- 5.8	59	296	15.0
800----	28	1,902	- 6.7	52	293	17.3
750----	28	2,405	- 8.1	53	285	20.6
700----	28	2,939	-10.5	48	281	24.7
650----	28	3,505	-12.9	42	283	30.1
600----	28	4,114	-16.0	40	283	35.2
550----	28	4,764	-19.8		282	38.5
500----	28	5,467	-24.[illegible]		283	41.2
450----	28	6,224	-29.8		285	44.9
400----	28	7,058	-35.9		285	51.5
350----	28	7,973	-42.4		282	56.2
300----	28	9,000	-48.9		279	61.0
250----	28	10,183	-53.7		279	65.5
200----	28	11,607	-56.1		277	63.7
175----	28	12,459	-54.9		277	56.5
150----	28	13,4[illegible]	-54.5		279	55.8
125----	28	14,613	-55.4		280	50.3
100----	28	16,031	-57.0		277	49.[illegible]
80-----	28	17,440	-57.9		278	47.[illegible]
70-----	28	18,287	-58.1		279	41.6
60-----	28	19,253	-57.9		282	34.6
50-----	27	20,405	-57.9		282	25.3
40-----	26	21,815	-57.3		286	19.6
30-----	23	23,639	-55.8		286	9.7
25-----	21	24,801	-54.6		276	9.1
20-----	21	26,235	-52.6		288	8.9
15-----	15	28,110	-49.6		285	25.6
10-----	10	30,800	-42.8			

Standard pressure surface (mb.)	ALBUQUERQUE, N. MEX. (838 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	1,619	0.1	63	71	1.4
1,000--	28	179				
950----	28	595				
900----	28	1,037				
850----	28	1,504				
800----	28	1,993	1.5	51	310	6.[illegible]
750----	28	2,505	- 1.5	53	302	12.2
700----	28	3,057	- 5.0	52	303	14.8
650----	28	3,628	- 8.6	48	297	16.9
600----	28	4,253	-12.3	39	291	19.2
550----	28	4,905	-16.7		283	22.2
500----	28	5,622	-21.8		288	23.7
450----	28	6,380	-27.4		279	26.6
400----	28	7,228	-33.9		283	27.8
350----	28	8,150	-40.9		283	25.5
300----	28	9,181	-48.[illegible]		288	28.4
250----	28	10,366	-53.9		282	30.3
200----	28	11,789	-55.7		283	36.5
175----	28	12,640	-55.5		279	39.1
150----	28	13,623	-56.0		278	36.7
125----	28	14,775	-58.9		274	35.8
100----	27	16,163	-63.1		274	29.1
80-----	27	17,531	-63.7		273	24.3
70-----	27	18,358	-63.2		273	19.0
60-----	27	19,301	-62.2		272	15.5
50-----	27	20,426	-62.2		282	10.1
40-----	27	21,810	-60.5		291	7.6
30-----	25	23,605	-58.6		285	3.7
25-----	24	24,754	-57.2		295	5.[illegible]
20-----	23	26,173	-55.0		290	6.4
15-----	16	28,034	-50.3		307	10.1
10-----	6	30,737	-45.8			

Standard pressure surface (mb.)	AMARILLO, TEXAS (892 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	1,095	- 0.9	72	324	4.[illegible]
1,000--	28	166				
950----	28	579				
900----	28	1,021				
850----	28	1,482	2.4	57	330	6.4
800----	28	1,972	2.0	50	289	9.9
750----	28	2,489	- .4	47	300	11.3
700----	28	3,040	- 3.9	45	288	12.6
650----	28	3,618	- 7.3	39	279	15.3
600----	28	4,241	-11.3	37	271	19.2
550----	28	4,896	-15.9	35	267	22.7
500----	28	5,616	-21.2		266	25.5
450----	28	6,378	-27.0		265	29.3
400----	28	7,224	-33.7		262	33.0
350----	28	8,147	-40.8		260	38.9
300----	28	9,180	-48.0		258	42.7
250----	28	10,364	-54.3		259	46.6
200----	28	11,786	-55.9		263	49.7
175----	28	12,636	-55.2		259	52.1
150----	28	13,619	-56.4		259	49.7
125----	28	14,771	-58.7		262	43.3
100----	27	16,166	-62.0		264	39.1
80-----	27	17,538	-63.4		261	28.2
70-----	27	18,357	-62.9		266	22.9
60-----	23	19,304	-62.7		273	16.5
50-----	22	20,428	-62.0		273	10.9
40-----	20	21,812	-60.4		284	7.8
30-----	16	23,611	-58.9		293	4.7
25-----	15	24,753	-56.9		282	6.6
20-----	10	26,168	-54.[illegible]			
15-----	6	28,044	-49.5			
10-----						

Standard pressure surface (mb.)	ANCHORAGE, ALASKA (995 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	30	- 8.1	71	13	3.5
1,000--	28	- 10			15	4.5
950----	28	391	- 7.6	68	17	7.0
900----	28	811	- 6.7	69	46	2.7
850----	28	1,256	- 8.6	68	140	6.4
800----	28	1,724	-11.7	67	144	10.3
750----	28	2,213	-14.7	67	147	13.6
700----	28	2,734	-18.2	64	153	15.0
650----	28	3,283	-21.7	58	162	14.0
600----	28	3,869	-25.5	54	174	13.6
550----	28	4,490	-29.5	50	189	11.5
500----	28	5,169	-34.2	49	193	12.0
450----	28	5,895	-39.0		209	13.8
400----	28	6,698	-44.3		219	17.1
350----	28	7,583	-49.4		225	18.5
300----	28	8,583	-53.4		233	18.3
250----	28	9,759	-51.3		238	16.7
200----	28	11,219	-49.0		249	17.5
175----	28	12,097	-48.6		253	18.7
150----	28	13,110	-48.8		253	21.2
125----	28	14,307	-49.3		256	20.8
100----	27	15,762	-50.4		261	23.5
80-----	27	17,215	-51.1		261	22.5
70-----	27	18,083	-51.8		260	23.9
60-----	27	19,079	-52.5		262	25.3
50-----	27	20,256	-53.0		261	26.2
40-----	26	21,687	-53.5		267	25.6
30-----	22	23,578	-52.8		277	23.1
25-----	21	24,771	-52.5		280	20.0
20-----	18	26,235	-50.9		285	19.8
15-----	10	28,192	-48.4			
10-----						

Standard pressure surface (mb.)	ANNETTE, ALASKA (1001 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	37	2.7	82	133	7.4
1,000--	28	44			116	6.2
950----	28	455	.4	79	151	18.3
900----	28	889	- 2.4	78	169	22.7
850----	28	1,342	- 5.0	77	180	23.3
800----	28	1,816	- 8.0	73	190	22.5
750----	28	2,312	-11.1	64	200	21.8
700----	28	2,842	-14.2	60	203	22.0
650----	28	3,401	-17.1	58	212	23.5
600----	28	3,998	-20.9	55	214	28.6
550----	28	4,635	-25.2	53	225	26.2
500----	28	5,322	-30.2	53	231	26.4
450----	28	6,057	-35.5		232	29.9
400----	28	6,875	-41.5		233	33.2
350----	28	7,770	-47.6		239	34.8
300----	28	8,775	-53.5		245	37.5
250----	26	9,930	-55.2		253	33.2
200----	24	11,350	-51.7		251	29.1
175----	23	12,218	-51.6		261	29.7
150----	22	13,210	-50.9		267	29.1
125----	20	14,403	-51.1		266	28.0
100----	20	15,852	-51.7		269	24.7
80-----	20	17,295	-52.9		269	22.0
70-----	19	18,144	-53.6		272	19.0
60-----	19	19,139	-54.3		276	18.3
50-----	18	20,316	-54.5		279	16.5
40-----	18	21,743	-54.9		289	12.6
30-----	16	23,575	-55.6		294	12.4
25-----	16	24,736	-55.5		285	12.6
20-----	13	26,185	-54.1		332	7.6
15-----	7	28,091	-50.5			
10-----						

Standard pressure surface (mb.)	ATHENS, GA. (990 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	246	5.6	89	271	1.7
1,000--	28	164				
950----	28	586	8.0	71	263	6.8
900----	28	1,033	8.2	68	258	13.6
850----	28	1,506	6.7	64	250	17.5
800----	28	2,002	4.7	57	254	20.2
750----	28	2,523	2.3	52	253	22.7
700----	28	3,081	- .6	50	257	27.2
650----	28	3,665	- 3.7	44	257	31.7
600----	28	4,299	- 7.5	41	260	39.[illegible]
550----	28	4,961	-11.9	40	261	41.2
500----	28	5,695	-16.7	42	260	44.3
450----	28	6,4[illegible]	-22.1		262	48.0
400----	28	7,336	-28.0		261	53.2
350----	28	8,281	-34.8		260	61.0
300----	28	9,341	-42.6		262	72.3
250----	28	10,548	-51.7		262	83.7
200----	28	11,975	-58.1		262	90.3
175----	28	12,814	-58.9		262	83.5
150----	28	13,781	-59.8		266	77.5
125----	28	14,913	-63.3		266	66.8
100----	28	16,275	-66.0		265	55.2
80-----	28	17,625	-66.9		265	40.2
70-----	28	18,439	-66.4		270	29.3
60-----	27	19,372	-64.6		268	21.0
50-----	27	20,490	-62.6		270	15.0
40-----	26	21,868	-61.3		270	9.9
30-----	22	23,671	-57.2		281	6.4
25-----	15	24,827	-54.9		290	4.7
20-----	13	26,255	-52.2			
15-----	5	28,137	-47.7			
10-----						

Standard pressure surface (mb.)	BARROW, ALASKA (1022 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	[illegible]	-32.9	46	70	2.7
1,000--	28	162	-27.6	56	62	4.9
950----	28	537	-23.7	61	60	6.0
900----	28	931	-21.7	58	58	7.8
850----	28	1,352	-21.3	53	56	7.6
800----	28	1,799	-21.8	46	53	6.4
750----	28	2,270	-23.0	41	42	5.8
700----	28	2,778	-24.8	41	29	5.2
650----	28	3,311	-27.5	39	1	6.0
600----	28	3,886	-30.5		350	5.8
550----	28	4,495	-33.9		341	7.2
500----	28	5,163	-38.0		337	8.4
450----	28	5,879	-42.4		336	8.4
400----	28	6,671	-47.5		335	10.7
350----	28	7,544	-52.2		330	10.1
300----	28	8,530	-57.1		323	13.4
250----	28	9,677	-58.8		305	15.[illegible]
200----	28	11,093	-54.[illegible]		281	17.1
175----	28	11,950	-53.6		278	20.6
150----	28	12,942	-53.6		270	23.5
125----	28	14,112	-54.2		269	26.6
100----	28	15,541	-55.0		267	33.8
80-----	26	16,986	-55.1		266	37.3
70-----	26	17,837	-55.4		265	40.8
60-----	24	18,858	-54.7		265	43.9
50-----	24	20,023	-54.9		266	48.[illegible]
40-----	24	21,449	-55.0		267	51.1
30-----	23	23,316	-54.3		265	57.1
25-----	22	24,528	-53.0		270	54.2
20-----	18	26,051	-51.2		272	61.4
15-----	7	27,955	-50.0			
10-----						

Standard pressure surface (mb.)	BARTER IS., ALASKA (1020 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	15	-32.5	58	263	5.4
1,000--	28	153	-28.9	58	291	3.7
950----	28	527	-25.4	63	12	2.7
900----	28	917	-23.1	64	66	4.1
850----	28	1,336	-21.7	63	75	6.2
800----	28	1,783	-21.3	61	81	7.4
750----	28	2,254	-22.6	59	59	7.4
700----	28	2,762	-24.5	55	49	4.3
650----	28	3,297	-27.3	53	45	4.3
600----	28	3,871	-30.5	51	10	4.5
550----	28	4,481	-34.0	49	342	7.2
500----	28	5,146	-38.1		327	9.1
450----	28	5,861	-42.5		305	10.5
400----	28	6,651	-47.6		310	12.4
350----	28	7,523	-52.6		300	14.6
300----	28	8,510	-56.7		291	16.3
250----	28	9,664	-56.5		282	19.2
200----	27	11,093	-52.8		279	23.3
175----	27	11,956	-52.4		277	25.8
150----	27	12,952	-52.5		277	28.8
125----	27	14,130	-52.9		275	32.4
100----	27	15,566	-53.3		274	41.0
80-----	26	17,007	-54.0		275	43.5
70-----	26	17,867	-54.3		275	45.3
60-----	26	18,850	-54.8		279	49.5
50-----	25	20,038	-54.7		276	53.8
40-----	24	21,495	-54.2		277	56.3
30-----	23	23,331	-54.3		276	62.2
25-----	19	24,491	-54.2		276	63.5
20-----	17	25,895	-53.9		279	66.3
15-----	7	27,615	-54.1			
10-----						

Standard pressure surface (mb.)	BETHEL, ALASKA (1000 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	4	-20.6	59	5	12.4
1,000--	28	38			14	14.2
950----	28	425	-15.9	63	29	18.5
900----	28	828	-14.0	58	25	14.8
850----	28	1,264	-14.0	53	18	11.9
800----	28	1,723	-15.2	47	15	11.3
750----	28	2,211	-16.8	42	11	12.6
700----	28	2,725	-19.0	37	360	11.7
650----	28	3,273	-21.9		348	9.9
600----	28	3,859	-25.6		343	11.1
550----	28	4,483	-29.5		335	10.9
500----	28	5,160	-33.8		325	12.6
450----	28	5,887	-38.8		324	13.2
400----	28	6,691	-44.1		319	9.7
350----	28	7,576	-49.1		313	10.7
300----	28	8,579	-53.2		302	11.5
250----	28	9,751	-53.0		295	11.1
200----	28	11,205	-49.1		270	11.7
175----	28	12,081	-49.1		260	13.4
150----	28	13,093	-49.4		257	15.0
125----	25	14,270	-49.6		252	17.5
100----	25	15,729	-50.5		253	20.0
80-----	24	17,177	-51.1		249	21.[illegible]
70-----	24	18,045	-51.5		248	23.3
60-----	24	19,044	-52.2		250	25.3
50-----	24	20,222	-52.8		254	24.9
40-----	23	21,655	-53.6		258	25.5
30-----	21	23,530	-53.1		259	27.0
25-----	18	24,689	-52.8		265	23.5
20-----	15	26,145	-52.3			
15-----	9	28,087	-48.3			
10-----						

Standard pressure surface (mb.)	BISMARCK, N. DAK. (957 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	505	-10.6	75	301	1.0
1,000--	28	161				
950----	28	559			233	.6
900----	28	981	- 4.0	57	275	8.2
850----	28	1,433	- 2.8	49	287	12.6
800----	28	1,913	- 4.0	47	297	16.3
750----	28	2,419	- 6.4	47	303	18.1
700----	28	2,957	- 9.6	46	301	20.0
650----	28	3,522	-12.9	46	299	22.2
600----	28	4,133	-16.5	44	296	24.1
550----	28	4,777	-20.6	43	290	26.6
500----	28	5,481	-25.4	38	290	29.7
450----	28	6,227	-30.7		294	32.3
400----	28	7,065	-36.9		292	34.8
350----	28	7,976	-43.9		297	37.5
300----	28	8,995	-51.3		291	38.7
250----	28	10,161	-57.8		287	40.6
200----	26	11,564	-58.1		289	36.5
175----	24	12,405	-55.5		289	36.5
150----	24	13,392	-54.3		282	35.9
125----	24	14,560	-54.3		285	35.0
100----	24	15,989	-55.7		284	28.2
80-----	23	17,407	-57.0		288	21.0
70-----	23	18,252	-57.6		290	18.7
60-----	23	19,225	-58.0		295	16.1
50-----	23	20,376	-57.6		302	12.0
40-----	23	21,785	-57.3		307	8.5
30-----	23	23,607	-56.7		310	6.8
25-----	23	24,766	-56.0		316	7.2
20-----	22	26,187	-55.1		312	8.9
15-----	22	28,035	-52.7		302	9.3
10-----	6	30,718	-50.6			

Standard pressure surface (mb.)	BOISE, IDAHO (920 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	868	3.0	76	127	4.1
1,000--	28	186				
950----	28	606				
900----	28	1,045	3.8	67	152	2.7
850----	28	1,508	1.4	64	265	5.1
800----	28	1,995	- 1.8	67	276	10.7
750----	28	2,505	- 5.2	72	280	15.3
700----	28	3,044	- 8.6	68	281	18.7
650----	28	3,615	-11.8	63	280	23.3
600----	28	4,225	-15.5	61	277	25.3
550----	28	4,876	-19.4	60	277	28.4
500----	28	5,581	-24.1	58	277	31.5
450----	28	6,337	-29.4	50	281	33.4
400----	28	7,174	-35.5	43	283	35.0
350----	28	8,090	-42.2		287	39.4
300----	28	9,117	-49.4		296	41.0
250----	28	10,292	-56.6		298	44.1
200----	28	11,692	-60.0		294	36.3
175----	28	12,529	-58.2		289	31.7
150----	28	13,506	-56.7		289	31.5
125----	28	14,662	-56.8		288	27.8
100----	28	16,071	-58.5		286	23.5
80-----	28	17,472	-59.2		285	18.7
70-----	28	18,307	-59.2		296	14.2
60-----	27	19,273	-59.7		295	12.8
50-----	25	20,412	-58.9		304	10.[illegible]
40-----	25	21,813	-58.7		326	5.8
30-----	24	23,623	-57.2		41	3.5
25-----	21	24,783	-56.3		54	5.4
20-----	19	26,202	-54.8		72	8.4
15-----	9	28,060	-52.3			

Standard pressure surface (mb.)	BROWNSVILLE, TEX. (1016 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	7	13.4	93	156	1.7
1,000--	28	144	15.3	85	155	4.7
950----	28	576	13.5	74	177	11.9
900----	28	1,034	12.4	63	187	11.5
850----	28	1,514	12.1	46	200	9.7
800----	28	2,020	10.4	39	212	10.7
750----	28	2,553	7.7		222	10.9
700----	28	3,120	4.3		235	12.6
650----	28	3,715	.3		243	15.3
600----	28	4,355	- 4.4		245	19.0
550----	28	5,028	- 8.9		246	25.1
500----	28	5,768	-13.5		246	30.1
450----	28	6,558	-18.8		248	38.1
400----	28	7,431	-24.9		247	49.2
350----	28	8,388	-31.7		247	62.0
300----	28	9,462	-39.5		245	68.8
250----	28	10,687	-48.3		246	76.2
200----	28	12,126	-57.2		248	79.5
175----	28	12,967	-59.3		251	72.3
150----	28	13,925	-62.8		249	65.1
125----	28	15,036	-67.4		250	57.9
100----	28	16,370	-70.9		246	43.7
80-----	26	17,679	-72.7		249	25.3
70-----	26	18,468	-71.7		253	19.2
60-----	26	19,380	-68.1		260	10.5
50-----	25	20,481	-65.1		264	5.8
40-----	24	21,856	-61.0		261	5.6
30-----	20	23,651	-58.3		274	5.8
25-----	16	24,798	-56.5		275	1.9
20-----	15	26,236	-53.2		268	4.1
15-----	9	28,128	-47.6			

Standard pressure surface (mb.)	BUFFALO, N. Y. (993 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	218	- 4.4	81	240	3.1
1,000--	28	159				
950----	28	566	- 3.3	74	247	7.0
900----	28	991	- 4.1	67	265	10.5
850----	28	1,441	- 5.1	61	297	12.6
800----	28	1,917	- 6.0	53	278	14.8
750----	28	2,419	- 7.6	49	278	20.6
700----	28	2,956	- 9.8	45	278	23.9
650----	28	3,522	-12.0	47	279	28.8
600----	28	4,134	-15.4	46	280	31.7
550----	28	4,784	-19.4	43	279	36.7
500----	28	5,489	-23.8		276	40.0
450----	28	6,243	-29.4		276	45.5
400----	28	7,081	-35.5		272	49.[illegible]
350----	28	7,998	-41.8		268	57.5
300----	27	9,032	-48.9		266	67.2
250----	27	10,211	-55.5		264	74.0
200----	26	11,634	-56.4		266	71.1
175----	26	12,485	-55.0		271	62.6
150----	26	13,471	-54.8		267	52.5
125----	24	14,634	-55.5		269	48.0
100----	21	16,039	-57.4		267	41.0
80-----	15	17,448	-58.1		274	36.7
70-----	12	18,297	-58.7		276	34.0
60-----	12	19,264	-59.1		275	27.2
50-----	11	20,401	-58.7			
40-----	9	21,806	-57.9			
30-----	5	23,671	-57.4			
25-----						
20-----						
15-----						

Standard pressure surface (mb.)	BURRWOOD, LA. (1018 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	3	14.0	89	143	1.6
1,000--	28	155	15.6	79	219	.6
950----	28	591	13.4	71	210	8.0
900----	28	1,043	11.6	64	225	10.1
850----	28	1,521	10.5	47	238	11.7
800----	28	2,024	8.7	44	237	14.1
750----	28	2,555	6.1	37	239	17.5
700----	28	3,118	3.0		244	21.2
650----	28	3,710	.6		246	25.1
600----	28	4,349	- 4.7		247	29.9
550----	28	5,024	- 8.7		244	29.7
500----	28	5,762	-13.1		245	37.1
450----	28	6,55[illegible]	-18.6		245	44.7
400----	28	7,42[illegible]	-24.7		247	5[illegible].8
350----	28	8,383	-31.4		245	61.6
300----	28	9,456	-39.4		250	68.6
250----	28	10,681	-48.2		252	84.7
200----	28	12,119	-57.2		255	83.0
175----	28	12,958	-60.2		252	83.4
150----	27	13,917	-62.1		254	70.5
125----	27	15,033	-66.1		255	62.6
100----	27	16,373	-70.9		258	51.5
80-----	25	17,695	-71.6		256	32.8
70-----	24	18,493	-70.2		258	22.3
60-----	24	19,408	-67.8		261	15.2
50-----	23	20,513	-64.9		262	8.4
40-----	22	21,890	-61.3		274	9.1
30-----	19	23,696	-57.3		284	7.8
25-----	21	24,873	-54.8		272	6.2
20-----	20	26,312	-52.3		286	6.0
15-----	10	28,185	-46.6			

Standard pressure surface (mb.)	CAPE HATTERAS, N. C. (1018 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	1	7.4	88	310	2.7
1,000--	28	150	9.4	77	304	2.7
950----	28	572	9.1	66	245	9.1
900----	28	1,023	7.6	64	252	15.5
850----	28	1,493	5.5	59	259	20.4
800----	28	1,988	4.0	54	264	22.2
750----	28	2,508	1.6	50	265	26.0
700----	28	3,065	- 1.3	49	27[illegible]	29.5
650----	28	3,64[illegible]	- 4.4	43	270	35.4
600----	28	4,280	- 8.4	[illegible]	271	39.4
550----	28	4,942	-12.5	40	272	45.5
500----	28	5,674	-17.0		269	49.7
450----	28	6,449	-22.[illegible]		268	52.8
400----	28	7,312	-28.8	37	270	58.[illegible]
350----	28	8,255	-35.6		271	66.3
300----	28	9,310	-43.5		270	77.9
250----	28	10,[illegible]	-51.2		271	88.4
200----	28	11,945	-57.7		274	91.1
175----	28	12,786	-58.5		273	89.8
150----	28	13,755	-59.2		273	80.6
125----	28	14,890	-62.2		271	69.0
100----	28	16,259	-65.1		273	53.6
80-----	28	17,617	-65.5		275	41.0
70-----	27	18,431	-64.7		274	33.2
60-----	26	19,374	-63.1		272	23.1
50-----	24	20,561	-61.8		280	15.3
40-----	23	21,887	-60.1		295	13.8
30-----	20	23,707	-56.4		289	9.3
25-----	18	24,870	-54.3		281	8.2
20-----	17	26,301	-51.9		299	4.7
15-----	10	28,181	-48.3			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

FEBRUARY 1961

Standard pressure surface (mb.)	CARIBOU, ME. (993 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CHARLESTON, S. C. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	191	-14.1	71	289	2.1	28	13	7.4	91	255	2.1
1,000--	28	138					28	163	10.2	80	249	4.9
950---	28	530	-11.7	68	314	6.6	28	588	11.1	69	247	9.1
900---	28	945	-11.4	62	318	9.9	28	1,043	9.7	59	244	13.0
850----	28	1,384	-11.5	61	313	13.4	28	1,516	8.0	47	246	16.9
800----	28	1,848	-12.7	61	306	16.9	28	2,015	5.9	46	248	20.8
750----	28	2,340	-13.6	58	298	21.6	28	2,539	3.6	41	253	23.7
700----	28	2,863	-15.6	54	296	25.5	28	3,099	.7	35	256	26.2
650----	28	3,418	-18.3	49	294	28.8	28	3,684	- 2.7	36	258	31.7
600----	28	4,013	-21.5	47	292	34.4	28	4,321	- 6.8	35	263	34.6
550----	28	4,647	-25.2	46	287	36.5	28	4,982	-11.0		262	39.2
500----	28	5,337	-29.3	44	284	39.8	28	5,721	-15.9		262	44.3
450----	28	6,076	-34.3		284	43.7	28	6,499	-21.1		262	51.9
400----	28	6,898	-40.0		283	47.4	28	7,367	-27.2		264	56.7
350----	28	7,799	45.9		282	53.2	28	8,316	-33.9		264	63.5
300----	28	8,812	-51.7		277	59.7	28	9,380	-41.8		265	67.2
250----	28	9,987	-53.8		282	58.5	28	10,592	-50.7		266	81.2
200----	28	11,424	-52.7		284	56.3	28	12,020	-59.1		269	88.4
175----	28	12,289	-51.8		282	50.5	27	12,864	-59.8		268	85.1
150----	28	13,290	-51.5		281	49.2	27	13,825	-61.2		270	78.3
125----	28	14,471	-52.3		279	44.1	24	14,945	-64.4		272	65.1
100----	28	15,911	-54.0		282	38.7	22	16,303	-67.3		271	53.0
80-----	28	17,341	-54.8		279	35.4	21	17,651	-68.6		274	38.9
70-----	28	18,195	-55.2		282	30.3	20	18,462	-67.5		274	29.5
60-----	28	19,179	-55.1		283	24.9	20	19,389	-65.6		272	20.0
50-----	28	20,342	-55.8		283	21.4	19	20,505	-63.7		277	15.3
40-----	28	21,763	-55.8		284	14.6	18	21,883	-61.4		296	10.3
30-----	27	23,607	-54.6		289	13.6	16	23,683	-57.4		287	10.3
25-----	26	24,774	-54.0		282	10.5	13	24,842	-55.1		285	6.6
20-----	23	26,212	-53.0		272	11.9	10	26,283	-52.1		270	8.9
15 --	21	28,079	-50.8		281	8.9	10	28,164	-48.4			
10-----	7	30,713	-47.5									

Standard pressure surface (mb.)	COLD BAY, ALASKA (997 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	COLUMBIA, MO. (989 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DAYTON, OHIO (983 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	27	- 5.2	79	351	8.0	28	238	- 0.3	83	360	0.8	28	297	- 0.5	78	25	1.9
1,000--	28	4			352	9.7	28	146					28	158				
950---	28	408	- 7.0	74	339	8.9	28	560	1.4	70	299	1.9	28	568	.0	73		.0
900---	28	826	- 9.6	74	328	9.1	28	995	1.6	62	300	5.1	28	1,003	.1	68	276	5.1
850----	28	1,266	-11.4	62	323	10.1	28	1,456	1.5	56	296	7.6	28	1,461	.3	60	268	11.7
800----	28	1,729	-12.7	47	318	10.3	28	1,944	.2	55	295	10.7	28	1,946	- .8	57	267	16.1
750----	28	2,218	-14.0		317	7.0	28	2,457	- 2.3	55	286	12.2	28	2,456	- 2.6	47	265	19.4
700----	28	2,743	-15.8		314	6.6	28	3,005	- 5.0	53	276	16.1	28	3,005	- 5.6	49	268	22.3
650----	28	3,291	-19.0		303	6.4	28	3,578	- 8.3	50	269	20.0	28	3,575	- 9.0	47	267	25.1
600----	28	3,890	-22.8		282	8.0	28	4,202	-12.2	47	267	24.3	28	4,198	-12.5	45	266	29.0
550----	28	4,518	-27.0		272	7.4	28	4,855	-16.3	43	266	28.6	28	4,849	-16.5	46	266	33.4
500----	28	5,203	-31.6		268	8.0	28	5,573	-21.0	37	266	32.1	28	5,568	-21.3	40	267	37.5
450----	28	5,935	-36.8		274	11.5	28	6,338	-26.9		262	35.2	28	6,328	-26.9		266	42.9
400----	28	6,746	-42.5		252	10.9	28	7,182	-33.5		260	39.1	28	7,176	-33.2	38	266	49.2
350----	28	7,638	-48.0		251	12.8	28	8,106	-40.3		256	46.2	28	8,102	-40.0		262	56.7
300----	28	8,642	-53.3		260	15.7	28	9,140	-48.0		256	53.0	28	9,138	-47.9		260	64.1
250----	28	9,815	-52.6		254	17.7	28	10,325	-54.2		254	57.9	28	10,321	-55.0		259	73.6
200----	28	11,270	-48.9		252	18.3	28	11,743	-57.4		257	61.6	28	11,738	-57.3		261	77.1
175----	27	12,154	-48.4		257	15.9	28	12,591	-55.4		261	58.3	28	12,585	-56.3		263	70.5
150----	27	13,169	-48.5		246	18.7	28	13,573	-56.0		262	54.8	28	13,567	-56.2		267	62.0
125----	26	14,375	-49.1		248	18.3	28	14,730	-57.4		263	48.6	28	14,721	-58.0		268	52.1
100----	26	15,837	-50.4		241	15.9	27	16,131	-60.4		265	40.2	28	16,120	-60.3		268	46.0
80-----	25	17,289	-50.9		252	15.5	27	17,520	-61.1		265	31.5	27	17,506	-60.9		269	35.0
70-----	25	18,160	-51.3		240	15.0	27	18,355	-61.4		266	26.6	27	18,335	-60.8		272	28.2
60-----	25	19,159	-52.1		235	14.0	26	19,307	-60.8		270	19.6	26	19,294	-60.5		274	24.1
50-----	25	20,338	-52.7		242	12.8	25	20,440	-60.5		274	16.9	26	20,431	-60.0		279	17.9
40-----	24	21,772	-53.1		240	10.9	22	21,833	-60.3		291	11.5	23	21,825	-59.4		287	13.4
30-----	23	23,622	-53.3		249	11.3	19	23,642	-57.9		304	9.7	20	23,628	-57.4		287	7.6
25-----	21	24,788	-53.4		252	10.1	16	24,799	-56.2		319	7.6	18	24,785	-56.0		296	7.4
20-----	18	26,229	-52.7		260	10.9	16	26,222	-54.5		302	5.1	15	26,212	-53.7		303	6.4
15 --	12	28,144	-48.5				7	28,084	-50.6				13	28,074	-50.2			
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Standard pressure surface (mb.)	DENVER, COLO. (837 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DODGE CITY, KANS. (926 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	1,611	- 2.9	69	202	3.9	27	792	- 1.5	79	300	3.9
1,000--	28	180					27	175				
950---	28	591					27	590				
900----	28	1,029					27	1,021	1.8	60	313	5.6
850---	28	1,488					27	1,481	1.0	55	325	8.4
800----	28	1,973	.4	47	267	6.0	27	1,967	- .1	52	313	9.3
750----	28	2,486	- 2.3	45	305	7.6	27	2,482	- 2.4	51	295	11.7
700----	28	3,034	- 5.7	46	307	11.9	27	3,027	- 5.5	48	290	13.0
650----	28	3,606	- 9.6	44	306	14.6	27	3,601	- 8.8	46	279	17.5
600----	28	4,224	-13.6	43	303	18.3	27	4,221	-12.5	37	273	18.5
550----	28	4,878	-17.7	40	304	18.7	27	4,873	-17.1		269	19.0
500----	28	5,587	-23.0	40	301	21.0	27	5,588	-22.4		263	21.2
450----	28	6,344	-28.8	42	297	21.0	27	6,346	-28.3		259	24.7
400----	28	7,183	-35.4		291	20.4	27	7,186	-34.9		257	28.8
350----	28	8,099	-42.6		296	21.6	27	8,105	-41.8		261	34.2
300----	28	9,123	-50.4		294	22.3	27	9,134	-48.8		263	39.1
250----	28	10,296	-56.2		285	30.3	27	10,316	-54.5		266	44.1
200----	28	11,707	-58.2		278	32.6	27	11,736	-56.7		265	47.4
175----	28	12,550	-57.2		277	38.1	27	12,587	-55.2		262	43.9
150----	28	13,528	-55.9		274	34.8	27	13,570	-55.8		266	43.3
125----	28	14,686	-57.0		274	31.3	27	14,726	-57.9		270	38.1
100----	28	16,093	-58.8		275	26.2	26	16,125	-60.8		266	33.0
80-----	28	17,485	-60.6		271	20.2	25	17,506	-61.6		268	25.8
70-----	28	18,322	-60.8		269	17.5	24	18,338	-61.6		269	20.2
60-----	28	19,276	-60.3		279	15.3	24	19,289	-61.4		273	16.7
50-----	28	20,412	-60.2		282	12.0	24	20,420	-61.0		279	12.4
40-----	27	21,802	-60.1		290	8.7	23	21,808	-60.1		292	5.6
30-----	26	23,606	-58.8		294	6.2	22	23,613	-57.9		293	6.4
25-----	26	24,751	-57.9		300	5.8	20	24,765	-56.6		308	4.5
20-----	23	26,167	-56.3		324	5.8	18	26,191	-54.2		308	6.4
15 --	21	27,999	-54.5		314	6.6	15	28,048	-50.7		308	6.2
10 ---	11	30,628	-49.7									

Standard pressure surface (mb.)	EL PASO, TEX. (883 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ELY, NEV. (811 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FAIRBANKS, ALASKA (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	1,197	3.6	55	265	2.1	28	1,908	- 4.5	71	212	3.1	28	135	-22.0	58	32	3.3
1,000--	28	169					28	222					28	63				
950---	28	593					28	635					28	448	-17.2	47	71	8.9
900----	28	1,041					28	1,071					28	850	-16.4	52	98	11.9
850---	28	1,509	7.0	37	286	5.8	28	1,531					28	1,281	-15.0	55	100	15.7
800----	28	2,004	3.9	38	278	11.9	28	2,013	- 1.7	69	220	2.5	28	1,740	-15.0	56	107	13.0
750----	28	2,526	.7	39	282	14.0	28	2,522	- 3.4	62	305	3.7	28	2,226	-17.1	53	120	9.5
700----	28	3,076	- 3.0	39	274	14.0	28	3,069	- 6.4	59	315	11.9	28	2,741	-20.1	54	127	6.8
650----	28	3,656	- 6.8	35	274	16.1	28	3,639	- 8.8	51	312	17.5	28	3,285	-23.3	52	151	4.3
600----	28	4,278	-10.6		271	19.0	28	4,262	-12.5	46	311	21.0	27	3,871	-26.7	49	158	3.7
550----	28	4,939	-15.2		271	20.8	28	4,917	-16.5	43	306	24.5	27	4,488	-30.7	46	151	4.9
500----	28	5,655	-20.3		274	23.3	28	5,633	-20.9	39	304	28.8	27	5,164	-35.1		171	4.7
450----	28	6,419	-26.2		272	27.4	28	6,394	-26.7	40	305	27.8	27	5,886	-40.2		154	3.7
400----	28	7,267	-32.5		267	31.9	28	7,242	-33.3	41	306	32.6	26	6,689	-45.5		142	6.0
350----	28	8,195	-39.2		270	36.7	28	8,167	-40.3		319	36.9	26	7,569	-50.7		164	6.2
300----	28	9,236	-46.2		267	40.0	28	9,201	-48.6		329	45.3	26	8,563	-55.0		192	4.9
250----	28	10,431	-52.4		264	44.9	28	10,379	-56.6		330	46.2	26	9,728	-53.9		240	8.5
200----	27	11,867	-55.6		262	59.8	28	11,777	-60.8		327	36.1	26	11,174	-50.6		254	14.4
175----	27	12,718	-55.7		263	62.0	28	12,610	-59.9		319	33.0	26	12,046	-49.9		258	15.7
150----	27	13,697	-57.7		264	55.6	28	13,581	-57.0		309	33.0	26	13,054	-50.1		258	18.1
125----	27	14,838	-61.4		263	47.2	28	14,735	-58.2		305	25.1	26	14,244	-50.5		255	20.0
100----	27	16,211	-64.8		267	41.2	28	16,132	-60.8		302	21.2	26	15,698	-51.3		259	22.3
80-----	27	17,563	-66.9		264	31.5	28	17,518	-61.3		305	15.2	24	17,155	-51.7		260	25.6
70-----	27	18,372	-66.1		263	25.1	28	18,345	-61.2		298	12.8	24	18,019	-52.3		260	27.4
60-----	27	19,308	-64.3		273	17.9	28	19,302	-60.8		297	9.5	23	19,006	-53.3		264	29.9
50-----	27	20,423	-63.6		276	9.5	27	20,436	-60.6		284	7.8	21	20,193	-53.5		267	28.0
40-----	27	21,798	-61.5		274	5.2	27	21,827	-59.6		254	1.6	17	21,646	-53.6		267	30.5
30-----	25	23,591	-58.8		270	6.6	27	23,631	-58.0		3	2.5	14	23,479	-54.7		265	38.3
25-----	24	24,744	-56.7		292	8.2	27	24,783	-56.5		39	2.7	12	24,617	-55.6			
20-----	22	26,165	-54.6		291	4.5	24	26,206	-54.6			.0	5	26,287	-50.5			
15 --	15	28,016	-51.5				20	28,056	-51.6		346	2.1						
10 ---							8	30,708	-48.6									

Standard pressure surface (mb.)	FLINT, MICH. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FORT WORTH, TEX. (997 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	254	- 5.9	85	175	0.6	28	180	6.5	80	314	2.7
1,000--	28	158					28	132			356	1.9
950----	28	563	- 3.6	75	321	1.9	28	575	7.5	68	278	6.6
900----	28	991	- 3.4	70	296	5.2	28	1,020	7.9	59	274	11.5
850----	27	1,444	- 4.3	64	294	7.8	28	1,490	6.6	54	268	12.4
800----	27	1,921	- 5.7	59	284	11.5	28	1,986	4.8	46	263	14.4
750----	27	2,425	- 6.9	48	279	15.3	28	2,508	2.4	40	258	17.3
700----	27	2,963	- 8.7	41	275	19.8	28	3,065	.7	39	256	19.6
650----	27	3,532	-11.6	42	279	24.3	28	3,648	- 4.2	34	256	21.6
600----	27	4,145	-15.2		276	28.2	28	4,279	- 8.5		252	24.9
550----	27	4,794	-19.2		276	30.5	28	4,941	-13.4		250	28.8
500----	27	5,500	-23.9		276	32.3	28	5,666	-18.9		250	32.3
450----	27	6,258	-29.3		273	37.9	28	6,436	-24.8		253	36.9
400----	27	7,093	-35.5		272	46.2	28	7,287	-31.4		251	41.8
350----	27	8,009	-42.1		269	55.0	28	8,220	-38.2		249	50.3
300----	27	9,035	-49.9		268	60.4	28	9,265	-45.4		251	55.2
250----	27	10,211	-55.9		265	64.3	28	10,463	-52.1		250	66.6
200----	27	11,624	-56.3		265	62.0	28	11,894	-55.3		253	67.8
175----	27	12,475	-55.2		272	53.0	28	12,744	-56.0		256	68.2
150----	27	13,459	-55.4		270	46.8	28	13,722	-57.4		257	63.9
125----	26	14,621	-55.5		270	44.1	28	14,864	-61.7		257	56.0
100----	26	16,038	-57.7		273	38.1	28	16,236	-64.8		259	46.8
80-----	26	17,444	-58.4		275	30.5	28	17,592	-65.8		263	33.0
70-----	26	18,286	-58.7		271	26.8	28	18,409	-65.4		261	25.5
60-----	26	19,251	-58.7		277	23.9	27	19,342	-64.4		259	18.8
50-----	26	20,396	-58.7		282	19.6	27	20,461	-63.1		264	12.4
40-----	26	21,798	-58.4		288	14.2	26	21,840	-61.2		278	8.4
30-----	23	23,611	-56.2		296	9.5	26	23,636	-58.2		294	6.4
25-----	21	24,771	-55.0		303	6.6	22	24,791	-56.2		300	5.8
20-----	17	26,208	-53.5		307	8.0	20	26,215	-53.7		302	7.4
15 --	14	28,070	-50.4		286	11.1	16	28,068	-48.9		313	8.2

Standard pressure surface (mb.)	GLASGOW, MONT. (933 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GRAND JUNCTION, COLO. (854 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREAT FALLS, MONT. (885 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	696	- 7.5	85	70	1.9	28	1,474	- 1.1	56	110	5.2	28	1,123	- 0.1	63	227	12.0
1,000--	28	149					28	193					28	131				
950----	28	549					28	611					28	548				
900----	28	978	- 1.9	66	258	6.6	28	1,050					28	990				
850----	28	1,434	- 1.1	55	285	16.9	28	1,510			112	4.9	28	1,443	.5	52	242	22.2
800----	28	1,916	- 3.4	58	289	20.6	28	1,996	- .4	50	130	2.7	28	1,929	- 2.2	54	261	20.6
750----	28	2,423	- 6.4	61	287	22.0	28	2,508	- 3.6	55	279	1.7	28	2,437	- 5.5	59	274	21.8
700----	28	2,961	- 9.6	60	292	22.9	28	3,052	- 7.1	59	302	7.2	28	2,978	- 8.8	60	275	25.5
650----	28	3,527	-12.8	56	290	24.1	28	3,624	-10.3	51	305	11.7	28	3,548	-12.0	53	279	24.5
600----	28	4,136	-16.6	51	286	27.2	28	4,238	-13.8	48	301	15.2	28	4,157	-16.4	49	280	25.1
550----	28	4,781	-20.8	53	288	29.1	28	4,889	-18.1	46	302	18.1	28	4,804	-21.2	50	276	25.8
500----	28	5,483	-25.7	53	285	30.7	28	5,600	-23.0	43	296	19.2	28	5,505	-26.0	49	278	28.4
450----	28	6,234	-31.2	52	284	33.2	28	6,356	-28.5	41	303	20.6	28	6,252	-31.5	45	279	29.3
400----	28	7,063	-37.6	55	283	35.2	28	7,197	-35.0	39	314	22.2	28	7,084	-37.7		278	34.0
350----	28	7,970	-44.6		279	38.3	28	8,115	-41.6		326	28.0	28	7,992	-44.6		283	37.9
300----	28	8,985	-52.3		277	42.9	28	9,143	-49.2		322	32.1	28	9,008	-51.4		281	43.3
250----	28	10,147	-57.9		288	44.5	28	10,318	-56.1		318	33.4	28	10,178	-56.4		281	42.7
200----	28	11,552	-57.9		290	36.7	28	11,727	-57.5		315	32.8	27	11,580	-57.8		279	37.5
175----	27	12,403	-56.3		286	34.0	28	12,573	-56.4		303	31.9	27	12,424	-56.7		280	32.6
150----	27	13,386	-54.8		289	30.1	28	13,554	-55.8		293	31.1	27	13,405	-55.3		279	32.1
125----	27	14,552	-54.9		290	27.0	28	14,711	-57.5		289	31.1	27	14,570	-54.6		282	27.6
100----	27	15,976	-56.0		291	23.3	28	16,113	-60.1		291	25.5	27	15,996	-55.4		280	23.1
80-----	27	17,391	-57.2		294	19.2	27	17,503	-61.3		287	17.3	27	17,413	-57.6		285	18.1
70-----	27	18,236	-58.0		298	16.3	27	18,337	-61.4		279	15.0	27	18,254	-57.7		287	16.1
60-----	27	19,206	-57.9		298	14.4	26	19,287	-60.7		282	12.8	27	19,227	-57.7		292	13.2
50-----	27	20,356	-57.5		304	10.9	26	20,422	-60.6		289	8.0	26	20,376	-57.5		294	9.7
40-----	27	21,765	-57.5		308	8.7	26	21,813	-59.5		299	5.2	26	21,786	-57.1		306	7.6
30-----	25	23,582	-56.8		330	9.1	24	23,616	-58.0		334	1.9	24	23,610	-56.6		325	6.4
25-----	24	24,737	-56.5		328	6.2	23	24,770	-56.6		297	3.7	22	24,764	-55.7		333	7.0
20-----	23	26,165	-55.1		335	5.6	20	26,193	-54.8		306	2.7	22	26,188	-54.4		30	6.4
15 --	14	28,032	-50.9		24	8.9	14	28,039	-52.2		294	1.4	13	28,056	-51.7			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

FEBRUARY 1961

Standard pressure surface (mb.)	GREEN BAY, WIS. (993 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	210	- 6.3	84	355	2.7
1,000	28	154				
950	28	559	- 4.6	70	334	3.9
900	28	984	- 5.1	67	305	4.7
850	28	1,432	- 5.5	61	282	8.2
800	28	1,907	- 6.6	55	277	10.7
750	28	2,411	- 7.8	49	280	15.2
700	28	2,945	- 9.9	44	283	19.4
650	28	3,513	-12.8		286	23.3
600	28	4,120	-16.2	39	285	26.4
550	28	4,768	-20.2	39	282	28.8
500	28	5,470	-24.7	40	278	32.3
450	28	6,223	-30.5	44	277	37.5
400	28	7,055	-36.8	44	273	42.9
350	28	7,965	-43.8		270	44.3
300	28	8,982	-51.5		269	50.1
250	28	10,150	-56.5		265	52.3
200	28	11,566	-56.1		270	53.2
175	28	12,417	-54.7		270	50.1
150	28	13,405	-54.3		272	45.3
125	28	14,571	-55.4		272	38.5
100	28	15,990	-56.8		277	35.0
80	28	17,398	-58.3		276	30.9
70	28	18,243	-58.6		279	25.8
60	28	19,204	-58.8		280	21.2
50	28	20,348	-58.9		282	16.7
40	25	21,747	-58.6		291	14.4
30	21	23,557	-57.3		291	10.9
25	21	24,712	-56.2		301	8.2
20	21	26,133	-54.7		304	8.7
15	17	28,002	-52.0		297	7.2
10						

Standard pressure surface (mb.)	GREENSBORO, N. C. (988 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	27	273	2.5	83	309	0.6
1,000	27	171				
950	27	591	5.4	67	259	5.1
900	27	1,032	5.8	64	254	13.2
850	27	1,500	4.9	64	262	18.5
800	27	1,994	3.4	60	265	21.6
750	27	2,516	1.3	50	262	25.3
700	27	3,069	- 1.7	47	258	29.3
650	27	3,653	- 4.9	42	263	31.3
600	27	4,280	- 8.8	41	263	37.9
550	27	4,946	-13.2	38	261	40.2
500	27	5,669	-17.8		265	45.5
450	27	6,442	-23.2		265	48.2
400	27	7,302	-29.6	43	265	53.6
350	27	8,241	-36.5		264	62.2
300	27	9,291	-44.6		266	69.0
250	26	10,483	-53.2		267	79.5
200	26	11,901	-58.9		270	87.4
175	26	12,738	-58.5		273	90.7
150	25	13,706	-58.7		273	80.4
125	25	14,844	-61.6		272	67.4
100	25	16,216	-64.4		269	54.8
80	25	17,578	-64.8		272	43.9
70	25	18,399	-64.3		270	34.4
60	25	19,338	-63.6		276	25.1
50	25	20,461	-61.9		274	19.4
40	22	21,843	-60.2		281	14.2
30	19	23,654	-57.0		301	3.7
25	19	24,814	-55.2		277	4.3
20	16	26,255	-52.7		302	5.4
15	12	28,125	-49.2		233	8.4
10						

Standard pressure surface (mb.)	HILO, HAWAII (1017 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	11	19.6	87	236	3.3
1,000	28	156	21.1	81	217	2.3
950	28	595	18.3	84	103	5.2
900	28	1,063	15.2	86	93	8.4
850	28	1,546	12.7	82	92	9.1
800	28	2,055	11.0	68	96	8.4
750	28	2,591	8.0	59	95	9.9
700	28	3,159	5.3	45	94	9.9
650	28	3,758	2.2	45	96	7.0
600	28	4,405	- 1.8	41	95	5.6
550	28	5,084	- 6.2	36	97	3.5
500	28	5,833	-10.7	32	21	.6
450	28	6,629	-16.2	33	275	2.1
400	28	7,514	-22.3	35	251	7.6
350	28	8,483	-29.1		254	10.5
300	28	9,567	-37.2		254	16.7
250	28	10,807	-44.6		264	29.0
200	28	12,273	-53.5		271	34.8
175	28	13,121	-59.0		276	30.1
150	26	14,080	-64.0		281	26.8
125	25	15,180	-70.0		277	21.2
100	24	16,494	-74.7		290	15.5
80	23	17,783	-76.1		293	7.6
70	21	18,556	-73.4		321	3.3
60	21	19,468	-68.2		22	3.3
50	21	20,573	-64.9		60	4.5
40	20	21,946	-61.8		59	4.7
30	19	23,746	-57.9		60	4.5
25	17	24,903	-55.1		47	1.7
20	15	26,331	-52.9		111	1.4
15	7	28,222	-49.3			
10						

Standard pressure surface (mb.)	INTERNAT. FALLS, MINN. (974 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	360	-11.8	78	127	1.2
1,000	28	155				
950	28	553	- 9.4	77	204	3.5
900	28	969	- 8.2	69	247	9.9
850	28	1,414	- 7.3	59	263	11.1
800	28	1,886	- 7.7	55	267	13.4
750	28	2,388	- 9.2	49	277	16.3
700	28	2,918	-11.6	49	281	19.8
650	28	3,481	-14.4	47	290	21.6
600	28	4,086	-18.0	44	293	23.9
550	28	4,728	-22.1	42	288	27.2
500	28	5,427	-27.1	43	286	27.8
450	28	6,170	-32.8	41	286	29.7
400	28	6,998	-38.9		283	34.6
350	28	7,902	-45.2		287	38.7
300	28	8,916	-51.6		286	42.6
250	28	10,085	-56.1		286	43.5
200	28	11,503	-55.2		285	42.2
175	28	12,360	-53.0		282	38.3
150	28	13,355	-53.0		281	34.0
125	28	14,529	-53.7		278	29.7
100	28	15,959	-54.9		283	28.6
80	28	17,382	-56.0		287	23.1
70	28	18,226	-56.5		285	22.2
60	28	19,208	-57.0		289	19.0
50	28	20,362	-57.0		292	14.8
40	28	21,775	-56.9		295	13.8
30	25	23,601	-56.5		301	13.2
25	22	24,759	-56.1		306	16.9
20	15	26,202	-55.2		313	8.5
15	11	28,053	-53.1			
10						

Standard pressure surface (mb.)	JACKASS FLATS, NEV. (895 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	1,100	3.6	50	30	5.1
1,000	28	188				
950	28	607				
900	28	1,055				
850	28	1,523	6.5	36	33	3.7
800	28	2,018	3.2	37	6	3.1
750	28	2,536	.2	40	327	7.0
700	28	3,089	- 2.6	38	317	11.3
650	28	3,670	- 5.2	32	317	17.3
600	28	4,300	- 8.8	32	310	21.8
550	28	4,961	-13.3		313	26.6
500	28	5,687	-18.5		311	29.0
450	28	6,454	-24.5		313	32.6
400	28	7,312	-31.5		315	33.8
350	28	8,243	-38.9		317	36.5
300	28	9,281	-47.4		321	42.0
250	28	10,463	-56.2		318	47.2
200	28	11,858	-61.4		322	49.9
175	28	12,688	-60.0		314	43.3
150	28	13,657	-57.7		301	43.1
125	28	14,804	-59.3		298	36.1
100	28	16,193	-61.8		299	27.6
80	28	17,571	-63.1		294	24.7
70	27	18,403	-62.4		293	18.8
60	27	19,350	-62.1		293	12.4
50	27	20,479	-61.4		297	11.3
40	27	21,865	-60.5		301	9.1
30	25	23,661	-59.4		325	4.1
25	23	24,806	-58.1		333	4.3
20	22	26,218	-56.3		326	4.9
15	17	28,058	-54.0		312	8.2
10	8	30,682	-52.2			

Standard pressure surface (mb.)	JACKSON, MISS. (1007 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	101	7.6	87	244	1.0
1,000	28	150	8.4	82	226	1.7
950	28	578	9.6	71	237	10.5
900	28	1,025	8.6	61	246	13.0
850	28	1,497	7.4	55	252	14.0
800	28	1,994	5.5	49	256	17.5
750	28	2,520	3.0	44	255	22.7
700	28	3,075	.1	40	257	25.6
650	28	3,661	- 3.3	42	258	30.1
600	28	4,294	- 7.2	40	258	33.2
550	28	4,963	-11.8	32	256	37.1
500	28	5,691	-16.6		251	38.7
450	28	6,468	-21.6		243	40.8
400	28	7,333	-27.9		243	42.7
350	28	8,279	-34.8		248	50.9
300	28	9,339	-42.7		245	58.7
250	28	10,548	-50.9		250	71.[illegible]
200	28	11,982	-56.5		252	84.5
175	28	12,826	-58.2		252	77.7
150	28	13,794	-59.8		249	73.4
125	28	14,924	-63.3		254	66.1
100	27	16,287	-66.5		256	56.7
80	27	17,634	-67.2		250	39.8
70	26	18,446	-66.5		259	28.2
60	26	19,375	-65.1		256	20.8
50	26	20,489	-63.6		261	13.2
40	26	21,865	-61.4		280	7.0
30	24	23,659	-58.1		254	6.4
25	24	24,814	-55.5		279	3.7
20	22	26,246	-53.0		280	5.8
15	21	28,115	-49.6			

Standard pressure surface (mb.)	JACKSONVILLE, FLA. (1020 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	6	11.4	94	228	2.1
1,000	28	173	13.3	80	246	3.3
950	28	600	12.4	67	230	7.6
900	28	1,058	10.8	62	230	11.3
850	28	1,534	9.4	48	242	12.8
800	28	2,036	7.7	39	248	15.9
750	28	2,559	5.4		251	20.2
700	28	3,127	2.4		250	26.0
650	28	3,717	- 1.3		250	27.0
600	28	4,356	- 4.9		253	32.4
550	28	5,025	- 8.9		255	34.6
500	28	5,768	-13.5		260	39.6
450	28	6,550	-18.9		266	51.1
400	28	7,428	-25.3		264	56.2
350	28	8,385	-32.3	42	263	63.5
300	28	9,456	-39.9		265	63.9
250	28	10,678	-48.8		267	76.4
200	28	12,111	-58.4		269	82.2
175	28	12,946	-60.7		270	81.4
150	28	13,903	-62.3		268	74.0
125	28	15,019	-66.2		269	64.1
100	28	16,363	-69.1		269	53.0
80	28	17,689	-70.6		271	35.2
70	28	18,487	-69.0		272	24.7
60	28	19,412	-66.9		270	15.2
50	28	20,522	-63.9		275	12.0
40	27	21,901	-60.9		282	9.1
30	26	23,707	-57.0		293	7.2
25	25	24,865	-54.7		295	7.8
20	22	26,308	-51.8		301	5.6
15	11	28,185	-47.[illegible]			

Standard pressure surface (mb.)	JOHNSTON IS., PACIFIC AREA (1015 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	3	24.8	76	66	15.3
1,000	28	132	23.8	77	73	18.3
950	28	574	20.2	80	82	21.4
900	28	1,045	16.8	78	87	22.3
850	28	1,531	14.0	70	85	18.8
800	28	2,042	12.3	49	86	17.3
750	28	2,574	10.5	34	86	16.3
700	28	3,154	7.9		81	15.3
650	28	3,754	4.5		73	14.0
600	28	4,410	.3		73	14.8
550	28	5,094	- 4.3		63	11.7
500	28	5,848	- 8.7		40	9.5
450	28	6,659	-13.2		7	11.5
400	28	7,548	-19.0		338	14.0
350	28	8,529	-25.8		320	15.3
300	28	9,629	-33.4		311	20.6
250	28	10,887	-42.2		316	26.4
200	28	12,362	-53.3		314	30.3
175	28	13,211	-59.2		315	30.9
150	28	14,164	-65.2		318	30.5
125	27	15,259	-71.5		318	24.1
100	24	16,558	-77.7		321	14.0
80	22	17,829	-79.4		3	6.8
70	20	18,593	-76.9		69	6.8
60	20	19,490	-70.6		98	7.8
50	20	20,589	-65.2		89	9.5
40	20	21,959	-62.3		83	10.3
30	18	23,754	-57.6		85	8.2
25	17	24,913	-54.4		46	1.2
20	16	26,354	-50.6		292	8.2
15	10	28,233	-47.4			

Standard pressure surface (mb.)	KING SALMON, ALASKA (998 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	27	15	-16.2	68	346	4.3
1,000	27	- 1				
950	27	393	-11.8	64	355	10.7
900	27	803	-11.0	65	336	7.8
850	27	1,242	-11.4	61	333	4.5
800	27	1,706	-13.0	55	265	3.9
750	27	2,198	-14.7		277	3.3
700	27	2,716	-17.4		256	4.5
650	27	3,261	-20.8		256	5.6
600	27	3,855	-24.4		257	6.8
550	27	4,479	-28.4		251	9.5
500	27	5,161	-33.1		257	11.9
450	27	5,891	-38.1		259	14.8
400	27	6,697	-43.2		263	15.0
350	27	7,586	-48.2		264	16.5
300	27	8,592	-52.6		263	15.7
250	27	9,770	-51.2		261	15.9
200	27	11,233	-48.3		255	15.3
175	27	12,113	-48.0		251	16.9
150	27	13,131	-48.1		254	19.6
125	27	14,330	-49.0		248	17.7
100	27	15,795	-49.8		250	18.3
80	22	17,253	-50.4		249	18.5
70	19	18,120	-51.0		254	22.0
60	15	19,092	-51.8		259	22.9
50	15	20,273	-52.7		257	21.2
40	15	21,713	-53.1		258	22.2
30	13	23,576	-53.4		270	24.3
25	13	24,749	-53.6		266	27.2
20	10	26,133	-55.0			
15	6	27,896	-56.2			

Standard pressure surface (mb.)	KOTZEBUE, ALASKA (1014 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	5	-25.4	68	52	2.5
1,000	28	105	-20.8	57	64	6.6
950	28	492	-17.6	49	64	9.1
900	28	894	-17.5	46	65	8.5
850	28	1,321	-17.2	42	58	10.1
800	28	1,775	-18.1		53	11.3
750	28	2,254	-19.9		51	12.0
700	28	2,766	-22.0		53	11.7
650	28	3,303	-24.9	40	56	11.1
600	28	3,886	-28.3	40	62	9.9
550	28	4,501	-32.0		62	8.9
500	28	5,173	-36.3		54	8.9
450	28	5,896	-41.0		47	7.2
400	28	6,691	-46.1		41	7.2
350	28	7,569	-50.8		40	5.1
300	28	8,562	-55.0		13	3.1
250	28	9,723	-55.5		290	6.6
200	28	11,156	-52.0		277	12.2
175	28	12,022	-51.5		263	13.4
150	28	13,023	-51.5		260	18.7
125	28	14,206	-51.7		259	24.1
100	27	15,645	-52.5		260	26.8
80	27	17,086	-52.9		257	32.4
70	27	17,945	-53.7		254	34.2
60	26	18,929	-54.1		256	38.9
50	26	20,097	-54.4		254	40.8
40	25	21,514	-54.5		255	48.2
30	25	23,352	-54.8		258	53.8
25	24	24,509	-55.0		260	56.5
20	19	25,896	-55.5		268	67.0
15	11	27,992	-48.4			

Standard pressure surface (mb.)	LAKE CHARLES, LA. (1018 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	5	9.3	93	27	1.4
1,000	28	150	11.4	81	179	3.3
950	28	581	11.6	72	216	11.1
900	28	1,032	10.2	64	229	11.7
850	28	1,507	8.6	56	244	14.0
800	28	2,008	6.9	48	251	16.1
750	28	2,537	4.9	35	258	19.2
700	28	3,098	2.1		258	22.9
650	28	3,689	- 1.9		254	24.3
600	28	4,324	- 6.1		258	29.7
550	28	4,995	-10.5		256	31.1
500	28	5,728	-15.4		254	37.1
450	28	6,514	-21.2		253	43.3
400	28	7,376	-27.4		252	49.4
350	28	8,324	-34.1		249	59.7
300	28	9,387	-41.4		249	71.5
250	28	10,603	-49.4		252	82.4
200	28	12,041	-56.3		253	91.7
175	28	12,885	-58.1		254	84.7
150	28	13,851	-60.7		257	66.6
125	28	14,976	-64.3		257	61.2
100	28	16,326	-68.6		257	50.3
80	28	17,659	-69.0		258	35.0
70	28	18,464	-68.4		258	25.6
60	27	19,388	-65.8		259	16.5
50	27	20,498	-63.9		270	9.5
40	27	21,873	-61.1		279	8.5
30	25	23,676	-57.8		293	7.8
25	25	24,833	-55.2		298	7.2
20	24	26,267	-52.5		290	7.4
15	20	28,138	-48.9		283	7.4
10						

Standard pressure surface (mb.)	LANDER, WYO. (827 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	1,696	- 3.8	66	249	4.3
1,000	28	174				
950	28	586				
900	28	1,021				
850	28	1,480				
800	28	1,962	- .9	50	253	4.3
750	28	2,474	- 3.3	48	286	7.8
700	28	3,019	- 6.5	48	296	14.8
650	28	3,589	-10.1	47	303	18.5
600	28	4,208	-13.9	44	305	19.0
550	28	4,858	-18.2	43	305	20.8
500	28	5,570	-23.2	39	301	25.6
450	28	6,327	-29.1	38	296	27.4
400	28	7,165	-35.8		298	27.8
350	28	8,080	-42.8		298	31.1
300	28	9,103	-50.2		312	36.3
250	28	10,274	-57.0		313	40.6
200	28	11,674	-60.0		303	39.1
175	28	12,513	-57.4		297	38.5
150	28	13,492	-55.5		295	32.6
125	28	14,654	-56.2		292	26.8
100	28	16,066	-58.3		293	22.2
80	27	17,469	-58.7		295	16.1
70	27	18,309	-59.4		291	13.8
60	27	19,272	-59.6		293	12.2
50	27	20,411	-59.9		288	9.5
40	27	21,807	-59.0		301	6.8
30	23	23,619	-57.4		342	2.7
25	21	24,773	-56.2		321	1.4
20	15	26,197	-54.3		332	2.7
15	10	28,044	-51.7			
10						

Standard pressure surface (mb.)	LAS VEGAS, NEV. (943 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	660	6.2	47	290	4.5
1,000	28	174				
950	28	597				
900	28	1,047	9.3	32	339	9.7
850	28	1,518	6.7	34	342	10.1
800	28	2,013	3.2	37	340	8.7
750	28	2,529	- .1	40	345	10.5
700	28	3,084	- 2.9	35	335	12.8
650	28	3,664	- 5.7	29	320	18.3
600	28	4,292	- 9.4		318	22.2
550	28	4,951	-13.6		311	23.5
500	28	5,678	-18.7		320	28.6
450	28	6,444	-24.8		320	32.6
400	28	7,301	-31.7		316	36.1
350	28	8,230	-39.3		316	40.2
300	28	9,267	-47.9		319	42.4
250	28	10,445	-56.5		318	46.4
200	28	11,843	-60.5		304	47.4
175	28	12,677	-58.9		294	44.1
150	28	13,647	-58.0		289	42.7
125	28	14,793	-59.7		285	39.2
100	27	16,180	-62.7		285	32.3
80	26	17,554	-63.2		285	23.5
70	26	18,379	-62.9		280	15.3
60	25	19,325	-62.2		276	10.7
50	25	20,451	-62.0		287	8.4
40	23	21,840	-60.1		296	5.4
30	23	23,644	-58.1		300	1.9
25	22	24,796	-56.6		265	1.6
20	21	26,217	-54.5		284	2.7
15	10	28,084	-49.9			
10						

Standard pressure surface (mb.)	LIHUE, HAWAII (1015 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	36	21.0	84	35	8.0
1,000	28	164	20.5	83	15	10.7
950	28	604	16.7	86	66	13.6
900	28	1,065	13.5	86	77	14.2
850	28	1,545	10.9	79	84	13.4
800	28	2,050	10.0	52	88	11.9
750	28	2,584	8.2		85	8.9
700	28	3,152	5.7		72	5.4
650	28	3,747	1.9		77	3.3
600	28	4,395	- 2.3		56	2.1
550	28	5,072	- 6.9		2	2.9
500	28	5,818	-11.9		308	4.3
450	27	6,610	-17.5		287	4.7
400	27	7,490	-23.8		302	7.4
350	27	8,451	-31.1		296	14.6
300	27	9,528	-37.8		294	25.5
250	27	10,764	-45.7		293	34.6
200	27	12,223	-54.1		286	40.2
175	27	13,071	-58.8		284	39.8
150	27	14,027	-63.8		288	38.5
125	26	15,131	-69.6		289	31.9
100	26	16,445	-74.4		289	22.9
80	25	17,742	-75.3		301	11.9
70	23	18,518	-74.1		296	5.4
60	22	19,430	-69.3		347	1.7
50	22	20,534	-64.4		360	2.3
40	22	21,906	-62.5		55	1.6
30	21	23,700	-57.9		357	2.5
25	20	24,854	-55.7		45	3.7
20	19	26,289	-52.3		297	.6
15	9	28,179	-47.0			
10						

Standard pressure surface (mb.)	LITTLE ROCK, ARK. (1009 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	27	79	5.0	[illegible]	348	2.1
1,000	27	153	5.5	75	330	[illegible]
950	27	573	5.7	70	268	7.4
900	27	1,016	6.3	67	249	11.1
850	27	1,485	5.5	63	261	12.8
800	27	1,979	3.0	59	259	14.6
750	27	2,501	.8	52	265	16.9
700	27	3,053	- 2.0	49	263	21.8
650	27	3,636	- 5.4	43	260	23.5
600	27	4,262	- 9.3		262	28.4
550	27	4,922	-13.8		261	33.8
500	27	5,647	-19.0		261	37.1
450	27	6,416	-24.6		261	40.8
400	27	7,272	-31.0		257	45.[illegible]
350	27	8,206	-37.5		254	51.9
300	27	9,252	-45.0		256	61.4
250	27	10,450	-52.2		255	69.4
200	27	11,876	-56.1		257	75.2
175	27	12,724	-56.3		257	64.[illegible]
150	26	13,700	-57.8		258	68.6
125	26	14,841	-60.9		259	61.4
100	26	16,219	-63.9		263	47.2
80	22	17,585	-65.2		265	39.6
70	21	18,410	-63.7		265	33.2
60	21	19,343	-63.0		267	24.3
50	21	20,466	-61.8		271	18.9
40	19	21,839	-61.2		284	13.4
30	18	23,635	-57.9		298	7.8
25	14	24,789	-56.0		317	6.6
20	12	26,216	-52.9		309	5.1
15	11	28,100	-47.5		289	5.2
10	5	30,769	-44.2			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

FEBRUARY 1961

Standard pressure surface (mb.)	McGRATH, ALASKA (993 MB.)						MEDFORD, OREG. (975 MB.)						MIAMI, FLA. (1019 MB.)						MIDLAND, TEX. (916 MB.)						MONTGOMERY, ALA. (1012 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	103	-23.1	65	328	4.7	28	401	4.2	93		0.0	28	4	18.2	81	106	2.7	28	871	2.0	77	309	2.3	28	61	8.2	86	178	0.8
1,000	28	51					28	190					28	169	18.3	79	101	5.8	28	159					28	162	10.0	77	216	2.5
950	28	138	-18.8	55	41	11.1	28	607	5.0	82	230	1.4	28	604	15.5	78	122	8.5	28	576					28	592	10.3	73	242	9.5
900	28	834	-18.0	61	56	16.7	28	1,051	3.7	78	195	6.2	28	1,067	14.3	62	149	7.0	28	1,019	6.8	54	275	3.5	28	1,039	8.9	69	250	14.8
850	28	1,265	-14.2	62	69	14.0	28	1,513	1.0	78	222	11.1	28	1,549	12.5	52	195	6.2	28	1,489	6.6	46	279	8.7	28	1,512	7.1	62	253	16.7
800	28	1,725	-14.6	55	68	9.1	28	1,999	- 1.6	73	241	16.5	28	2,056	10.5	46	224	6.6	28	1,986	5.6	40	279	12.0	28	2,010	5.7	54	258	21.6
750	28	2,214	-17.1	53	79	6.8	28	2,506	- 4.1	67	254	20.4	28	2,591	7.6	42	237	8.4	28	2,511	2.6	40	278	14.0	28	2,538	3.0	49	254	23.9
700	28	2,727	-19.8	50	103	4.9	28	3,054	- 6.9	63	265	25.5	28	3,157	4.4	39	241	11.3	28	3,066	- 1.0	38	274	16.9	28	3,092	.3		253	27.0
650	28	3,273	-23.0	45	122	4.7	28	3,621	-10.1	58	268	29.5	28	3,751	1.5	33	243	13.0	28	3,645	- 5.0	38	266	17.9	28	3,681	- 3.0		256	30.5
600	28	3,857	-26.5		129	5.2	28	4,242	-13.5	57	273	33.6	28	4,399	- 2.2		247	16.5	28	4,277	- 9.0		259	24.1	28	4,314	- 6.6		255	35.9
550	28	4,479	-30.4		140	5.4	28	4,891	-17.4	55	277	35.6	28	5,078	- 6.1		248	20.6	27	4,936	-13.8		256	26.6	28	4,983	-10.7		254	42.9
500	28	5,154	-34.9		145	5.8	28	5,609	-21.9	53	276	41.2	28	5,827	-10.3		255	25.6	27	5,662	-18.8		254	31.1	28	5,715	-15.4		253	48.4
450	28	5,881	-39.9		173	4.5	28	6,366	-27.3	53	282	43.3	28	6,624	-15.9		258	30.9	27	6,433	-24.7		253	33.6	28	6,498	-21.0		253	53.0
400	28	6,678	-45.0		181	2.7	28	7,216	-33.2	50	283	45.7	28	7,510	-22.2		261	36.5	27	7,284	-31.5		250	37.1	28	7,365	-26.8		253	60.6
350	28	7,561	-49.8		234	3.3	28	8,141	-40.5		287	42.4	28	8,477	-29.6		263	43.7	27	8,216	-38.3		247	43.1	28	8,314	-33.9	44	256	64.9
300	28	8,561	-53.2		238	5.6	28	9,174	-48.7		272	44.5	28	9,558	-37.9		264	50.5	27	9,260	-46.0		249	51.3	28	9,376	-41.8		256	69.8
250	28	9,738	-51.6		251	10.1	28	10,351	-56.4		294	47.6	28	10,788	-48.0		266	54.8	27	10,455	-52.4		252	62.8	28	10,588	-50.4		256	84.9
200	28	11,196	-49.5		252	14.6	28	11,751	-60.4		295	45.7	28	12,227	-57.4		272	60.8	25	11,882	-54.5		257	69.4	28	12,018	-57.4		259	89.2
175	28	12,072	-49.1		254	15.9	28	12,584	-59.5		293	43.7	28	13,063	-61.2		269	60.0	20	12,730	-53.9		258	64.7	28	12,857	-59.4		258	89.8
150	28	13,085	-49.1		252	17.7	28	13,556	-57.3		289	41.4	28	14,011	-64.9		269	54.4	18	13,723	-57.2		258	62.4	28	13,821	-60.7		260	82.2
125	28	14,280	-49.5		254	20.8	28	14,709	-57.7		290	32.3	28	15,113	-68.7		268	47.4	16	14,861	-60.1		259	55.8	28	14,946	-63.8		258	69.8
100	28	15,739	-50.5		256	23.7	28	16,112	-59.2		294	27.2	27	16,437	-73.4		270	36.3	15	16,238	-63.5		258	44.3	28	16,304	-67.2		258	52.3
80	28	17,191	-51.3		254	24.3	28	17,507	-59.8		289	19.4	27	17,732	-75.8		271	20.8	12	17,599	-64.9		255	27.4	28	17,641	-69.0		262	35.8
70	27	18,054	-51.9		255	26.2	28	18,339	-59.8		293	13.8	27	18,512	-74.5		272	13.6	11	18,409	-64.2		257	18.7	27	18,449	-67.7		262	29.1
60	27	19,050	-52.2		256	27.0	28	19,305	-59.7		294	12.2	26	19,413	-69.8		273	9.5	11	19,356	-62.9		261	10.9	26	19,375	-65.9		261	19.2
50	27	20,227	-52.7		256	29.0	28	20,444	-59.6		298	9.7	25	20,512	-65.5		281	7.8	11	20,478	-63.0		307	4.7	26	20,487	-63.8		265	12.4
40	24	21,652	-53.8		261	33.6	28	21,841	-59.2		325	6.0	24	21,885	-60.9		288	8.9	9	21,855	-60.6				25	21,856	-61.6		273	10.7
30	24	23,500	-53.9		262	35.9	25	23,652	-57.7		14	3.9	21	23,691	-57.5		321	5.6	8	23,658	-59.2				20	23,653	-58.0		279	8.7
25	23	24,661	-54.0		262	35.0	24	24,806	-56.8		38	3.7	21	24,846	-55.5		345	3.3	7	24,800	-56.1				19	24,811	-55.4		273	6.4
20	20	26,129	-52.3		269	21.4	20	26,222	-55.8		44	6.0	20	26,287	-51.3		347	1.4	6	26,231	-52.6				18	26,241	-52.9		298	3.5
15	9	28,231	-47.1				14	28,083	-52.7		71	6.0	14	28,138	-48.4				5	28,086	-47.9				14	28,117	-49.5		262	4.7
10							6	30,742	-48.0																6	30,855	-42.3			

Standard pressure surface (mb.)	NANTUCKET, MASS. (1017 MB.)						NASHVILLE, TENN. (997 MB.)						N. Y. INT. AP, IDLEWILD (1019 MB.)						NOME, ALASKA (1011 MB.)						NORFOLK, VA. (1019 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	27	14	- 2.1	83	294	4.1	28	177	4.3	82	217	1.2	28	5	- 1.0	71	328	4.7	28	7	-19.6	58	22	6.0	28	9	3.6	89	336	1.7
1,000	27	146	- 1.3	72	298	5.2	28	149					28	154	- .9	65	338	6.8	28	88	-16.7	48	38	8.7	28	162	5.0	76	350	3.1
950	27	553	- 1.4	67	286	9.7	28	566	5.7	70	236	8.5	28	563	- 1.2	59	314	7.0	28	475	-16.3	45	57	11.3	28	582	4.9	65	303	6.6
900	27	986	- 2.6	55	287	15.3	28	1,012	5.6	65	250	13.8	28	994	- 1.8	52	302	11.1	28	881	-16.5	43	53	12.4	28	1,022	4.8	61	266	12.2
850	27	1,439	- 3.6	49	285	19.6	28	1,478	4.1	61	257	16.7	28	1,448	- 2.5	46	289	14.2	28	1,311	-16.6	41	45	13.6	28	1,488	3.5	59	268	19.6
800	27	1,918	- 4.8	45	287	20.4	28	1,970	2.4	55	260	17.9	28	1,929	- 3.5	39	281	18.7	28	1,766	-17.4	38	34	13.6	28	1,979	2.1	53	271	23.1
750	27	2,424	- 6.4	42	289	24.5	28	2,486	- .2	53	263	19.8	28	2,439	- 5.6	42	277	23.1	28	2,249	-19.3	36	33	13.6	28	2,495	- .3	47	272	28.2
700	27	2,962	- 9.0	43	286	28.4	28	3,039	- 3.2	54	265	23.5	28	2,976	- 8.0	47	280	27.8	28	2,760	-21.4	34	28	12.0	28	3,048	- 2.9	50	272	34.0
650	27	3,533	-11.5	42	286	33.2	28	3,617	- 6.2	50	264	27.2	28	3,549	-10.7	44	282	33.4	28	3,305	-24.0		24	10.9	28	3,628	- 6.3	51	271	38.9
600	27	4,145	-14.4	38	282	40.4	28	4,244	-10.1	47	263	30.5	28	4,161	-13.9	40	280	38.1	28	3,884	-27.4		15	9.5	28	4,254	-10.1	49	271	43.1
550	27	4,796	-18.2	39	281	40.4	28	4,905	-14.5	42	259	37.7	28	4,812	-18.1	43	278	41.8	28	4,504	-31.3		18	9.1	28	4,916	-14.1	41	271	47.2
500	27	5,506	-23.1	41	279	43.7	28	5,625	-19.3	40	263	40.2	28	5,522	-22.7	40	277	48.6	28	5,175	-35.5		360	8.5	28	5,637	-18.8	41	270	49.9
450	27	6,263	-28.6	43	277	48.6	28	6,394	-24.7	41	255	43.9	28	6,283	-28.1		279	52.5	28	5,904	-40.1		1	8.0	28	6,406	-24.4	41	267	55.2
400	27	7,104	-34.5		276	16.6	28	7,248	-30.6		257	49.5	28	7,122	-34.1	38	280	58.9	28	6,698	-45.1		356	8.0	28	7,262	-30.8	45	266	58.1
350	27	8,025	-41.0		279	52.7	28	8,184	-37.1		255	57.5	28	8,045	-40.4		279	69.8	28	7,581	-49.8		338	7.2	28	8,196	-37.7		268	67.6
300	27	9,060	-47.8		279	58.1	28	9,232	-45.1		258	65.9	28	9,080	-47.4		276	82.2	28	8,579	-53.9		332	6.8	28	9,242	-45.7		269	77.3
250	27	10,247	-53.9		280	59.3	28	10,428	-53.0		254	74.0	28	10,266	-53.8		277	85.1	28	9,747	-54.4		312	10.9	28	10,438	-52.7		273	86.9
200	27	11,672	-56.1		280	62.2	27	11,853	-57.3		257	80.6	28	11,687	-57.1		277	86.9	28	11,187	-50.9		278	11.3	28	11,859	-58.3		274	92.9
175	27	12,522	-55.4		279	53.8	27	12,697	-57.5		257	78.5	28	12,534	-56.0		277	80.6	28	12,058	-50.4		268	13.2	28	12,700	-58.1		274	89.0
150	27	13,508	-54.6		275	51.3	27	13,668	-58.7		262	73.4	28	13,516	-55.7		278	65.5	28	13,064	-50.6		265	15.9	28	13,671	-58.5		274	76.9
125	27	14,671	-56.5		277	42.9	27	14,806	-61.4		262	63.9	28	14,673	-57.4		277	58.3	28	14,253	-50.5		262	20.6	28	14,811	-61.0		271	69.8
100	27	16,081	-58.4		276	39.1	27	16,182	-63.8		266	52.1	28	16,076	-59.5		277	50.9	28	15,706	-51.4		257	21.8	28	16,188	-63.9		272	52.3
80	27	17,482	-58.7		275	28.2	26	17,540	-64.8		264	35.0	28	17,470	-59.8		276	41.2	28	17,154	-52.0		256	26.4	28	17,550	-64.7		273	41.4
70	27	18,318	-58.9		280	23.5	25	18,358	-64.2		266	28.0	28	18,311	-60.3		278	32.3	28	18,021	-52.1		255	27.4	28	18,371	-63.4		276	31.1
60	26	19,289	-58.8		283	20.4	25	19,299	-63.3		269	21.8	28	19,267	-59.5		280	25.6	28	19,016	-52.5		254	29.7	27	19,320	-62.2		276	24.7
50	26	20,434	-58.6		305	15.7	25	20,421	-62.5		279	15.7	27	20,406	-59.5		286	20.6	28	20,193	-52.9		255	31.1	26	20,445	-61.4		280	15.5
40	23	21,838	-57.8		295	9.9	24	21,801	-60.8		280	12.6	27	21,805	-58.6		289	15.2	28	21,630	-53.8		259	33.2	24	21,834	-59.8		300	11.3
30	24	23,657	-56.3		284	8.5	23	23,603	-57.4		308	8.0	25	23,624	-56.4		286	8.5	27	23,474	-54.2		260	35.2	22	23,643	-57.0		299	6.2
25	24	24,821	-54.1		269	6.2	23	24,760	-55.6		297	5.8	22	24,784	-54.9		283	7.2	27	24,645	-53.7		262	37.1	22	24,802	-55.1		291	6.0
20	22	26,249	-52.6		263	4.1	22	26,185	-52.8		291	8.4	18	26,211	-52.8		268	6.4	26	26,103	-52.2		266	34.6	18	26,235	-52.9		278	6.2
15	21	28,114	-50.2		271	8.7	18	28,054	-49.3				12	28,085	-50.4				18	28,003	-49.8		270	40.8	14	28,118	-49.6		235	8.5
10	9	30,794	-45.1										5	30,747	-45.2										5	30,861	-41.3			

Standard pressure surface (mb.)	NORTH PLATTE, NEBR. (918 MB.)						OAKLAND, CALIF. (1023 MB.)						OKLAHOMA CITY, OKLA. (971 MB.)						OMAHA, NEBR. (970 MB.)						PEORIA, ILL. (995 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	848	- 5.7	76	330	4.5	28	6	8.8	86	111	1.7	28	392	2.4	79	340	3.3	28	403	- 4.6	79	348	2.5	28	201	- 2.8	87	51	0.8
1,000	28	168					28	191	10.7	78	226	1.2	28	135					28	161					28	154				
950	28	573					28	614	8.9	66	327	4.7	28	571	3.7	64	347	3.5	28	566	- 2.0	67	321	2.9	28	562	- .1	67	164	.6
900	28	1,000	- 2.0	70	318	8.7	28	1,064	7.8	56	317	7.4	28	1,011	4.8	58	327	4.3	28	997	- 1.2	57	306	6.6	28	997	- .3	58	291	4.5
850	28	1,457	- .5	58	322	11.7	28	1,534	3.8	47	310	9.5	28	1,477	4.4	53	291	7.0	28	1,454	- 1.1	58	299	7.2	28	1,454	- .6	55	285	7.4
800	28	1,942	- 1.5	52	325	13.4	28	2,028	3.3	45	304	10.7	28	1,970	2.9	49	271	10.7	28	1,938	- 2.1	55	288	8.5	28	1,938	- 2.0	55	278	10.7
750	28	2,448	- 4.3	50	316	13.4	28	2,545	1.0	45	299	14.8	28	2,491	.2	44	271	15.0	28	2,445	- 4.5	55	281	12.0	28	2,446	- 3.9	48	276	13.6
700	28	2,995	- 7.3	48	312	16.3	28	3,101	- 2.1	44	293	18.7	28	3,040	- 2.7	39	267	18.8	28	2,989	- 7.3	53	280	13.8	28	2,992	- 6.5	48	274	16.3
650	28	3,562	-10.2	44	302	18.5	28	3,681	- 5.4	41	287	20.4	28	3,621	- 6.3	38	261	21.4	28	3,558	-10.8	46	272	16.7	28	3,562	- 9.7	47	271	20.2
600	28	4,182	-13.9	41	290	17.9	28	4,311	- 9.3	39	291	24.5	28	4,246	-10.4	34	256	24.9	28	4,176	-14.2	40	271	18.3	28	4,182	-13.1	45	270	26.2
550	28	4,830	-18.3	41	287	21.2	28	4,973	-13.7	38	297	27.8	28	4,907	-14.7		254	27.6	28	4,826	-18.5	37	269	19.6	28	4,831	-17.5	43	265	29.1
500	28	5,544	-23.1	40	290	20.0	28	5,697	-18.7	39	297	31.3	28	5,625	-20.1		251	31.5	28	5,537	-23.2		268	21.2	28	5,547	-22.4	38	263	32.4
450	28	6,294	-29.2	42	285	23.5	28	6,468	-24.2	39	302	35.0	28	6,391	-26.2		252	34.8	28	6,293	-28.9		267	22.7	28	6,301	-27.9		262	37.3
400	28	7,138	-35.7	41	290	22.5	28	7,323	-30.8		301	38.9	28	7,238	-32.8		253	37.1	28	7,133	-35.6		266	25.5	28	7,148	-34.5		265	41.2
350	28	8,053	-42.8		293	25.3	28	8,257	-38.4		301	41.8	28	8,164	-40.0		256	36.7	28	8,049	-42.8		261	31.3	27	8,062	-41.6		260	47.0
300	28	9,076	-50.4		293	26.6	28	9,298	-47.0		304	46.8	28	9,200	-47.3		255	45.9	28	9,074	-50.1		264	33.0	27	9,090	-48.9		253	53.0
250	28	10,249	-56.1		280	30.3	28	10,481	-56.5		306	52.8	28	10,389	-53.3		251	58.3	28	10,248	-56.3		265	35.0	27	10,270	-55.1		253	62.2
200	28	11,660	-57.3		276	37.7	28	11,872	-63.3		300	56.2	27	11,811	-55.8		252	63.0	28	11,658	-57.7		266	39.6	27	11,685	-57.2		256	63.1
175	28	12,507	-56.1		274	35.8	27	12,701	-60.6		297	50.5	26	12,665	-55.2		254	64.5	28	12,504	-56.2		268	41.0	27	12,534	-55.3		261	58.7
150	28	13,488	-55.6		274	36.5	27	13,667	-58.5		294	45.7	26	13,648	-56.0		257	59.8	28	13,487	-55.4		265	37.1	27	13,519	-55.0		263	56.5
125	28	14,648	-57.0		273	30.5	26	14,812	-60.1		289	38.7	26	14,800	-59.4		256	54.6	28	14,645	-56.9		265	36.1	27	14,676	-57.5		261	52.5
100	28	16,056	-58.6		272	26.2	26	16,199	-61.9		290	32.1	26	16,187	-62.1		260	44.5	28	16,054	-58.8		265	29.1	27	16,080	-59.4		262	39.4
80	28	17,454	-59.6		270	20.6	26	17,576	-63.4		293	24.1	25	17,559	-63.3		259	31.3	28	17,450	-59.6		273	23.7	27	17,473	-60.0		267	31.1
70	28	18,293	-59.8		269	18.5	26	18,405	-63.0		292	20.6	25	18,384	-63.0		261	24.5	28	18,287	-59.6		273	20.4	27	18,309	-59.9		267	24.3
60	28	19,252	-59.9		274	15.0	24	19,353	-62.1		301	15.0	25	19,329	-62.8		265	17.9	27	19,249	-60.0		274	19.0	27	19,268	-60.3		268	20.0
50	28	20,390	-59.9		290	11.5	23	20,480	-61.5		308	10.3	22	20,457	-61.4		266	12.6	27	20,386	-60.1		279	15.5	27	20,405	-59.9		274	15.5
40	27	21,786	-59.3		289	5.4	23	21,868	-60.6		344	5.2	21	21,842	-60.4		270	7.0	27	21,779	-59.7		285	10.5	26	21,799	-59.7		284	10.7
30	25	23,597	-57.9		290	4.9	19	23,666	-58.5		349	4.7	14	23,648	-57.8		293	6.2	24	23,585	-58.1		291	7.4	25	23,606	-57.9		292	6.6
25	23	24,745	-56.9		258	2.9	18	24,820	-56.9		22	2.7	12	24,801	-55.8		266	6.6	20	24,737	-56.9		315	5.4	23	24,766	-56.2		306	3.7
20	20	26,163	-55.0		303	2.1	16	26,237	-54.9		14	3.1	9	26,227	-53.0				16	26,153	-54.6		302	5.8	21	26,191	-54.3		308	3.7
15	16	28,010	-51.7		305	6.2	8	28,105	-51.3										9	28,008	-50.7				19	28,048	-50.9		292	3.5
10																									7	30,708	-46.7			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

FEBRUARY 1961

Standard pressure surface (mb.)	PITTSBURGH, PA. (977 MB.)						PORTLAND, ME. (1016 MB.)						POINT ARGUELLO, CALIF. (1008 MB.)						RAPID CITY, S. DAK. (904 MB.)						ST. CLOUD, MINN. (980 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed					Direction	Speed					Direction	Speed					Direction	Speed					Direction	Speed
SURFACE	28	353	- 2.0	81	320	1.4	28	20	- 7.9	80	306	3.3	28	113	8.7	80	356	3.5	28	966	- 3.0	71	326	3.1	28	316	- 8.7	83	276	1.9
1,000--	28	162					28	144	- 5.6	63	335	3.9	28	179	10.6	72	354	5.4	28	156					28	159				
950----	28	574	- .5	71	266	3.3	28	545	- 5.2	58	317	3.7	28	611	10.8	56	3	12.8	28	562					28	562	- 6.2	75	247	5.4
900----	28	1,004	- 1.1	67	273	7.0	28	971	- 5.8	55	287	8.2	28	1,057	9.4	50	358	13.6	28	996			313	3.1	28	984	- 4.5	64	272	9.5
850----	28	1,459	- 1.9	65	277	13.6	28	1,419	- 6.7	48	280	13.4	28	1,530	7.7	40	346	15.0	28	1,454	.3	49	303	10.1	28	1,435	- 3.9	52	276	11.9
800----	28	1,941	- 3.0	62	279	17.5	28	1,891	- 8.3	50	285	18.1	28	2,029	6.5	33	340	16.7	28	1,940	- 1.4	47	316	13.6	28	1,913	- 5.2	49	283	11.6
750----	28	2,451	- 4.7	56	273	22.2	28	2,389	-10.2	49	288	21.2	28	2,554	4.1	31	335	19.2	28	2,446	- 4.5	48	316	15.9	28	2,416	- 7.5	54	285	16.3
700----	28	2,993	- 6.6	50	272	28.6	28	2,921	-11.9	43	281	26.0	28	3,114	1.2	30	323	19.0	28	2,992	- 8.1	50	312	17.3	28	2,953	- 9.8	55	290	16.9
650----	28	3,567	- 9.6	48	272	33.4	28	3,482	-14.5	43	280	32.1	28	3,703	- 2.5	29	309	19.2	28	3,557	-11.2	44	303	17.9	28	3,517	-12.9	53	288	20.6
600----	28	4,183	-13.5	50	277	35.9	28	4,089	-17.8	41	278	36.5	28	4,336	- 6.9	31	308	21.0	28	4,175	-15.0	40	295	18.5	28	4,128	-16.4	49	286	23.5
550----	28	4,838	-17.6		278	39.6	28	4,729	-21.7	37	279	41.2	28	5,001	-12.1	30	310	24.9	28	4,822	-19.6	41	289	18.7	28	4,773	-20.6	44	287	25.5
500----	28	5,549	-22.2	43	278	44.3	28	5,432	-25.9		278	47.8	28	5,730	-17.3		306	27.0	28	5,530	-24.4	41	288	21.4	28	5,477	-25.1	40	283	29.5
450----	28	6,309	-27.5	45	275	49.2	28	6,180	-31.1		277	53.4	28	6,506	-23.4		304	29.0	28	6,284	-30.0		288	23.9	28	6,227	-30.7		282	32.8
400----	28	7,155	-33.5	44	277	52.8	28	7,014	-37.1		279	59.3	28	7,360	-30.4		305	31.5	28	7,118	-36.5		288	27.8	28	7,060	-37.1		283	36.3
350----	28	8,079	-40.4		274	59.3	28	7,925	-43.5		280	63.3	28	8,295	-37.9		308	37.3	28	8,030	-43.6		291	28.4	28	7,970	-43.9		277	36.7
300----	28	9,113	-48.3		271	66.5	28	8,947	-49.8		277	68.6	27	9,337	-46.5		310	41.8	28	9,049	-51.3		294	29.7	28	8,989	-51.2		277	38.3
250----	28	10,296	-55.2		268	69.9	28	10,129	-53.4		276	74.0	27	10,523	-55.7		311	43.7	28	10,214	-57.5		289	32.1	28	10,157	-57.1		277	40.0
200----	28	11,709	-58.0		274	67.4	28	11,560	-54.5		278	68.2	27	11,919	-62.0		304	48.0	28	11,616	-58.5		284	35.6	28	11,566	-56.7		276	36.5
175----	28	12,554	-56.1		269	63.5	28	12,418	-53.3		281	60.6	27	12,746	-61.1		298	47.4	28	12,459	-56.7		282	33.2	27	12,423	-55.0		272	35.9
150----	28	13,534	-56.5		271	59.8	28	13,411	-53.4		279	55.2	27	13,706	-60.0		290	46.0	28	13,440	-55.5		280	32.6	27	13,410	-54.5		269	33.6
125----	28	14,688	-58.3		271	51.9	28	14,581	-54.8		278	48.6	27	14,842	-61.5		292	41.6	28	14,602	-55.7		280	28.6	27	14,578	-55.0		272	30.1
100----	28	16,085	-60.2		270	38.5	28	16,002	-56.7		276	43.5	26	16,219	-63.8		286	35.8	28	16,017	-57.3		278	22.3	27	16,000	-56.4		279	28.6
80-----	27	17,478	-60.3		271	34.6	28	17,416	-57.2		280	34.8	26	17,583	-64.7		285	27.8	28	17,425	-58.3		277	21.0	27	17,411	-57.7		277	23.9
70-----	26	18,318	-60.3		276	32.1	28	18,259	-57.5		278	30.1	26	18,404	-64.6		287	22.5	28	18,270	-58.7		280	16.7	27	18,252	-57.9		281	21.4
60-----	26	19,277	-60.2		278	30.7	28	19,234	-57.8		281	24.7	26	19,340	-63.5		287	15.9	28	19,234	-59.1		290	13.4	27	19,224	-58.1		286	18.3
50-----	25	20,414	-59.8		289	16.5	28	20,385	-57.5		285	18.7	26	20,461	-62.6		299	12.0	28	20,379	-58.8		294	11.3	27	20,372	-58.2		289	14.8
40-----	23	21,818	-59.2		294	13.2	27	21,794	-56.9		289	12.8	26	21,841	-61.2		308	7.4	27	21,781	-58.5		307	8.0	27	21,777	-57.9		292	11.7
30-----	22	23,632	-57.5		299	9.3	25	23,620	-55.7		275	10.1	26	23,636	-58.6		323	6.0	27	23,595	-57.6		315	5.1	25	23,597	-57.0		297	8.0
25-----	19	24,787	-55.7		281	2.5	24	24,785	-54.3		266	8.9	26	24,785	-56.9		311	4.7	24	24,750	-56.7		336	5.2	21	24,751	-56.3		307	8.4
20-----	15	26,212	-53.3				22	26,215	-52.0		267	9.5	26	26,203	-54.8		306	5.2	22	26,170	-55.1		17	4.1	19	26,159	-55.8		302	8.2
15-----	10	28,101	-49.2				20	28,088	-49.8		263	13.0	25	28,053	-51.9		280	8.0	16	28,030	-52.4		68	5.6	12	27,985	-51.8			
10-----													24	30,710	-46.5		276	12.8												
7------													19	33,101	-41.6		275	20.4												
5------													10	35,376	-37.5															
4------													7	36,918	-33.7															

	ST. PAUL IS., ALASKA (1004 MB.)						SALEM, OREG. (1013 MB.)						SALT LAKE CITY, UTAH (875 MB.)						SAN ANTONIO, TEX. (989 MB.)						SAN DIEGO, CALIF. (1004 MB.)					
SURFACE	28	10	- 7.8	84	35	13.0	28	61	6.6	91	180	9.1	27	1,288	0.9	82	173	4.1	28	243	8.6	86	355	1.4	28	124	9.0	81	73	1.4
1,000--	28	42			47	12.6	28	164	6.9	84	186	13.0	27	196					28	149					28	158	10.7	73	57	1.4
950----	28	437	-10.9	77	49	14.8	28	581	5.1	79	203	20.6	27	611					28	576	10.8	71	220	4.9	28	588	12.4	51	3	1.7
900----	28	853	-11.7	61	47	14.0	28	1,024	2.3	81	218	23.7	27	1,053					28	1,026	10.4	68	233	8.9	28	1,040	8.7	43	356	5.6
850----	28	1,290	-12.6	51	40	11.5	28	1,484	- .3	81	230	26.2	27	1,517	2.2	60	175	4.3	28	1,502	10.0	51	248	11.7	28	1,514	8.3	38	333	8.0
800----	28	1,752	-13.6	48	35	9.5	28	1,967	- 2.8	78	239	28.4	27	2,005	- .6	58	231	3.9	28	2,004	7.6	49	261	13.0	28	2,013	5.9	33	316	10.1
750----	28	2,241	-15.6	45	23	8.7	28	2,474	- 5.4	68	246	30.5	27	2,517	- 4.2	62	277	8.2	28	2,534	4.9	43	264	14.8	28	2,534	3.9	23	315	12.4
700----	28	2,759	-18.2	37	15	9.3	28	3,015	- 8.4	61	249	30.5	27	3,060	- 7.8	63	279	13.8	28	3,094	2.1		264	19.0	28	3,098	1.0	21	321	15.9
650----	28	3,306	-21.1		11	10.1	28	3,585	-11.2	61	254	32.8	27	3,630	-10.9	61	297	17.3	28	3,686	- 1.7		268	22.9	28	3,686	- 2.1		324	21.6
600----	28	3,896	-24.7		4	8.4	28	4,198	-14.8	58	263	34.0	27	4,245	-14.2	57	300	19.0	28	4,321	- 6.0		263	26.6	28	4,322	- 6.4		318	24.9
550----	28	4,520	-28.7		354	7.4	28	4,848	-18.9	56	265	35.2	27	4,903	-18.3	50	297	22.0	28	4,992	-11.0		265	29.0	28	4,986	-11.2		315	26.8
500----	28	5,201	-33.2		357	7.4	28	5,555	-23.5	53	270	36.3	27	5,607	-23.0	47	291	28.0	28	5,722	-16.4		267	26.8	28	5,721	-16.9		311	28.2
450----	28	5,929	-37.9		344	7.8	28	6,310	-29.1	51	273	39.8	27	6,369	-28.3	39	291	29.0	28	6,500	-21.9		264	29.5	28	6,488	-23.3		308	29.5
400----	28	6,738	-43.4		326	7.6	28	7,149	-35.2	51	280	45.7	27	7,206	-34.8		299	32.1	28	7,364	-28.1		269	31.5	28	7,354	-30.5		309	31.5
350----	28	7,625	-48.9		327	10.1	28	8,067	-42.1		283	50.1	27	8,125	-41.8		307	36.1	28	8,308	-35.3				28	8,290	-38.0		308	31.7
300----	28	8,626	-54.0		304	10.9	28	9,092	-49.7		286	56.5	27	9,155	-48.6		308	40.6	28	9,366	-42.7				28	9,334	-46.3		311	34.2
250----	28	9,789	-54.6		265	8.2	28	10,266	-56.4		289	55.8	26	10,327	-56.4		315	42.2	28	10,578	-49.9				28	10,522	-54.8		317	41.6
200----	28	11,232	-50.4		248	11.5	28	11,670	-59.0		281	52.3	26	11,729	-59.4		306	40.0	28	12,017	-55.5				28	11,931	-59.8		300	46.6
175----	28	12,106	-49.3		248	13.2	28	12,511	-56.8		281	41.4	26	12,569	-57.5		298	35.2	27	12,868	-57.0				28	12,766	-59.5		292	49.2
150----	28	13,117	-49.3		248	14.0	28	13,491	-56.2		283	37.7	26	13,548	-55.9		298	31.9	26	13,843	-59.7				28	13,734	-59.0		283	51.7
125----	28	14,312	-49.6		249	15.3	28	14,648	-57.2		281	37.1	25	14,706	-57.2		292	29.1	25	14,971	-63.2				28	14,874	-61.6		282	42.6
100----	28	15,771	-50.3		245	16.7	28	16,060	-56.9		286	28.6	25	16,112	-58.6		287	24.1	25	16,331	-66.8				27	16,244	-64.9		280	34.4
80-----	25	17,226	-50.7		240	17.7	26	17,469	-58.9		285	20.0	25	17,510	-59.5		291	16.9	23	17,671	-68.2				26	17,600	-65.6		288	25.1
70-----	25	18,093	-50.9		239	15.3	26	18,310	-58.3		287	16.1	24	18,349	-59.7		288	13.6	22	18,483	-67.4				26	18,418	-65.1		283	18.8
60-----	25	19,099	-51.3		235	16.5	26	19,278	-58.4		287	12.8	23	19,307	-60.1		286	10.1	22	19,404	-64.9				26	19,354	-63.9		282	13.2
50-----	24	20,279	-52.2		246	15.9	26	20,422	-58.9		304	8.5	22	20,446	-59.5		289	8.9	22	20,518	-63.8				26	20,473	-63.0		290	10.1
40-----	22	21,724	-52.8		248	15.0	25	21,825	-58.0		318	6.2	22	21,845	-58.9		307	4.5	20	21,898	-60.8				24	21,852	-60.7		291	5.1
30-----	16	23,586	-52.2		241	13.8	24	23,640	-57.2		344	4.1	18	23,646	-58.0		343	1.7	18	23,697	-57.9				22	23,656	-57.8		306	1.9
25-----	13	24,780	-51.2		259	13.2	21	24,793	-56.0		48	3.1	16	24,795	-57.1		15	3.1	21	24,851	-55.8				21	24,816	-55.8		278	2.9
20-----	12	26,233	-49.7		260	10.1	17	26,217	-54.8		53	3.9	13	26,207	-55.3		38	3.9	20	26,284	-53.2				21	26,243	-53.4		265	4.7
15-----	6	28,160	-46.2				10	28,082	-52.0				8	28,072	-51.4				13	28,154	-49.2				17	28,107	-50.2		266	5.8

	SAN JUAN, P. R. (1018 MB.)						SANTA MONICA, CALIF. (1015 MB.)						SAULT STE. MARIE, MICH. (992 MB.)						SEATTLE, WASH. (1002 MB.)						SHEMYA, ALASKA (996 MB.)					
SURFACE	27	6	21.6	85	139	4.7	28	38	12.0	66	18	4.7	28	221	- 9.6	77	42	2.1	28	125	5.8	84	170	7.2	28	37	- 0.5	89	117	4.7
1,000--	27	159	22.7	76	108	10.7	28	162	13.3	54	21	4.5	28	157					28	142			171	6.4	28	6			71	8.0
950----	27	601	19.9	77	89	15.9	28	592	12.7	46	22	5.8	28	555	- 8.0	71	319	.6	28	559	3.9	81	205	21.2	28	409	- 3.1	83	97	5.6
900----	27	1,069	16.6	76	90	16.5	28	1,047	11.0	39	15	6.8	28	975	- 7.9	66	287	5.1	28	999	1.2	84	218	24.7	28	838	- 6.3	82	110	5.6
850----	27	1,554	13.5	69	86	16.5	28	1,522	8.8	33	1	6.4	28	1,420	- 7.9	58	288	10.1	28	1,457	- 1.5	85	226	24.5	28	1,283	- 9.1	77	129	5.4
800----	27	2,063	11.2	60	87	17.5	28	2,021	6.2	31	348	9.5	28	1,890	- 9.0	53	289	13.6	28	1,938	- 4.3	79	235	23.7	28	1,755	-11.6	68	133	4.3
750----	27	2,600	9.8	36	85	15.0	28	2,548	3.6		333	12.8	28	2,387	-10.6	54	286	16.7	28	2,439	- 7.2	71	241	24.1	28	2,244	-13.9	59	139	6.2
700----	27	3,170	7.1		82	13.0	28	3,105	.6	23	323	15.9	28	2,918	-12.6	51	286	21.6	28	2,979	-10.1	61	248	27.2	28	2,770	-16.3	50	127	5.6
650----	27	3,774	4.1		88	10.1	28	3,693	- 2.9		318	19.8	28	3,476	-15.0	48	285	24.5	28	3,543	-13.0	58	251	30.9	28	3,318	-19.7	50	130	6.4
600----	27	4,422	.4		91	8.0	28	4,326	- 7.0		315	24.3	28	4,082	-18.4	46	286	27.8	28	4,155	-16.5	63	255	32.8	28	3,914	-23.5	49	150	7.8
550----	27	5,108	- 3.7		71	8.0	28	4,991	-12.0		305	24.7	28	4,723	-22.4	41	286	31.1	28	4,800	-20.6	63	257	35.6	28	4,538	-27.7	45	152	6.8
500----	27	5,862	- 8.2		69	6.8	28	5,722	-17.4		309	27.8	28	5,421	-26.8	42	287	34.8	28	5,503	-25.3	59	260	36.9	28	5,225	-32.4	43	168	6.6
450----	26	6,666	-13.7		29	4.3	28	6,492	-23.8		309	28.6	28	6,166	-32.1	42	286	39.6	28	6,253	-30.9	53	263	39.6	28	5,956	-37.4		176	5.2
400----	26	7,556	-20.0		347	6.8	28	7,351	-30.9		310	30.5	28	6,995	-38.1		284	45.3	28	7,086	-37.3	51	264	44.7	28	6,765	-43.1		199	2.3
350----	26	8,531	-27.4		331	8.5	28	8,284	-38.2		309	33.6	28	7,901	-45.0		284	48.2	28	7,995	-43.9		262	49.7	28	7,654	-48.3		200	5.2
300----	26	9,621	-36.0		319	15.0	28	9,328	-46.3		309	37.7	28	8,916	-52.2		282	52.1	28	9,016	-50.6		267	53.8	28	8,658	-52.9		232	8.4
250----	26	10,863	-45.2		293	20.4	28	10,515	-55.3		313	42.7	28	10,083	-56.3		274	52.3	28	10,188	-55.9		271	58.3	28	9,830	-54.0		224	13.0
200----	25	12,317	-55.2		275	30.5	28	11,918	-60.8		304	49.4	28	11,503	-55.4		276	52.5	28	11,601	-57.0		276	48.6	28	11,267	-51.7		246	15.7
175----	25	13,159	-60.6		275	33.8	28	12,749	-60.0		298	50.5	28	12,357	-54.1		275	47.8	27	12,443	-55.4		274	41.8	28	12,136	-50.0		247	17.7
150----	24	14,105	-66.2		281	32.3	28	13,714	-59.3		290	46.4	27	13,343	-53.3		275	45.7	25	13,423	-54.5		279	37.5	27	13,147	-50.0		242	16.5
125----	23	15,197	-70.9		284	24.1	28	14,850	-61.6		287	42.9	25	14,509	-54.1		278	39.6	25	14,591	-54.8		278	32.4	24	14,342	-49.6		235	18.8
100----	23	16,502	-76.0		313	15.3	28	16,225	-64.3		287	35.0	16	15,951	-55.0		276	31.1	25	16,017	-55.3		277	26.4	24	15,802	-49.7		240	19.8
80-----	23	17,779	-78.2		335	10.3	28	17,585	-65.3		289	25.3	9	17,373	-56.6				23	17,445	-56.8		283	19.2	23	17,249	-50.8		238	19.4
70-----	23	18,558	-75.4		354	7.6	28	18,404	-64.8		284	19.2	6	18,207	-56.6				23	18,293	-57.4		283	15.9	23	18,115	-50.9		239	19.0
60-----	23	19,453	-69.3		27	3.3	28	19,345	-63.3		280	15.2							23	19,262	-57.8		286	12.4	23	19,120	-51.8		245	19.2
50-----	23	20,560	-63.0		24	2.3	28	20,468	-62.3		291	10.1							23	20,413	-57.3		297	10.3	20	20,299	-52.3		249	19.4
40-----	23	21,943	-60.0		51	7.2	28	21,851	-61.0		297	4.7							20	21,824	-57.5		326	8.0	19	21,737	-52.4		254	17.1
30-----	20	23,754	-56.0		51	7.8	26	23,652	-58.2		312	2.5							17	23,643	-56.1		339	5.1	19	23,596	-52.7		254	14.6
25-----	16	24,913	-53.5		56	6.2	26	24,803	-56.6		311	3.3							16	24,800	-55.7		337	6.0	18	24,770	-52.4		249	16.5
20-----	14	26,361	-49.9		175	3.7	22	26,229	-54.4		308	4.1							8	26,207	-55.0				16	26,217	-51.3		254	16.3
15-----	12	28,252	-46.2		243	11.1	21	28,087	-50.1		270	9.5													11	28,099	-48.6			
10-----	8	30,957	-38.0				10	30,773	-44.9																					

See reference note at end of table

RAWINSONDE DATA

Average monthly values

FEBRUARY 1961

Standard pressure surface (mb.)	SHREVEPORT, LA. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SPOKANE, WASH. (932 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	76	8.4	90	199	1.0	28	722	1.5	86	188	7.6
1,000--	28	154	8.5	81	191	1.9	28	150				
950----	28	578	8.3	71	235	11.5	28	566				
900----	28	1,025	8.3	66	243	13.8	28	1,003	1.8	80	208	15.5
850----	28	1,497	6.7	60	248	15.9	28	1,462	- .2	74	231	19.4
800----	28	1,993	4.5	53	253	16.7	28	1,946	- 3.0	72	239	21.4
750----	28	2,514	2.0	47	252	18.5	28	2,453	- 6.3	71	251	19.4
700----	28	3,071	- .9	40	253	22.7	28	2,990	- 9.7	65	263	22.2
650----	28	3,655	- 4.1		256	26.6	28	3,555	-13.2	61	262	26.2
600----	28	4,287	- 8.4		253	28.8	28	4,164	-16.8	57	265	28.2
550----	28	4,950	-13.1		253	29.7	28	4,809	-20.5	54	269	31.3
500----	28	5,676	-18.4		251	33.6	28	5,512	-25.1	51	272	36.3
450----	28	6,448	-24.0		251	38.9	28	6,266	-30.6	51	276	37.7
400----	28	7,305	-30.0		248	44.3	28	7,097	-36.7	52	277	41.6
350----	28	8,243	-36.7		247	52.7	28	8,008	-43.4		278	44.9
300----	28	9,293	-44.2		247	60.6	28	9,030	-50.5		280	47.8
250----	28	10,496	-51.8		249	69.4	28	10,199	-56.7		280	53.2
200----	28	11,926	-55.7		252	78.5	28	11,606	-56.0		280	46.2
175----	28	12,774	-56.7		253	75.2	27	12,462	-55.0		279	38.5
150----	28	13,748	-59.1		252	66.8	27	13,447	-54.4		278	32.3
125----	28	14,881	-62.8		255	59.1	27	14,616	-55.0		276	29.0
100----	28	16,246	-66.4		256	50.5	27	16,039	-55.3		281	25.8
80-----	26	17,596	-66.9		258	35.8	26	17,455	-56.8		281	19.6
70-----	26	18,408	-66.4		257	26.8	26	18,303	-56.8		283	15.7
60-----	24	19,341	-64.5		259	17.5	25	19,272	-57.3		284	12.0
50-----	22	20,454	-63.3		262	13.4	25	20,425	-56.8		292	10.3
40-----	22	21,831	-61.5		275	8.5	23	21,838	-57.3		315	8.0
30-----	20	23,636	-57.9		279	7.2	20	23,658	-56.4		314	5.6
25-----	18	24,791	-56.3		279	5.8	17	24,814	-55.8		325	7.2
20-----	16	26,231	-53.5		272	5.2	13	26,230	-54.6		317	11.1
15-----	11	28,103	-49.6				7	28,005	-54.6			
10-----												

Standard pressure surface (mb.)	SWAN ISLAND, W. I. (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TAMPA, FLA. (1020 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	10	25.5	79	82	9.9	28	8	14.2	88	91	4.1
1,000--	28	132	24.2	79	80	12.8	28	175	15.6	81	121	6.0
950----	28	582	21.1	81	91	15.3	28	607	13.8	73	175	7.8
900----	28	1,048	17.9	79	103	17.0	28	1,065	12.5	58	208	7.6
850----	28	1,536	14.9	74	106	17.3	28	1,545	11.3	43	226	9.1
800----	28	2,048	12.0	66	112	16.1	28	2,050	9.7		232	11.7
750----	28	2,586	9.6	53	111	14.6	28	2,581	7.2		243	13.5
700----	28	3,157	7.2	40	106	11.9	28	3,149	3.8	34	246	16.1
650----	28	3,760	4.2	35	110	9.5	28	3,747	.4	30	250	18.7
600----	28	4,412	1.7		133	8.0	28	4,386	- 3.3		252	24.1
550----	28	5,103	- 1.7		138	4.9	28	5,063	- 7.2		253	26.6
500----	28	5,863	- 6.1		170	4.5	28	5,808	-12.1		256	31.1
450----	28	6,668	-11.7		220	4.3	28	6,605	-17.5		256	34.2
400----	28	7,571	-18.3		260	6.2	28	7,482	-23.5		256	41.6
350----	28	8,554	-25.6		262	12.4	27	8,444	-30.4		263	48.2
300----	28	9,653	-34.2		251	18.3	27	9,522	-38.4		260	55.2
250----	28	10,903	-44.3		258	25.6	27	10,753	-47.8		264	59.8
200----	28	12,364	-55.0		254	29.5	27	12,191	-58.0		265	65.3
175----	28	13,207	-60.6		259	29.1	26	13,025	-60.5		266	65.3
150----	28	14,155	-65.7		259	26.0	25	13,977	-63.4		267	58.7
125----	28	15,251	-70.2		265	19.8	25	15,087	-67.3		264	54.8
100----	27	16,562	-75.7		272	9.1	24	16,422	-71.0		265	46.8
80-----	27	17,841	-78.3			.0	23	17,731	-72.7		266	35.8
70-----	27	18,611	-76.1		86	3.7	23	18,526	-70.9		261	26.2
60-----	26	19,506	-70.3		79	5.1	23	19,435	-67.8		260	16.7
50-----	26	20,608	-63.9		58	5.8	21	20,542	-64.1		261	12.6
40-----	26	21,986	-60.7		77	6.4	19	21,922	-60.4		291	10.9
30-----	26	23,791	-56.7		70	8.4	18	23,729	-56.4		292	7.8
25-----	24	24,955	-52.8		65	7.2	15	24,876	-54.8		281	5.2
20-----	23	26,410	-49.7		27	3.5	12	26,304	-50.7			
15-----	21	28,307	-46.2		271	5.8	9	28,203	-46.4			
10-----	13	31,048	-41.3									

Standard pressure surface (mb.)	TATOOSH IS., WASH. (1011 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TOPEKA, KANSAS (986 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	31	7.8	85	190	9.5	28	269	- 1.1	84	3	3.5
1,000--	28	117	6.8	84	196	11.5	28	158				
950----	28	534	4.1	84	221	15.9	28	571	.6	67	359	4.5
900----	28	976	1.1	84	235	16.5	28	1,004	1.1	58	339	6.0
850----	28	1,433	- 1.8	80	229	18.7	28	1,464	.8	55	314	7.8
800----	28	1,913	- 4.6	71	230	20.2	28	1,951	- .5	51	295	8.0
750----	28	2,414	- 7.5	64	236	22.9	28	2,464	- 2.9	48	279	8.9
700----	28	2,954	-10.4	56	242	25.6	28	3,008	- 5.8	45	282	11.7
650----	28	3,514	-13.7	50	249	27.8	28	3,582	- 8.8	44	272	15.3
600----	28	4,125	-17.1	48	250	30.7	28	4,202	-12.7	46	266	20.0
550----	28	4,771	-20.9	47	254	33.4	28	4,857	-17.0	45	264	23.7
500----	28	5,472	-25.6	48	256	36.9	28	5,569	-22.0		261	26.8
450----	28	6,216	-31.3	46	256	41.6	28	6,330	-27.6		257	31.5
400----	28	7,052	-37.8	46	262	40.8	28	7,171	-34.3	39	258	33.2
350----	28	7,960	-44.3		265	44.7	28	8,092	-41.5		260	37.1
300----	28	8,980	-50.3		267	49.4	28	9,120	-49.3		259	43.3
250----	28	10,155	-55.8		267	49.4	28	10,299	-54.8		259	49.2
200----	28	11,569	-56.8		269	45.1	28	11,717	-56.7		263	48.8
175----	27	12,421	-54.7		266	40.2	28	12,565	-56.0		262	48.6
150----	27	13,410	-53.9		268	37.3	28	13,548	-55.5		264	44.9
125----	27	14,581	-54.1		269	32.4	28	14,706	-57.5		267	40.8
100----	26	16,012	-55.7		271	26.4	28	16,108	-60.1		266	34.6
80-----	25	17,430	-57.1		274	21.6	28	17,496	-61.1		270	27.4
70-----	25	18,270	-57.3		274	20.0	28	18,327	-61.0		268	22.0
60-----	24	19,253	-57.2		278	13.6	27	19,285	-60.9		275	18.8
50-----	24	20,405	-57.6		282	10.5	27	20,420	-60.5		277	13.0
40-----	22	21,817	-57.3		299	8.0	25	21,812	-60.4		281	9.5
30-----	22	23,654	-55.3		22	5.2	24	23,610	-58.4		309	6.0
25-----	16	24,817	-54.6		52	7.2	21	24,759	-56.7		302	6.8
20-----	13	26,247	-53.3		56	8.0	17	26,183	-54.7		302	3.7
15-----	5	28,089	-50.6				10	28,043	-51.7			
10-----												

Standard pressure surface (mb.)	TUCSON, ARIZ. (926 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	WASHINGTON, D. C. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	781	6.1	51	156	4.7	28	84	- 0.9	84	342	3.9
1,000--	28	155					28	156	- .0	74	345	3.7
950----	28	578					28	571	1.2	66	296	6.8
900----	28	1,028	10.7	33	188	3.1	28	1,004	.7	65	282	10.5
850----	28	1,503	8.5	30	277	1.9	28	1,463	- .0	64	283	16.3
800----	28	2,002	5.2	32	280	4.3	28	1,948	- .8	60	275	18.3
750----	27	2,519	1.7	32	280	7.0	28	2,462	- 2.7	58	273	23.9
700----	27	3,076	- 1.7	28	290	9.9	28	3,008	- 5.2	58	272	28.8
650----	27	3,655	- 4.7		298	15.7	28	3,585	- 8.8	55	268	32.1
600----	27	4,288	- 8.4		295	19.4	28	4,204	-12.3	53	267	38.1
550----	27	4,949	-13.2		290	22.2	28	4,860	-16.2	53	268	40.6
500----	27	5,676	-18.4		294	27.2	28	5,576	-20.7	51	266	46.6
450----	27	6,446	-24.5		292	24.9	28	6,343	-26.1	51	267	51.5
400----	27	7,300	-31.3		293	31.3	28	7,190	-32.0	47	268	56.2
350----	27	8,231	-38.6		291	34.6	28	8,120	-38.6		267	64.5
300----	27	9,273	-46.1		285	36.3	28	9,161	-46.5		266	71.3
250----	27	10,464	-54.0		287	43.3	28	10,348	-54.4		263	78.9
200----	27	11,886	-55.2		278	50.9	28	11,761	-58.5		267	87.6
175----	27	12,739	-55.5		275	55.8	28	12,601	-57.3		270	80.6
150----	27	13,718	-57.1		275	52.8	28	13,576	-57.1		272	70.9
125----	27	14,865	-60.2		273	45.1	27	14,725	-59.3		273	60.6
100----	27	16,243	-64.1		269	39.6	25	16,119	-62.1		274	48.4
80-----	27	17,604	-65.2		267	28.2	23	17,497	-62.3		273	31.5
70-----	27	18,419	-64.6		267	21.2	20	18,341	-62.4		276	29.7
60-----	27	19,362	-63.4		270	15.2	20	19,281	-61.5		276	25.1
50-----	27	20,485	-62.6		269	10.9	20	20,415	-60.4		282	22.0
40-----	25	21,868	-60.7		273	7.0	20	21,806	-59.8		291	11.3
30-----	25	23,668	-57.8		268	6.4	19	23,612	-57.5		285	7.6
25-----	24	24,825	-56.0		267	5.8	15	24,767	-55.6		280	3.9
20-----	21	26,258	-53.4		274	9.9	12	26,195	-52.8		258	5.1
15-----	14	28,127	-48.2				10	28,068	-47.9			
10-----							6	30,772	-41.1			

Standard pressure surface (mb.)	WINNEMUCCA, NEV. (873 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	YAKUTAT, ALASKA (998 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	1,310	- 1.0	80	208	2.1	28	12	- 1.5	88	83	5.2
1,000--	28	213					28	- 4			86	6.6
950----	28	628					28	410	- .8	72	101	13.6
900----	28	1,065					28	836	- 3.4	72	120	13.8
850----	28	1,527	2.7	59	195	5.2	28	1,286	- 6.3	74	140	14.2
800----	28	2,015	- .0	57	250	8.7	28	1,758	- 9.5	72	159	13.2
750----	28	2,525	- 3.3	60	262	11.7	28	2,251	-12.8	69	164	15.0
700----	28	3,072	- 6.5	57	270	15.9	28	2,778	-16.2	65	168	13.4
650----	28	3,644	- 9.8	56	279	21.4	28	3,330	-20.0	60	181	13.0
600----	28	4,262	-13.0	49	284	25.6	28	3,922	-23.7	54	190	14.2
550----	28	4,914	-17.1	45	289	27.0	28	4,550	-27.9	48	200	16.5
500----	28	5,628	-21.8	45	294	32.4	28	5,232	-32.1	49	213	19.4
450----	28	6,386	-27.3	43	295	35.0	28	5,965	-37.2		215	24.7
400----	28	7,233	-33.7	44	296	36.3	28	6,775	-43.1		217	27.2
350----	28	8,156	-40.6		289	40.2	28	7,663	-49.2		220	30.9
300----	28	9,188	-48.3		297	45.9	28	8,661	-54.5		225	29.3
250----	28	10,366	-56.5		306	44.1	28	9,827	-53.5		232	25.3
200----	27	11,757	-61.3		303	39.4	28	11,277	-49.8		247	24.7
175----	27	12,590	-58.0		307	29.9	28	12,151	-49.5		250	22.9
150----	27	13,562	-57.3		298	31.1	28	13,162	-49.3		254	24.5
125----	27	14,711	-58.4		295	25.8	26	14,359	-49.9		258	24.5
100----	26	16,110	-59.7		295	25.1	26	15,815	-50.9		260	25.1
80-----	26	17,502	-60.7		293	17.1	26	17,264	-51.9		265	24.3
70-----	26	18,340	-60.8		281	12.6	26	18,127	-52.3		266	23.9
60-----	25	19,291	-60.5		294	10.1	25	19,120	-52.9		269	22.3
50-----	25	20,428	-60.2		312	8.0	24	20,294	-53.8		268	22.9
40-----	25	21,822	-59.5		320	5.1	21	21,716	-54.4		266	27.4
30-----	20	23,626	-58.0		320	5.8	19	23,567	-53.9		281	24.9
25-----	14	24,777	-56.4		345	5.4	19	24,738	-53.9		288	23.1
20-----	10	26,194	-54.0				17	26,201	-53.2		291	21.8
15-----	6	28,078	-51.3				14	28,109	-50.2		315	14.4
10-----												

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots. The resultant wind speed is biased toward a lower value as the number of observations on which the resultant is based lessens. See note following Table 22 in the January 1950 issue of Climatological Data, National Summary.

SOLAR RADIATION DATA

Table 30 Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance: A. M. 78.7°	75.7°	70.7°	60.0°	0.0°	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Feb.									
1-----	----	----	----	----	----	1.37	1.22	1.14	1.03
2-----	1.03	1.15	1.27	1.41	1.42	----	1.22	1.09	.98
3-----	----	----	----	----	----	----	1.18	1.03	.90
4-----	----	----	----	1.23	----	----	----	----	----
5-----	----	.89	1.10	----	----	1.22	----	.80	.67
6-----	.93	1.05	----	1.33	1.42	1.28	1.16	1.09	.98
7-----	1.06	----	----	----	----	1.43	1.27	1.19	1.05
8-----	----	1.15	1.27	1.41	----	(1.39)	(1.23)	(1.09)	(.99)
9-----	1.00	----	----	1.38	1.47	1.35	1.22	1.13	1.02
10----	1.02	1.07	1.22	1.41	1.43	1.37	1.20	1.13	1.01
13----	----	1.18	1.27	1.42	1.49	1.43	(1.20)	(1.17)	----
14----	----	----	----	1.38	1.45	1.36	1.21	1.09	.97
15----	1.06	1.16	1.27	1.41	1.51	1.41	1.25	1.13	1.01
18----	----	----	----	1.24	----	1.36	1.41	----	(.79)
19----	----	----	----	----	1.41	1.31	1.15	1.03	.93
20----	1.02	1.13	1.23	1.37	1.47	1.32	1.29	1.96	.89
21----	1.09	1.17	1.27	1.41	1.46	1.40	1.25	1.12	1.03
22----	1.10	1.19	1.27	1.40	1.49	----	(1.14)	(.91)	(.93)
24----	----	----	----	1.36	1.47	1.38	1.16	.99	.91
25----	1.05	1.15	1.25	1.37	1.45	----	----	.99	.89
28----	1.13	1.21	1.29	1.41	----	----	----	----	.95
Averages	1.04	1.13	1.25	1.37	1.46	1.36	1.23	1.06	0.95

MADISON, WIS.

Date	A. M. 78.7°	75.7°	70.7°	60.0°	0.0°	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Feb.									
7-----	M 0.83	M 0.96	S 1.04	S 1.23	S 1.31	S 1.30	S 1.21	S 1.01	S 0.86
14----	M .96	M 1.08	----	----	----	----	----	----	----
15----	----	H .90	----	----	----	----	----	----	----
21----	----	----	----	----	S 1.43	----	----	----	----
28----	----	M 1.02	M 1.10	S 1.29	----	----	----	----	----
Averages	0.90	0.99	1.07	1.26	1.37	1.30	1.21	1.01	0.86

BLUE HILL OBS., MASS.

Date	A. M. 78.7°	75.7°	70.7°	60.0°	0.0°	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Feb.									
1-----	----	----	1.29	1.46	1.47	1.46	1.30	1.21	1.06
2-----	1.06	1.17	1.29	1.42	1.45	1.44	1.29	1.17	1.07
5-----	1.13	1.18	1.32	1.46	1.51	1.49	1.33	1.20	1.11
7-----	1.06	1.18	1.29	1.46	1.49	1.46	1.29	1.17	1.06
8-----	1.08	1.17	1.28	1.40	1.41	1.35	1.18	1.07	.99
9-----	----	----	----	----	1.40	1.34	1.16	.98	.87
12----	----	----	----	----	----	----	1.13	.91	.43
13----	.96	1.07	1.23	----	----	----	----	----	----
16----	----	----	----	----	----	----	----	1.08	.94
19----	----	----	----	----	1.35	1.30	----	----	----
20----	----	----	1.21	1.36	1.46	1.39	1.25	1.12	1.03
21----	.96	1.03	1.16	1.35	1.45	1.33	1.05	.91	.82
22----	.87	.98	1.12	1.27	1.37	1.28	1.11	.95	.79
27----	----	----	----	----	----	1.27	1.01	.83	.69
Averages	1.02	1.11	1.24	1.40	1.44	1.37	1.19	1.05	0.91

GUAM, M. I.

Date	A. M. 78.7°	75.7°	70.7°	60.0°	0.0°	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92

No observations during February

OMAHA, NEBR.

Date	A. M. 78.7°	75.7°	70.7°	60.0°	0.0°	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Feb.									
3----	S 0.70	S 0.83	S 0.98	----	----	----	----	----	----
15---	S .77	S .87	S .99	S 1.14	----	----	----	----	----
19---	S .77	S .84	S .97	S 1.03	S 1.13	----	----	----	----
20---	M .67	M .77	M .91	S 1.09	S 1.13	S 0.89	S 0.52	----	----
21---	----	S .82	S .95	S 1.12	S 1.21	S 1.10	S 0.89	S 0.80	S 0.67
27---	----	----	----	----	----	S 1.22	S .99	S .71	S .56
Averages	0.73	0.83	0.96	1.10	1.16	1.07	0.80	0.76	0.62

MAUNA LOA OBS., HAWAII

Date	A. M. 78.7°	75.7°	70.7°	60.0°	0.0°	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Feb.									
1----	1.24	1.33	1.42	1.55	1.62	----	----	----	----
3----	1.25	1.34	1.43	1.51	1.63	----	----	----	----
4----	1.25	1.34	1.44	1.55	1.63	----	1.37	1.28	1.19
5----	1.25	1.34	1.43	1.55	1.65	1.48	1.37	1.29	1.24
6----	1.29	1.37	1.46	1.57	1.67	1.55	1.44	1.35	1.27
7----	1.25	1.33	1.43	1.54	1.64	----	1.35	1.28	1.19
8----	1.24	1.32	1.41	1.53	1.63	----	----	----	----
9----	1.25	1.32	1.42	1.53	----	----	----	----	----
16---	1.22	1.31	1.39	1.53	----	----	----	----	----
17---	1.23	1.31	1.41	1.52	----	----	----	----	----
19---	----	----	----	1.50	----	----	----	----	----
22---	----	----	----	1.53	----	----	----	----	----
23---	1.22	1.31	1.40	1.52	1.63	----	----	----	----
24---	1.13	1.24	1.34	1.47	----	----	----	----	----
25---	1.19	1.27	1.37	1.49	----	----	----	----	----
26---	.97	1.08	1.20	1.37	1.56	----	----	----	----
27---	.95	1.06	1.21	1.36	----	----	----	----	----
Averages	1.20	1.28	1.38	1.51	1.63	1.52	1.38	1.30	1.22

TUCSON, ARIZ.

Date	A. M. 78.7°	75.7°	70.7°	60.0°	0.0°	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Feb.									
1-----	0.87	0.97	1.07	----	1.40	1.30	1.14	0.97	0.82
2-----	----	----	----	1.31	1.47	----	----	----	----
3-----	.92	1.01	1.15	1.32	----	1.35	1.21	1.08	1.00
4-----	.98	1.07	1.20	1.33	----	----	----	1.08	----
5-----	----	----	----	----	1.45	----	----	----	----
6-----	.96	1.07	1.20	1.33	1.44	1.33	1.14	1.01	----
7-----	----	----	----	----	----	----	1.13	1.00	.92
8-----	.95	1.08	1.19	1.36	1.46	----	----	----	----
9-----	1.02	1.15	1.24	----	----	----	----	----	.90
11----	.97	1.12	----	----	----	----	----	----	----
13----	.99	1.09	----	----	----	1.35	1.18	1.05	.96
15----	.94	1.05	----	1.30	----	----	----	----	----
18----	.93	1.01	1.13	1.31	----	----	----	----	.94
20----	.92	1.05	1.17	1.33	1.44	----	----	----	----
21----	1.00	1.08	----	----	----	----	----	1.04	.95
22----	.98	1.07	----	----	----	----	----	----	----
25----	1.05	1.15	1.25	1.36	----	----	1.18	1.07	.97
26----	----	----	----	----	----	----	1.08	1.00	.81
27----	.90	----	----	----	----	----	----	----	.91
28----	.94	1.04	----	----	----	----	----	1.10	----
Averages	0.90	1.07	1.12	1.33	1.44	1.33	1.15	1.04	0.92

S Slight haze - indeterminable
M Moderate haze - indeterminable
H Haze
( ) Interpolated - Cirrus Clouds present

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page [illegible] of this publication.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

	Albuquerque, N. Mex.	Ames, Iowa	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill, Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Cape Hatteras, N. C.	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Flaming Gorge, Utah	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Laramie, Wy
1961																																								
Feb. 5-----	421	199	1	444	76	381	7	59	254	328	200	327	---	662	335	288	415	190	210	241	353	306	227	358	31	(357)	32	297	440	217	399	207	378	483	149	456	239	339	351	308
Feb. 6-----	444	204	100	46	144	43	10	89	297	251	219	214	62	704	368	196	239	260	101	249	176	320	404	268	25	(360)	---	209	232	264	351	229	148	64	128	286	286	78	369	352
Feb. 7-----	---	316	29	160	91	38	21	130	233	342	178	320	449	675	137	297	48	243	188	304	---	330	373	223	47	254	373	206	65	240	274	229	66	71	182	385	275	262	313	358
Feb. 8-----	427	338	29	403	99	39	24	169	253	325	83	302	347	652	141	137	119	192	310	134	180	334	464	113	23	190	423	285	492	235	374	215	248	86	327	---	207	389	340	346
Feb. 9-----	420	284	151	386	39	288	29	180	279	318	89	294	211	676	460	124	336	125	327	73	429	263	442	290	32	256	410	270	450	247	416	166	173	328	214	420	395	327	331	330
Feb. 10-----	443	299	117	446	109	407	32	186	217	146	85	125	387	614	448	186	435	109	205	212	400	161	467	193	119	297	462	280	460	204	222	---	392	512	217	443	141	378	229	130
Feb. 11-----	417	319	103	446	77	398	37	182	160	136	199	109	446	638	427	296	424	240	321	275	302	170	470	300	97	172	450	142	487	126	---	80	216	504	167	307	349	439	198	235
Average-------	429	280	76	333	91	228	23	142	242	264	150	242	317	660	331	218	288	194	237	213	306	269	407	249	54	(269)	358	241	375	219	339	188	231	293	198	383	270	316	304	294
Feb. 12-----	270	233	46	453	65	378	34	209	216	216	195	239	464	675	143	334	406	55	270	345	365	142	435	365	53	204	428	325	487	149	335	158	368	474	307	496	222	419	298	295
Feb. 13-----	458	---	297	453	131	379	51	173	269	349	83	283	469	552	420	344	413	176	235	169	301	244	363	305	50	393	414	267	488	289	406	146	277	202	254	359	183	---	368	326
Feb. 14-----	455	---	210	446	62	306	40	143	128	116	222	98	---	655	402	79	403	200	334	188	338	231	407	385	46	370	143	334	475	303	401	231	245	364	368	504	75	---	318	352
Feb. 15-----	470	360	223	412	109	258	63	144	273	355	55	299	269	652	224	331	346	132	389	169	444	150	478	190	85	212	290	222	482	161	375	173	332	394	340	429	301	106	278	297
Feb. 16-----	347	233	62	334	98	334	65	147	198	336	357	286	---	652	492	359	389	11	350	414	421	219	442	167	87	267	223	149	372	208	---	165	432	391	325	463	390	240	259	318
Feb. 17-----	274	97	88	298	223	181	44	160	353	293	103	282	421	653	467	151	262	5	138	398	48	70	494	353	---	145	192	324	428	167	---	224	142	244	33	518	89	45	170	190
Feb. 18-----	472	125	132	398	56	28	67	105	299	58	368	47	182	692	377	350	275	18	40	430	373	56	495	387	104	274	452	325	387	229	116	239	73	72	132	526	94	247	350	352
Average-------	392	210	151	399	106	266	52	154	248	246	197	219	361	647	361	278	356	85	251	302	327	159	445	307	71	266	306	278	446	215	327	191	267	306	251	471	193	212	291	304
Feb. 19-----	427	417	24	199	112	53	74	139	254	257	84	266	122	661	378	85	283	---	368	419	432	161	498	397	111	360	262	353	346	251	463	91	119	81	295	514	184	143	322	340
Feb. 20-----	485	---	59	259	43	79	72	144	343	387	210	372	79	684	177	373	88	255	217	418	334	349	494	427	112	392	61	354	400	147	434	109	112	112	204	541	289	102	372	411
Feb. 21-----	506	---	108	226	113	47	74	181	328	377	147	336	132	638	70	351	90	289	160	401	381	336	506	430	119	434	145	349	416	133	435	205	60	98	200	543	354	74	388	406
Feb. 22-----	499	111	158	144	184	49	96	185	220	399	337	353	470	617	175	239	147	129	47	436	457	186	519	364	121	151	468	374	408	90	334	147	65	106	65	384	300	412	168	234
Feb. 23-----	330	64	98	179	148	444	58	188	199	47	317	26	429	644	169	113	43	197	410	381	255	65	430	455	90	369	499	(385)	81	349	238	275	186	524	247	548	113	493	448	432
Feb. 24-----	540	234	115	287	24	54	85	237	371	91	105	46	315	619	380	173	135	268	101	229	(510)	50	533	381	143	436	148	363	434	243	462	225	344	64	70	510	299	210	413	415
Feb. 25-----	525	388	202	428	192	136	113	219	223	53	418	38	516	671	329	51	229	7	297	326	487	70	543	246	---	183	530	249	365	140	262	166	165	199	76	462	21	514	372	347
Average-------	473	243	109	246	117	123	82	185	277	230	231	205	295	648	240	198	145	191	229	373	(408)	174	503	386	116	332	302	(346)	350	193	375	174	150	169	165	500	223	278	355	369
Feb. 26-----	318	346	1	535	160	479	84	161	349	139	406	134	503	687	539	88	522	202	402	464	202	274	503	390	121	345	541	405	595	368	156	285	485	593	406	524	95	511	434	208
Feb. 27-----	369	303	265	536	164	452	118	233	373	312	153	270	422	672	554	189	479	342	71	396	334	295	530	219	---	315	121	339	574	310	308	123	478	459	367	550	281	142	204	421
Feb. 28-----	490	379	115	155	96	432	105	259	315	103	403	84	273	631	385	253	240	179	216	428	173	372	549	481	98	390	538	357	457	263	373	325	338	530	376	567	220	458	436	372
Mar. 1-----	545	342	178	189	181	99	64	265	191	184	50	189	164	589	152	392	110	118	322	423	505	381	564	356	93	301	547	389	361	90	446	225	55	98	349	577	29	348	362	297
Mar. 2-----	540	394	193	553	238	499	80	218	388	295	325	279	313	655	566	382	513	333	391	408	484	298	571	145	179	142	527	343	560	284	152	275	500	611	405	520	182	520	429	240
Mar. 3-----	228	63	143	423	139	490	143	185	315	355	323	372	449	442	423	185	489	335	260	364	419	347	414	470	186	379	184	420	434	261	76	220	477	593	354	543	285	223	376	389
Mar. 4-----	457	61	147	480	240	316	132	123	185	81	258	97	249	553	529	442	471	25	278	440	471	43	(460)	367	163	342	380	143	477	196	261	375	423	405	35	---	89	125	470	442
Average-------	421	270	149	410	174	395	104	206	302	210	274	204	339	604	450	276	403	219	277	418	370	287	(513)	347	140	316	405	342	494	253	253	261	394	470	327	547	169	332	387	338

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

FEBRUARY 1961

	Las Vegas, Nev.	Lemont, Ill.	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif.	Los Angeles, Calif. (Urban)	Madison, Wis.	Manhattan, Kans.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	North Omaha, Nebr.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Page, Ariz.	Phoenix, Ariz.	Portland, Me.	Pullman, Wash.	Rapid City, S. Dak.	Riverside, Calif.	St. Cloud, Minn.	Salt Lake City, Utah	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich	Sayville, N. Y.	Seattle, Wash.	Seattle-Tacoma, Wash.	Shreveport, La.	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Tampa, Fla.	Tucson, Ariz.	Wake Island Pacific Area	Washington, D. C. (Obs. & Text Dev Ctr)
1961																																								
Feb. 5----	404	240	---	274	391	383	155	90	42	139	272	111	334	353	298	129	351	37	405	417	---	55	312	434	259	237	69	394	212	316	31	44	205	36	352	26	476	438	---	384
Feb. 6----	381	133	(151)	143	240	227	238	97	91	146	398	208	---	302	244	166	106	186	406	400	299	66	340	226	126	257	89	324	273	260	117	100	75	49	284	103	225	456	400	---
Feb. 7----	137	293	(113)	47	333	348	345	135	31	98	362	362	---	331	304	283	54	204	311	298	351	270	(358)	352	234	76	453	388	278	323	143	186	52	202	354	116	54	300	383	255
Feb. 8----	348	295	60	383	335	340	338	169	30	120	479	440	---	330	95	324	55	311	306	409	320	102	(319)	356	292	213	426	387	294	143	85	78	287	67	102	278	426	457	510	74
Feb. 9----	400	221	285	375	307	317	263	329	33	49	510	365	---	321	307	233	138	429	400	417	319	47	(276)	390	177	267	435	365	161	299	95	69	320	43	226	389	270	459	509	324
Feb. 10----	315	227	381	401	384	367	201	323	83	104	447	435	---	---	164	---	359	418	355	413	230	67	(286)	413	183	112	449	236	308	240	126	137	397	52	168	395	216	450	529	367
Feb. 11----	349	130	223	423	312	333	259	299	141	160	273	442	---	214	267	306	362	389	344	417	296	93	(242)	373	278	146	453	145	207	247	81	87	417	78	190	350	---	---	534	241
Average------	333	220	(202)	292	329	331	257	206	65	117	392	337	---	309	240	240	203	282	361	396	303	100	(305)	363	221	187	339	320	248	261	97	100	250	75	240	236	278	427	477	274
Feb. 12----	421	218	403	414	428	370	245	277	145	186	491	361	---	264	94	213	363	355	368	219	350	198	(175)	371	212	323	457	420	313	783	94	105	411	198	108	326	494	333	480	91
Feb. 13----	297	117	391	339	304	279	96	256	64	120	508	212	386	328	210	315	228	257	358	430	380	93	(336)	354	71	294	424	424	24	267	186	89	391	110	110	199	506	483	537	101
Feb. 14----	436	302	451	281	416	408	362	181	113	166	432	197	---	150	216	320	330	413	429	432	169	124	(251)	474	225	345	289	424	138	174	84	88	232	112	313	393	498	427	531	---
Feb. 15----	374	331	283	251	341	384	319	367	115	167	394	147	---	348	316	365	205	366	417	439	331	133	(270)	422	117	195	164	247	176	305	67	79	212	151	311	416	479	489	563	304
Feb. 16----	300	289	469	245	413	386	207	243	70	301	342	434	376	314	176	172	385	265	186	344	361	173	(271)	317	51	112	279	409	254	264	84	111	139	126	311	232	410	427	557	345
Feb. 17----	458	33	104	23	377	388	200	17	145	184	318	460	170	248	145	48	162	199	439	440	207	133	(131)	393	307	341	269	441	96	224	139	114	84	76	321	179	431	412	565	365
Feb. 18----	450	59	113	458	391	417	51	144	81	285	410	460	125	70	64	202	29	481	415	447	114	145	(323)	493	65	222	455	455	58	90	54	(64)	397	117	128	397	455	504	531	56
Average------	391	193	316	287	381	376	211	212	105	201	413	324	264	246	174	234	243	334	373	393	273	143	(251)	403	150	262	334	403	152	301	101	(93)	267	127	229	306	468	439	538	210
Feb. 19----	448	325	223	388	467	450	---	388	73	208	417	101	165	143	184	434	104	317	471	450	180	198	(410)	526	314	390	96	457	341	209	76	92	132	106	336	337	424	233	566	254
Feb. 20----	468	301	123	29	454	422	(402)	316	83	206	440	108	26	319	258	404	45	75	470	476	393	176	(387)	516	339	329	158	463	355	298	102	114	44	156	287	112	414	518	569	219
Feb. 21----	467	285	72	69	448	436	415	266	130	84	421	128	46	326	180	405	53	76	464	476	385	47	(390)	503	338	408	183	461	144	209	155	136	64	79	119	65	445	520	516	62
Feb. 22----	448	68	---	100	454	446	222	23	113	280	503	492	112	326	275	139	32	258	451	464	372	316	(301)	393	346	170	503	415	292	279	294	251	302	287	123	155	446	509	576	70
Feb. 23----	497	83	499	469	460	440	66	186	162	227	440	443	445	61	30	146	413	421	411	510	66	236	(396)	542	36	424	450	492	76	43	92	127	462	192	170	190	366	530	567	180
Feb. 24----	497	43	300	143	470	444	85	396	183	221	503	500	174	335	304	202	207	430	489	502	60	107	(375)	535	162	421	458	474	126	319	24	31	51	73	312	347	447	552	362	312
Feb. 25----	429	51	62	532	411	413	231	415	119	238	401	515	150	57	21	390	87	---	385	490	120	346	(323)	477	338	70	524	381	271	3	139	119	489	255	19	477	262	550	584	43
Average------	465	165	213	247	452	436	(237)	284	123	209	446	327	160	224	179	303	135	263	449	481	225	204	(369)	499	268	316	339	449	229	194	126	124	221	164	195	240	400	487	534	163
Feb. 26----	300	155	551	507	493	478	341	236	94	309	595	510	473	168	187	272	431	542	138	340	116	289	(419)	508	310	405	522	494	235	---	86	107	490	159	271	462	573	447	589	424
Feb. 27----	463	140	504	291	473	442	255	205	81	250	488	453	458	372	332	358	429	85	407	516	269	119	(420)	515	364	212	316	464	287	346	89	116	103	151	408	67	553	555	592	432
Feb. 28----	496	349	100	127	475	466	425	275	89	267	565	513	77	185	69	285	342	494	513	509	166	236	308	526	344	271	498	476	367	102	40	(47)	235	164	92	455	522	562	601	62
Mar. 1----	496	391	104	478	492	470	238	444	96	55	496	519	128	233	111	---	128	530	455	530	286	90	328	536	380	360	518	493	328	198	282	(292)	485	214	20	502	440	569	360	56
Mar. 2----	467	335	544	521	438	368	318	321	187	223	393	528	491	391	335	---	452	562	377	498	182	276	432	454	250	131	422	421	119	362	259	(135)	499	202	285	488	347	542	316	398
Mar. 3----	468	279	380	82	--	445	116	200	229	172	404	523	284	401	372	---	344	443	---	377	318	391	166	455	320	496	593	486	184	368	181	213	78	263	417	158	311	428	466	434
Mar. 4----	383	68	--	120	195	164	44	284	192	181	451	481	91	138	105	97	225	505	142	152	350	453	295	74	109	345	260	293	195	---	254	366	63	252	51	503	554	331	488	175
Average------	439	245	364	304	411	396	252	281	138	208	484	504	286	270	216	253	336	451	338	417	241	265	(338)	438	297	317	447	447	245	275	170	(182)	279	201	220	419	472	491	487	283

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

TOTAL OZONE DATA

Total amount of ozone in the atmosphere, expressed in terms of integrated depth, in units of 10^{-3} centimeter. These data are given as daily averages obtained from measurements with a Dobson Ozone Spectrophotometer using the sun or zenith cloud (see explanation below) as a light source.

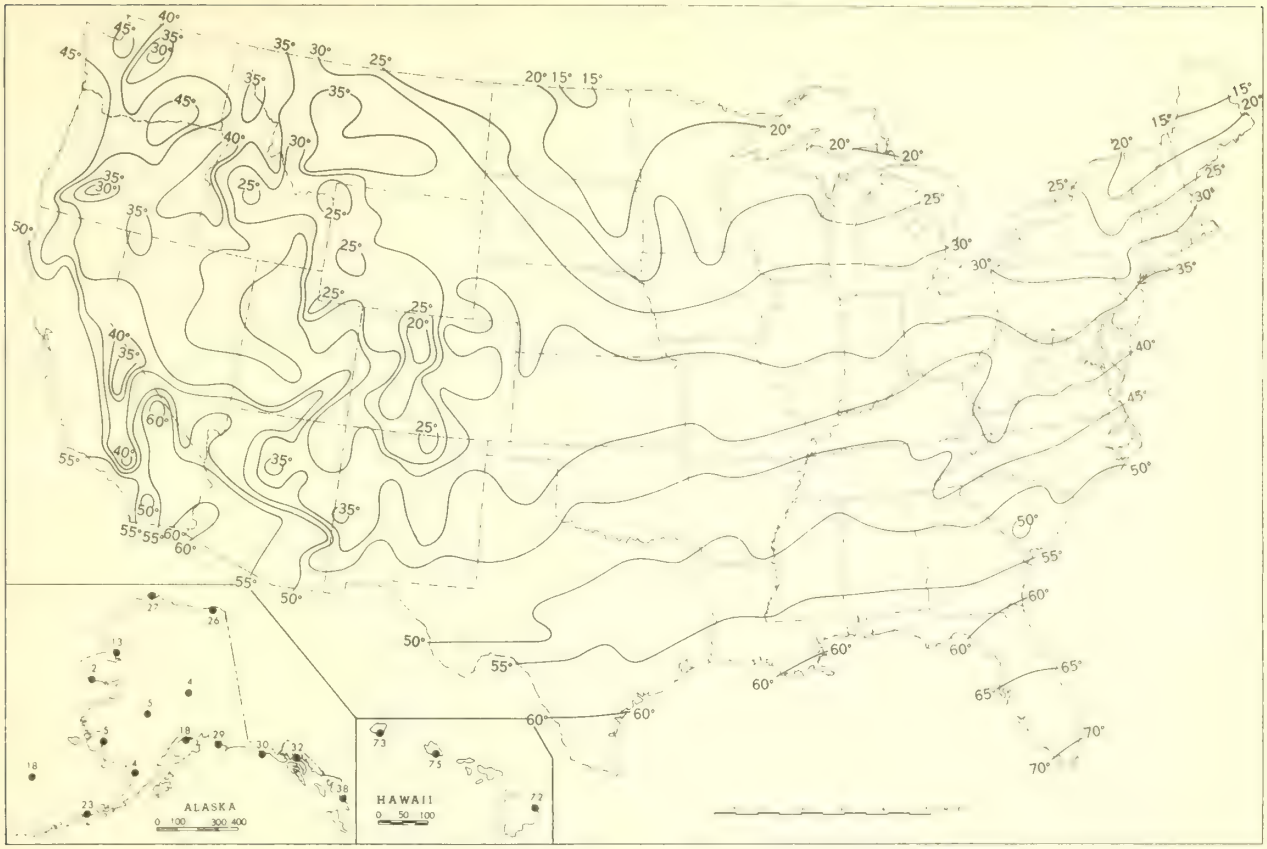
FEBRUARY 1961

Station	Day of month																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Bismarck, N. Dak.	---	321	337	370	353	320	---	345	345	359	325	335	386	---	335	---	368	392	---	370	356	336	---	380	383	385	407	430	---	---	---
Caribou, Maine	---	---	409	---	383	---	407	---	---	---	405	415	428	---	---	425	---	313	---	---	---	---	---	---	---	---	---	---	---	---	---
Fort Worth, Texas	283	297	285	374	---	---	306	293	314	315	266	247	249	---	282	---	---	284	272	---	---	319	273	---	280	280	---	286	---	---	---
Green Bay, Wis.	345	---	334	339	325	363	343	334	350	---	---	---	---	328	356	---	---	---	379	371	355	---	---	---	---	383	391	379	---	---	---
Mauna Loa, Hawaii	236	---	242	243	243	240	238	232	232	---	---	---	---	---	---	263	260	249	249	---	---	246	249	255	262	266	---	262	---	---	---
Sterling, Va.	---	345	---	---	---	---	---	---	---	---	---	---	---	---	346	335	305	---	---	*296	---	---	314	289	---	---	295	*303	---	---	---

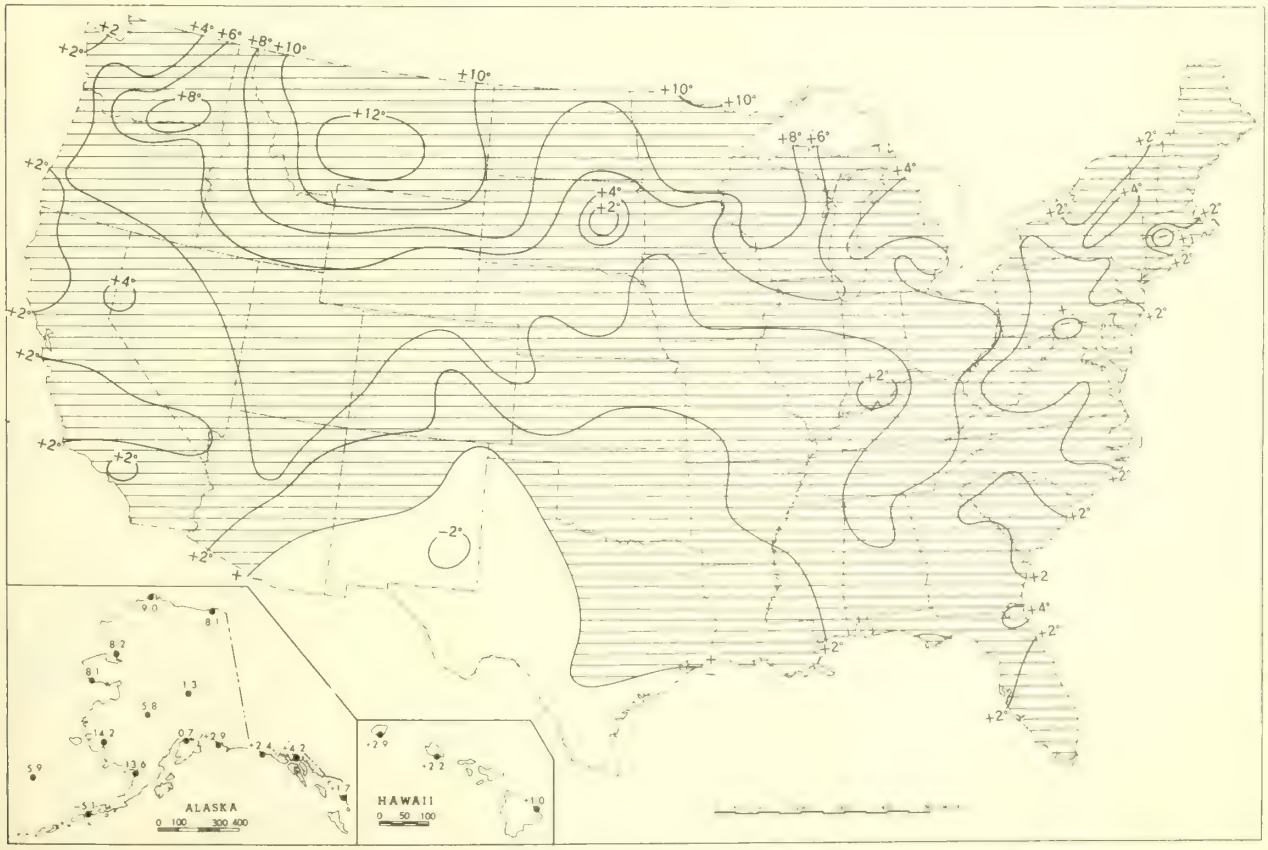
The spectrophotometer measures the total amount of ozone in the atmosphere, i e , the amount contained in a vertical column of air extending from the ground to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column of air is expressed in terms of thickness it would occupy if it were compressed to standard pressure and temperature

The standard method of observation is that using A (3055 Å and 3254 Å) and D (3176 Å and 3398 Å) wave length pairs. On cloudy days when no observations can be obtained directly upon the sun, observations are taken by using light from the zenith cloud. These observations are not quite as reliable as the sunlight observations, therefore, average values based upon zenith cloud observations are denoted with an asterisk A detailed description of the spectrophotometer and observational procedures may be found in the "Observer's Handbook of the Ozone Spectrophotometer," Annals of the International Geophysical Year, Volume V, Pergamon Press, 1957

Chart I. A. Average Temperature (°F.) at Surface, February 1961.



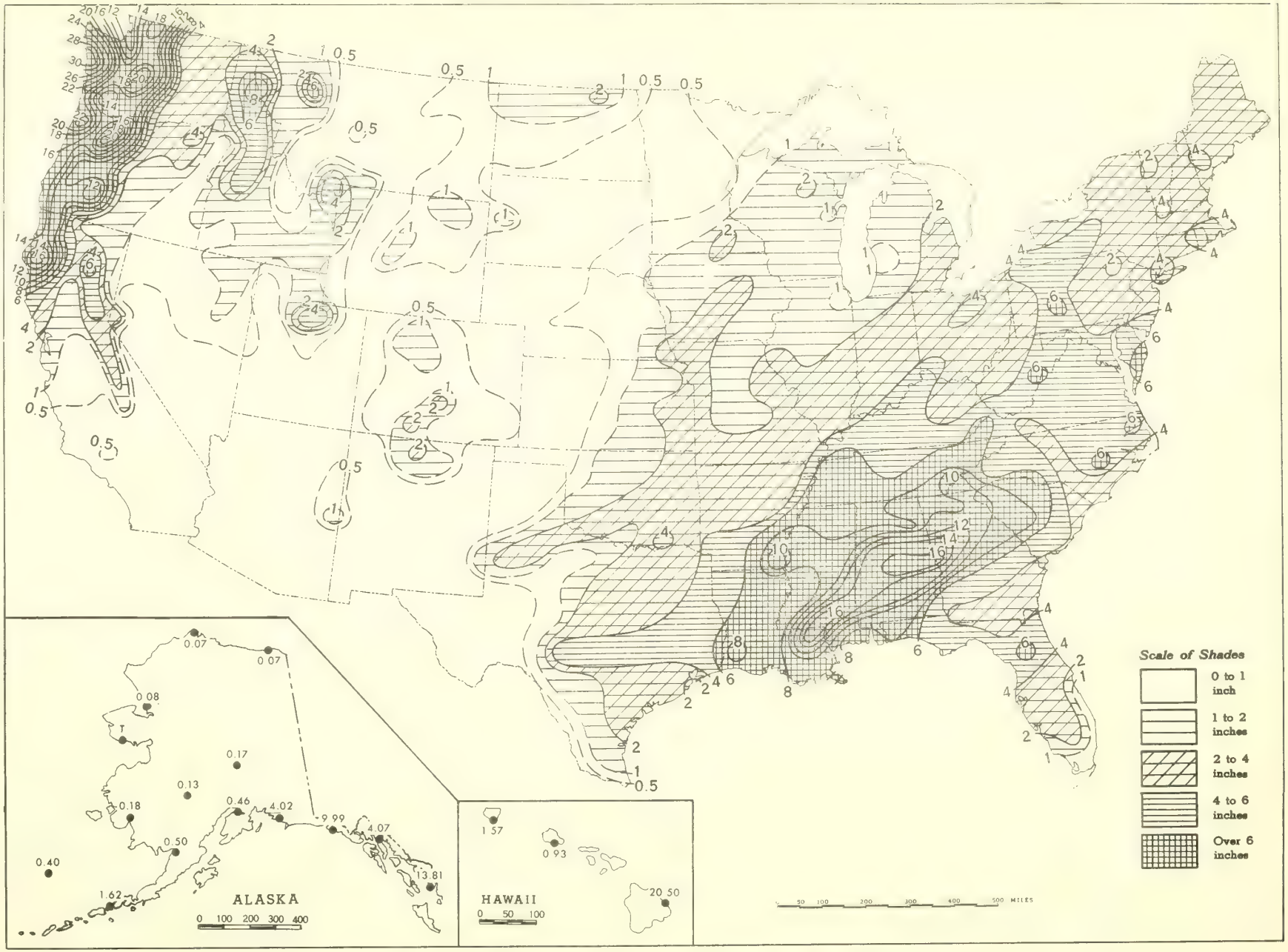
B. Departure of Average Temperature from Normal (°F.), February 1961.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

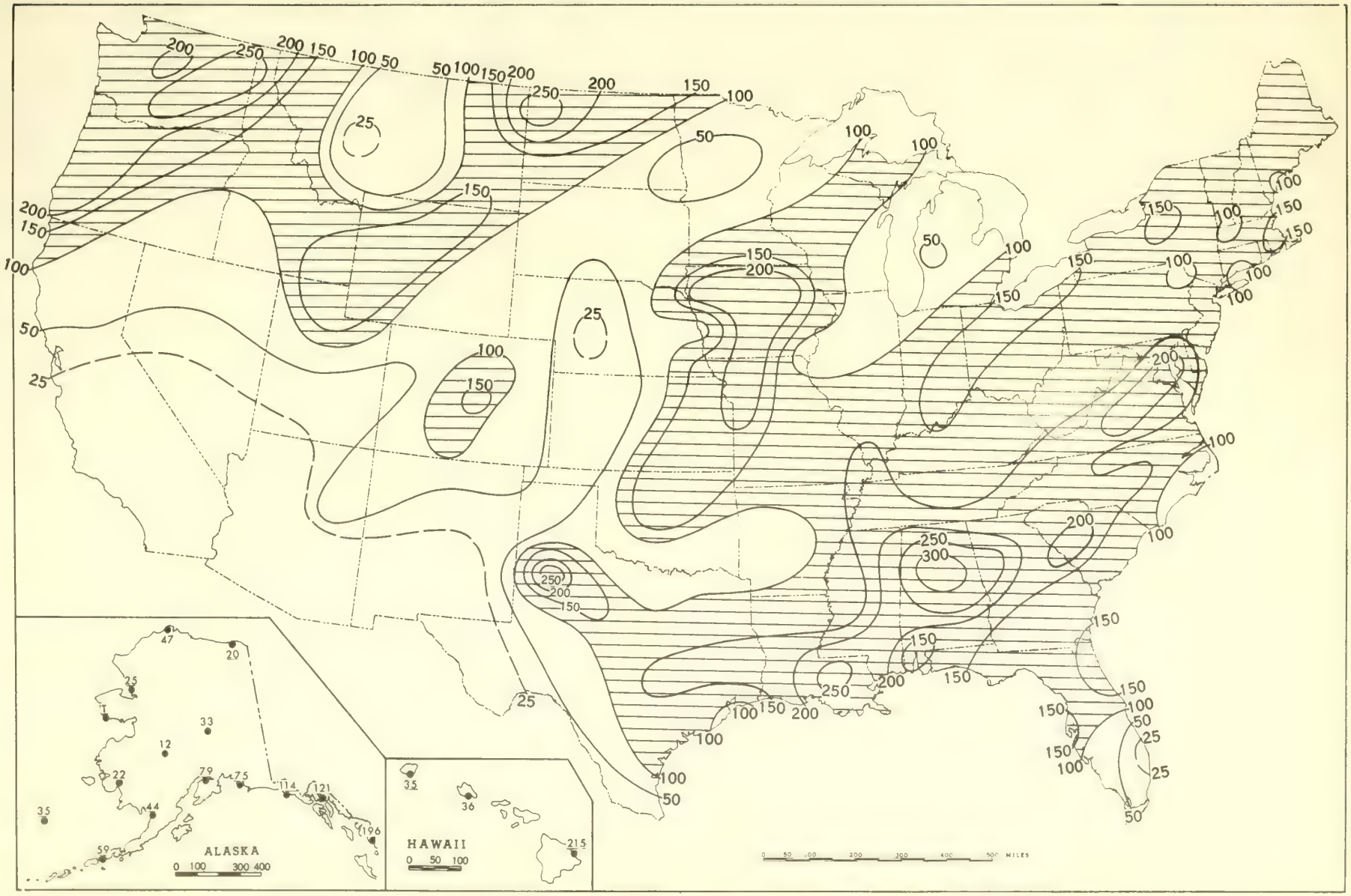
B. Departures from normal are based on the 30-yr. normals (1921-50) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), February 1961.



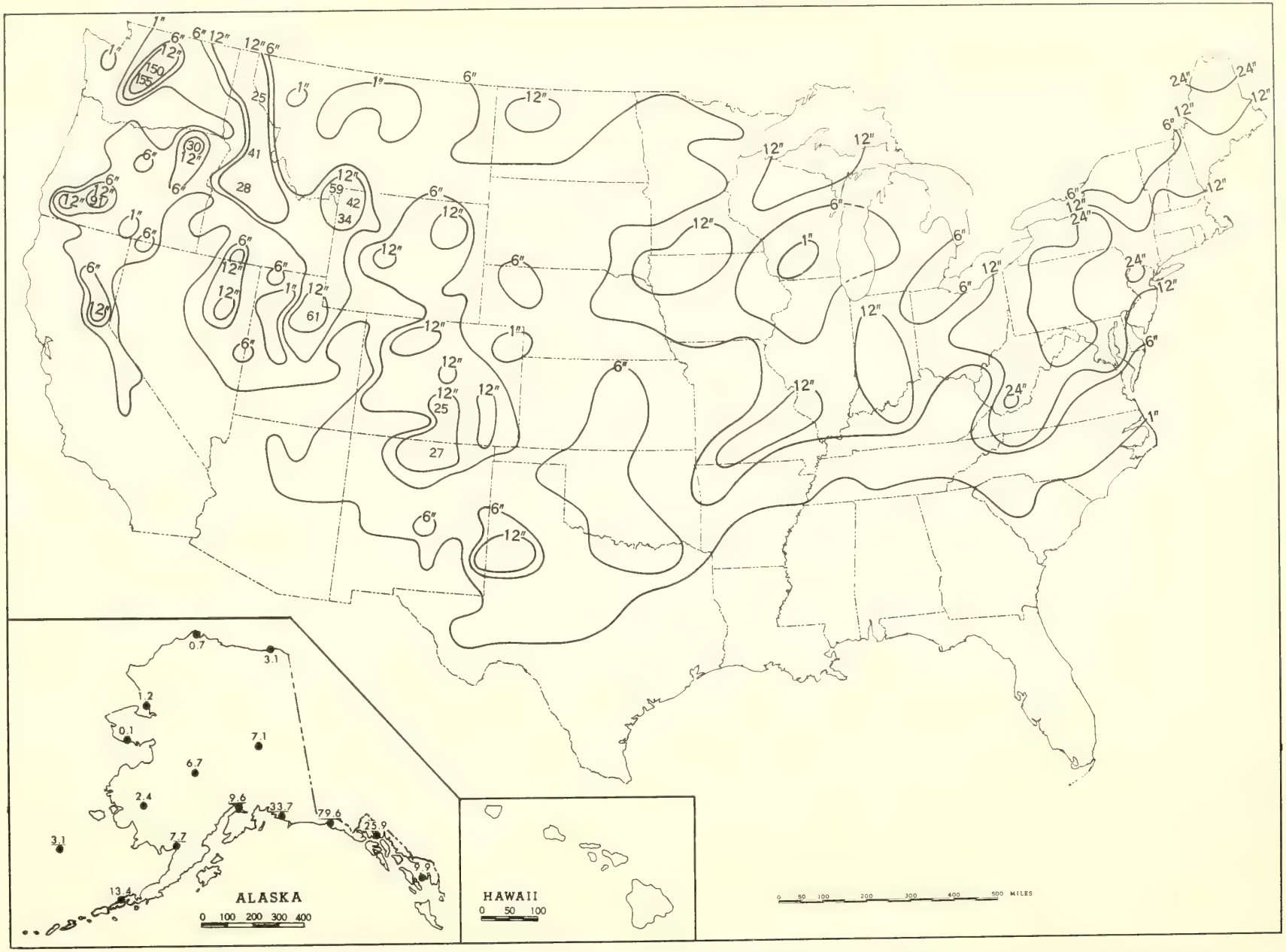
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, February 1961.



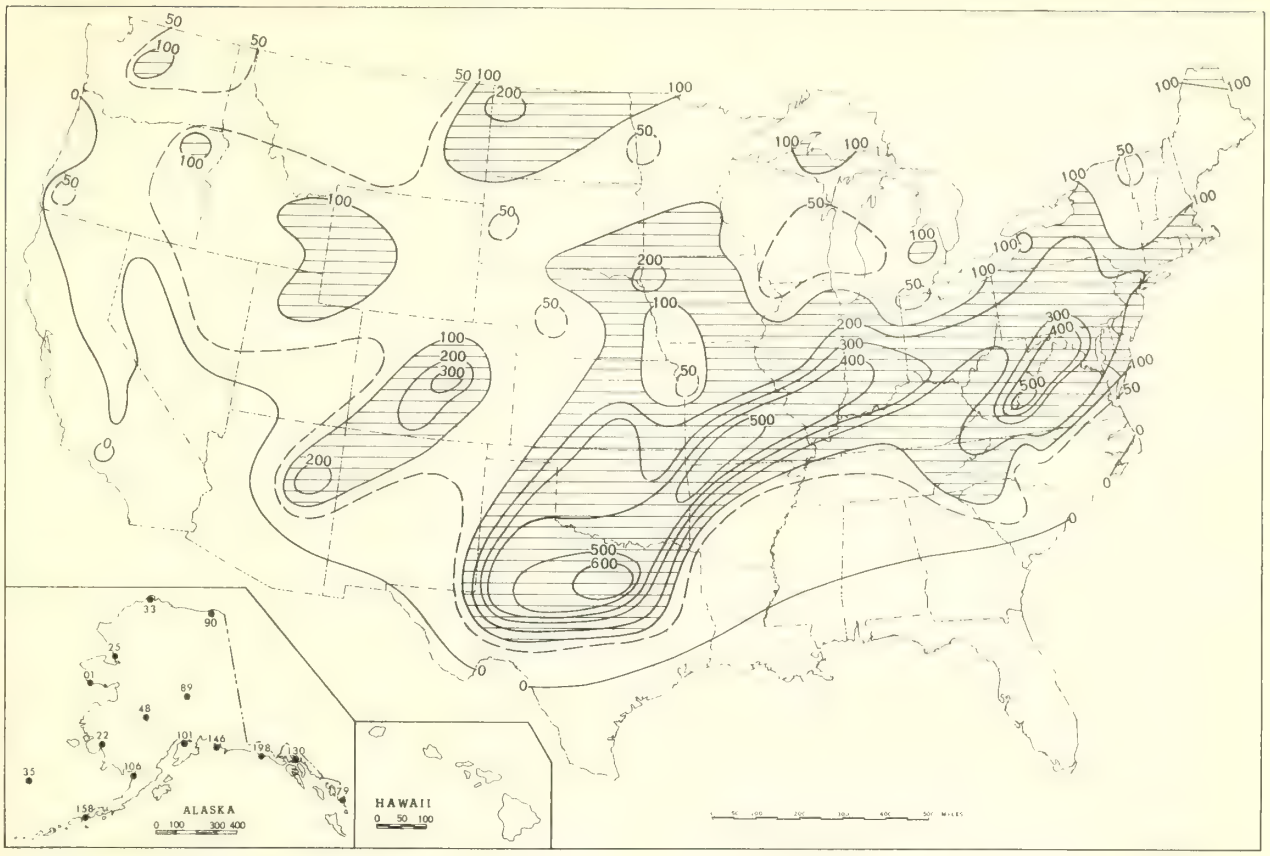
Normal monthly precipitation amounts are computed from the records for 1921-50 for first-order Weather Bureau stations.

Chart IV. Total Snowfall (Inches), February 1961.

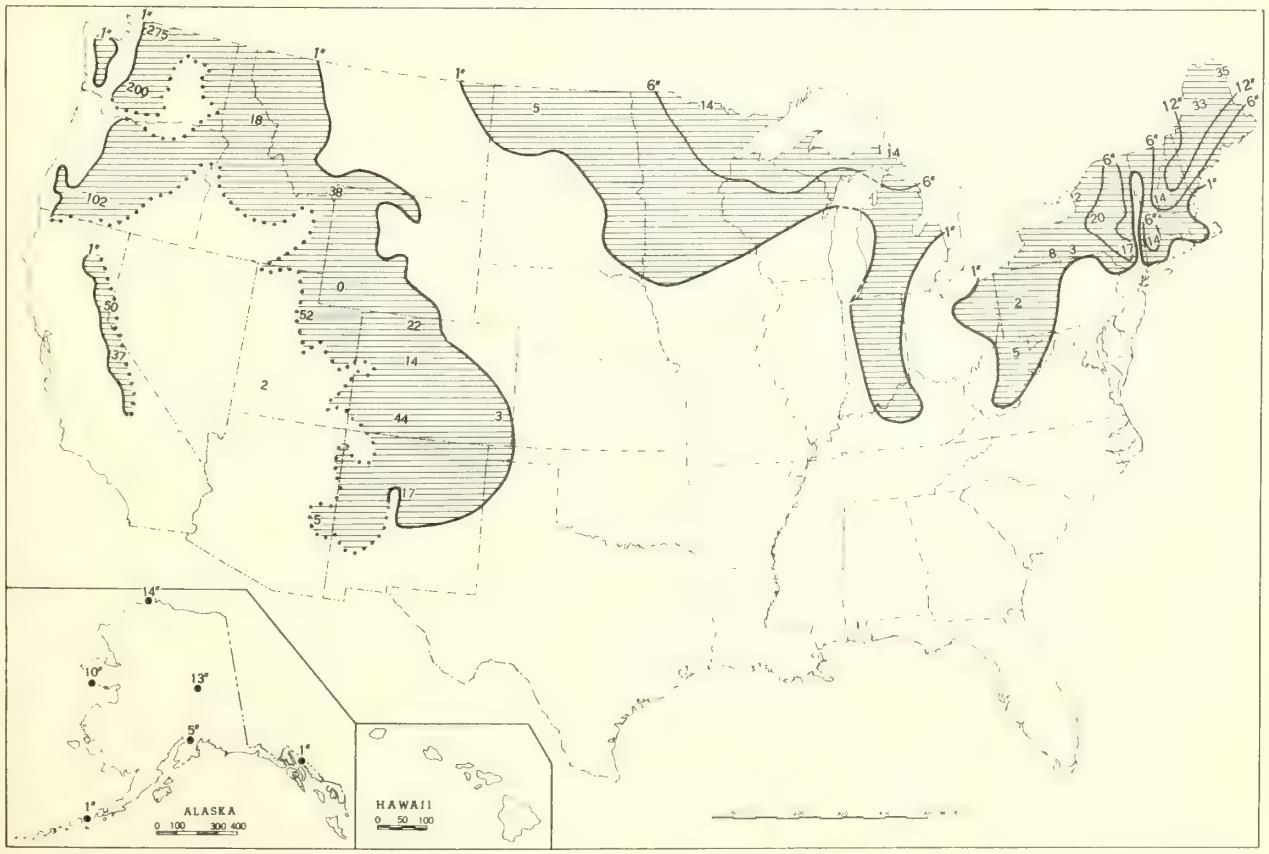


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, February 1961.

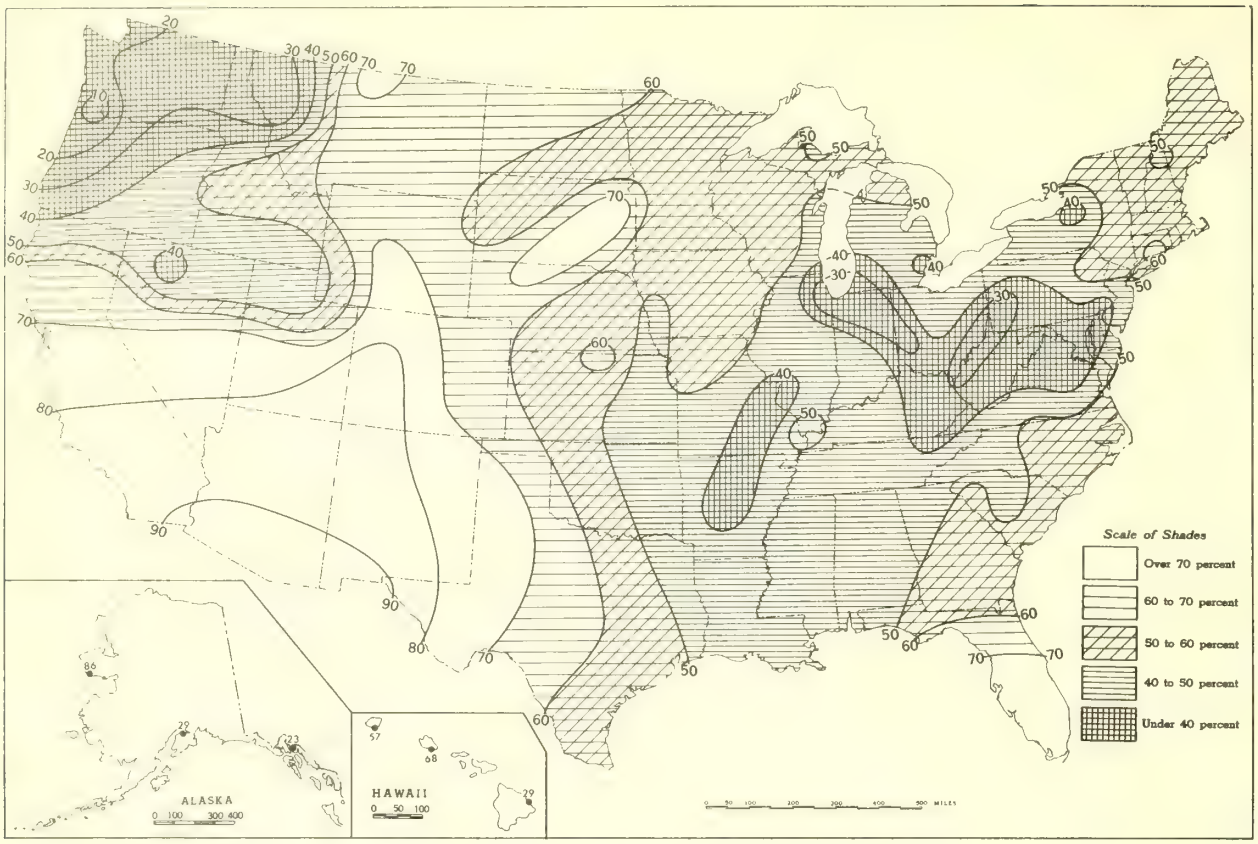


B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., February 27, 1961.

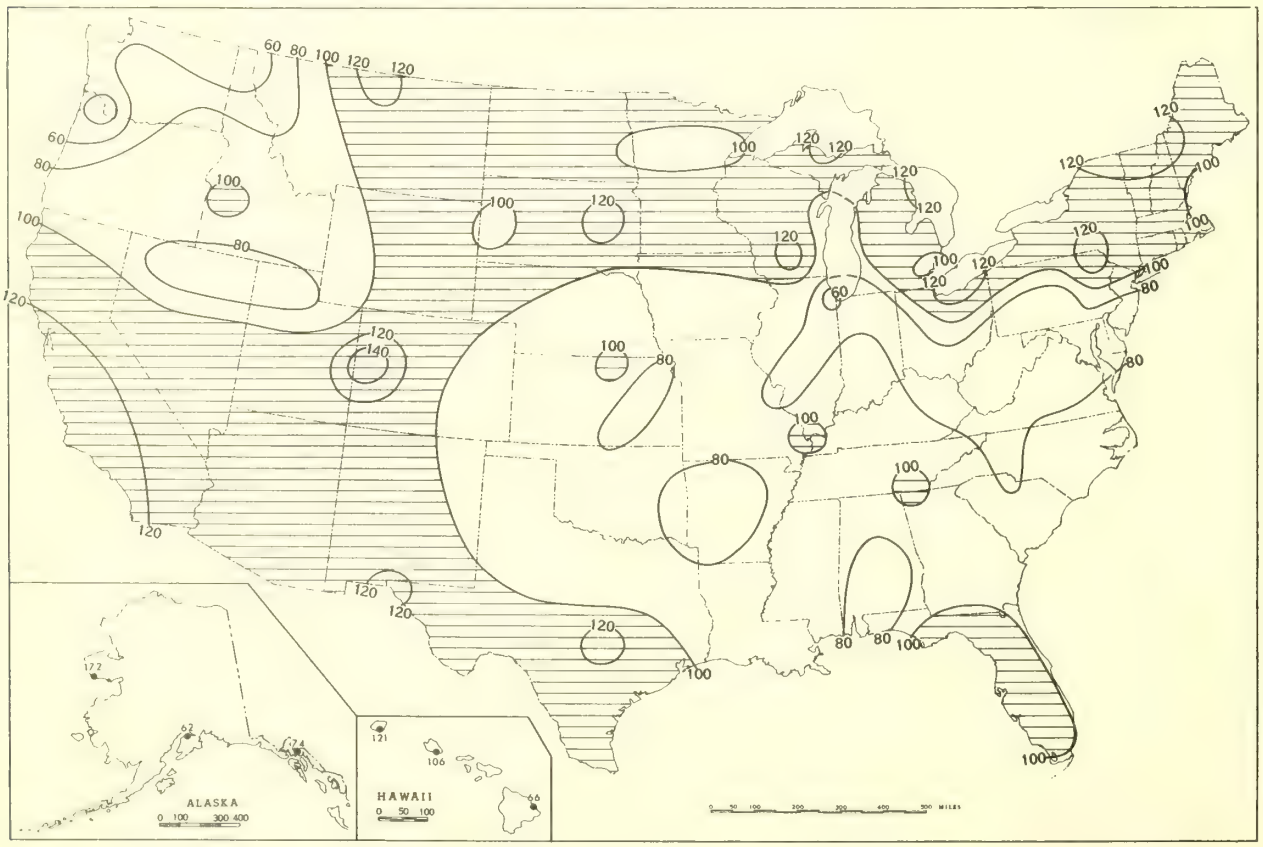


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, February 1961.

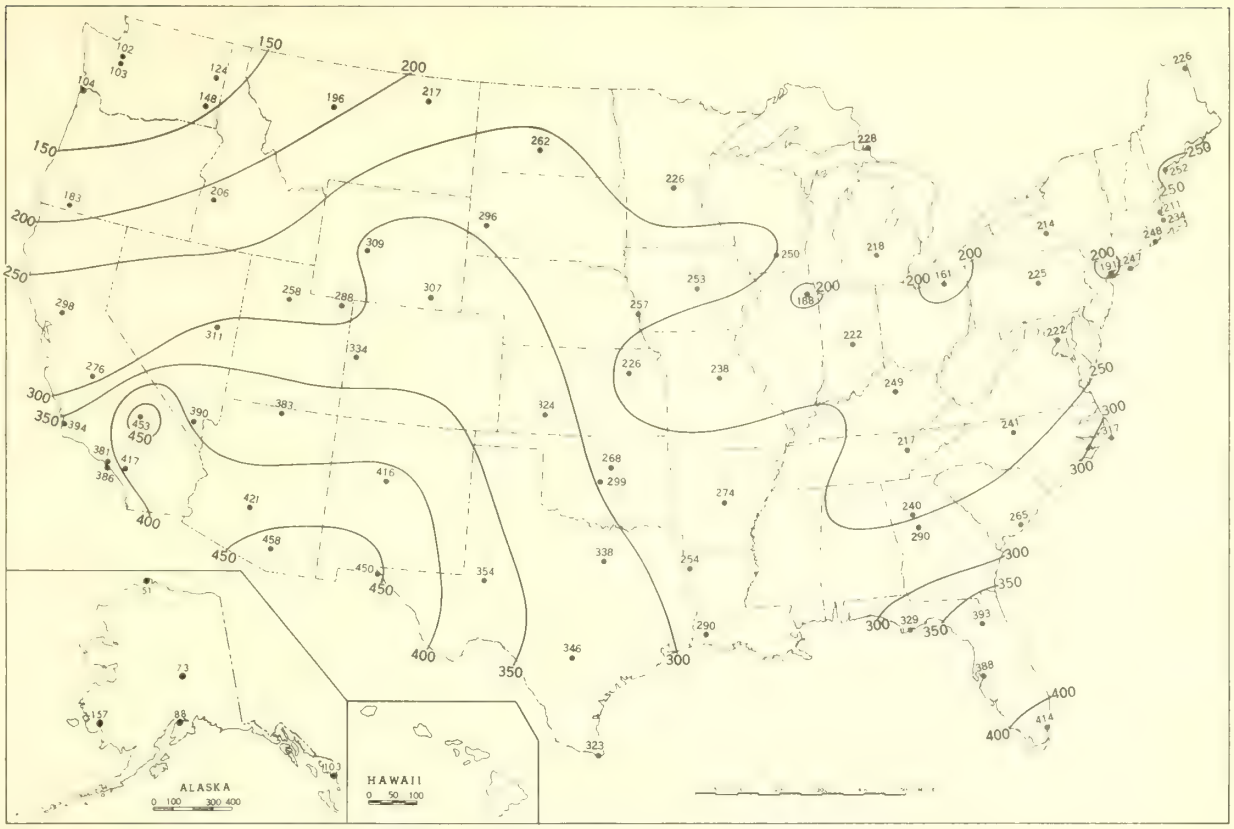


B. Percentage of Mean Monthly Sunshine, February 1961.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, February 1961.

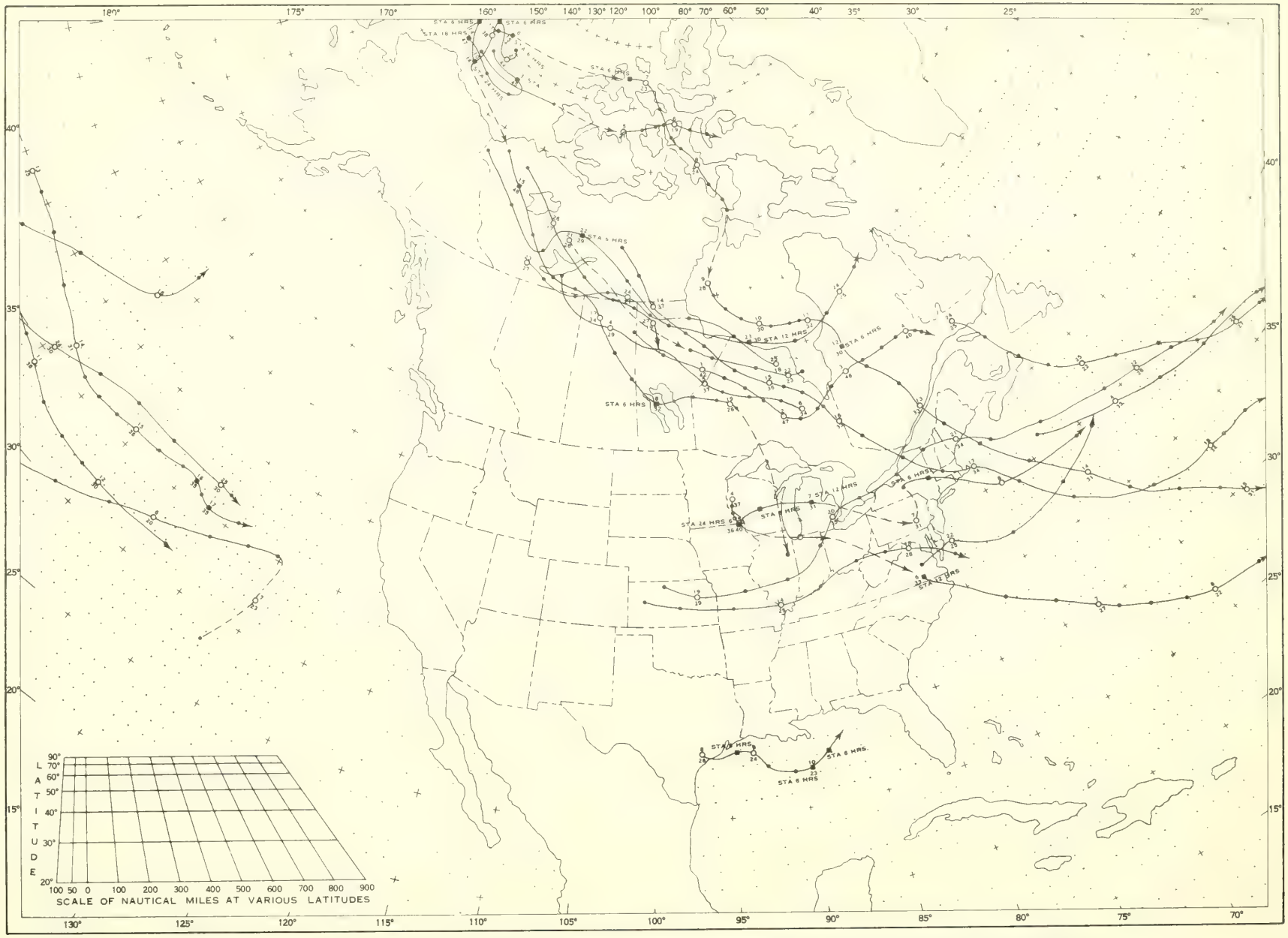


B. Percentage of Mean Daily Solar Radiation, February 1961.

A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.$^{-2}$) and recorded in International Pyrheliometer Scale of 1956.

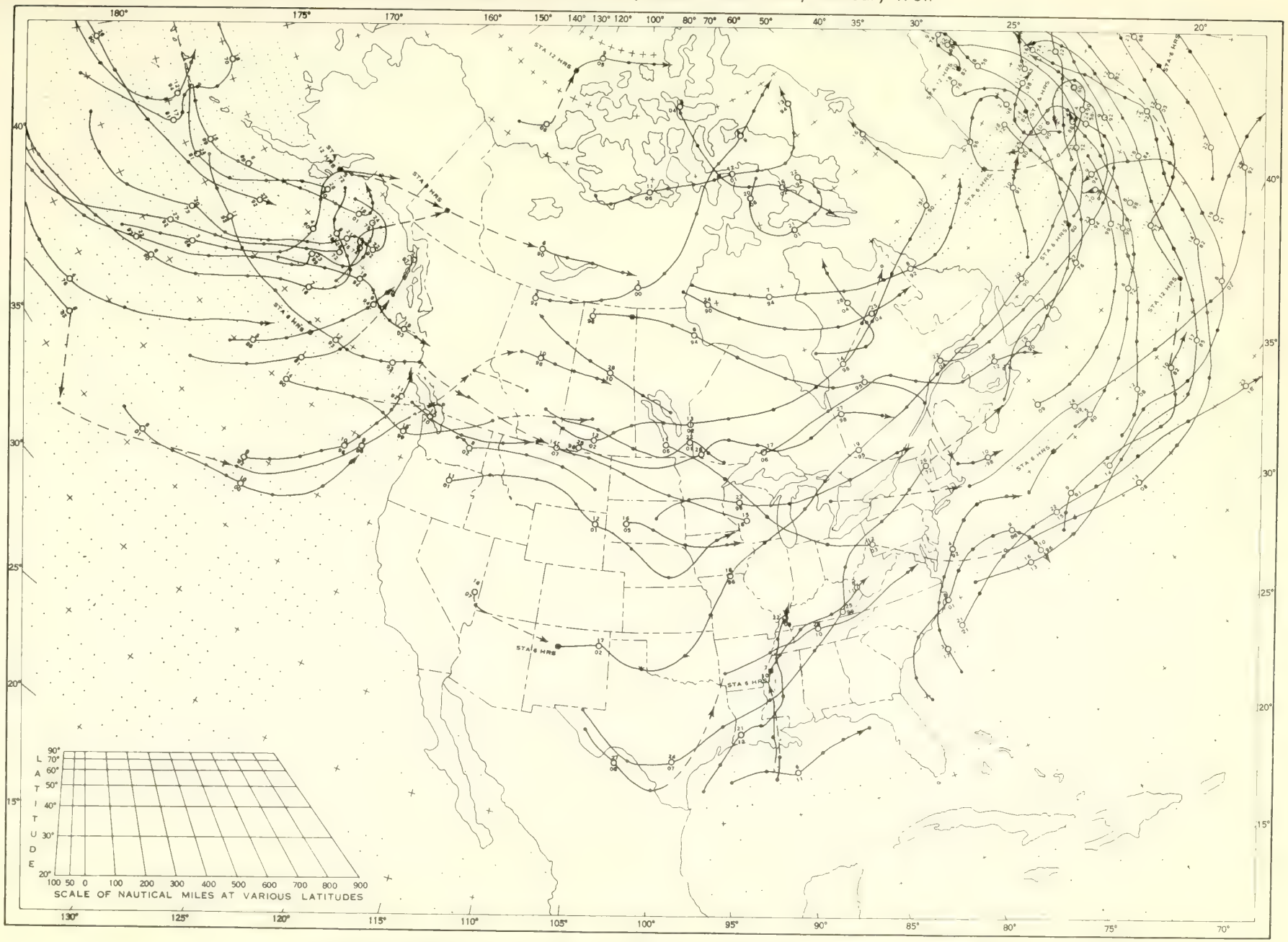
B. Percentage of the mean based on the period 1953-57, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, February 1961.



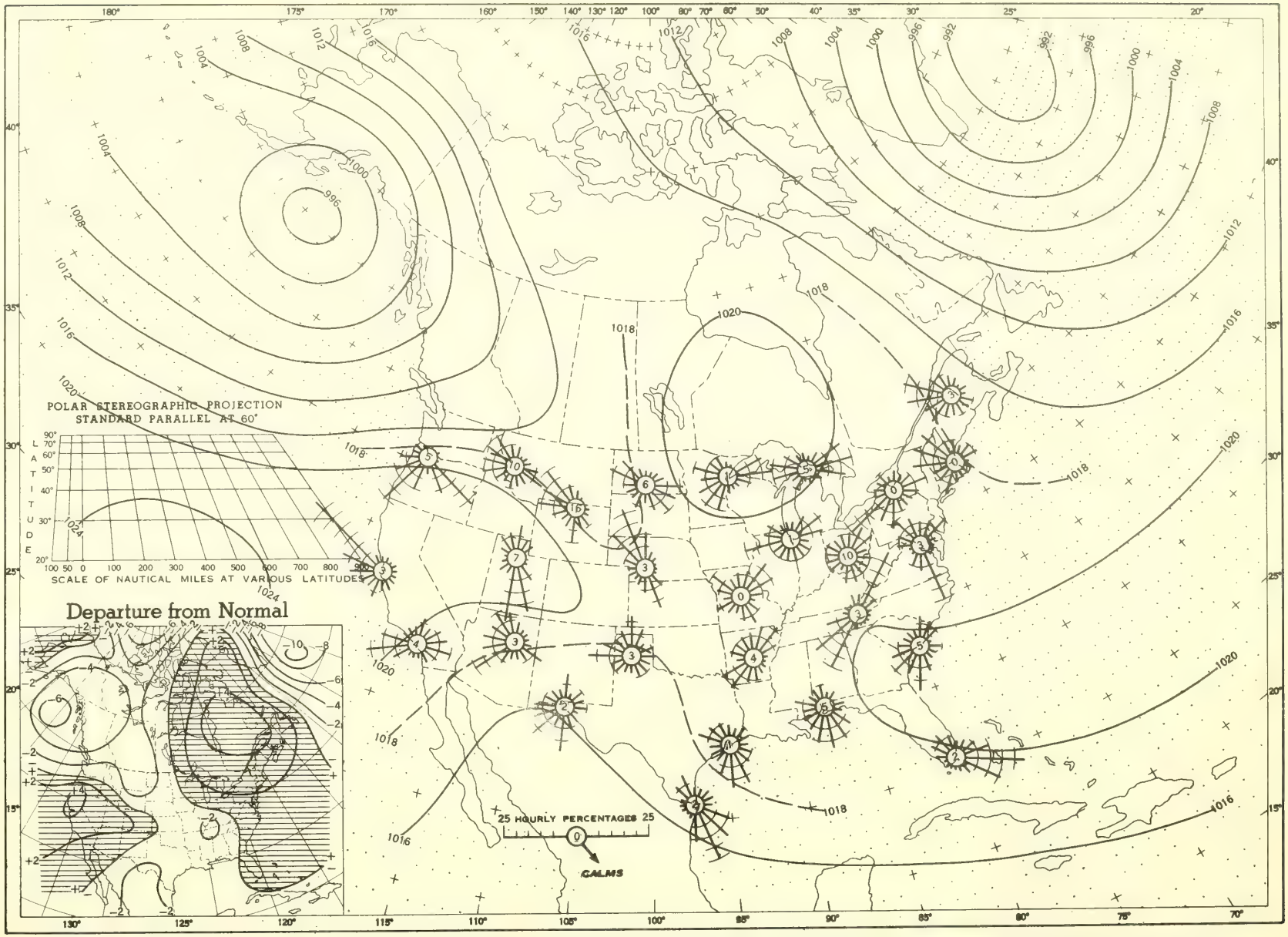
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, February 1961.



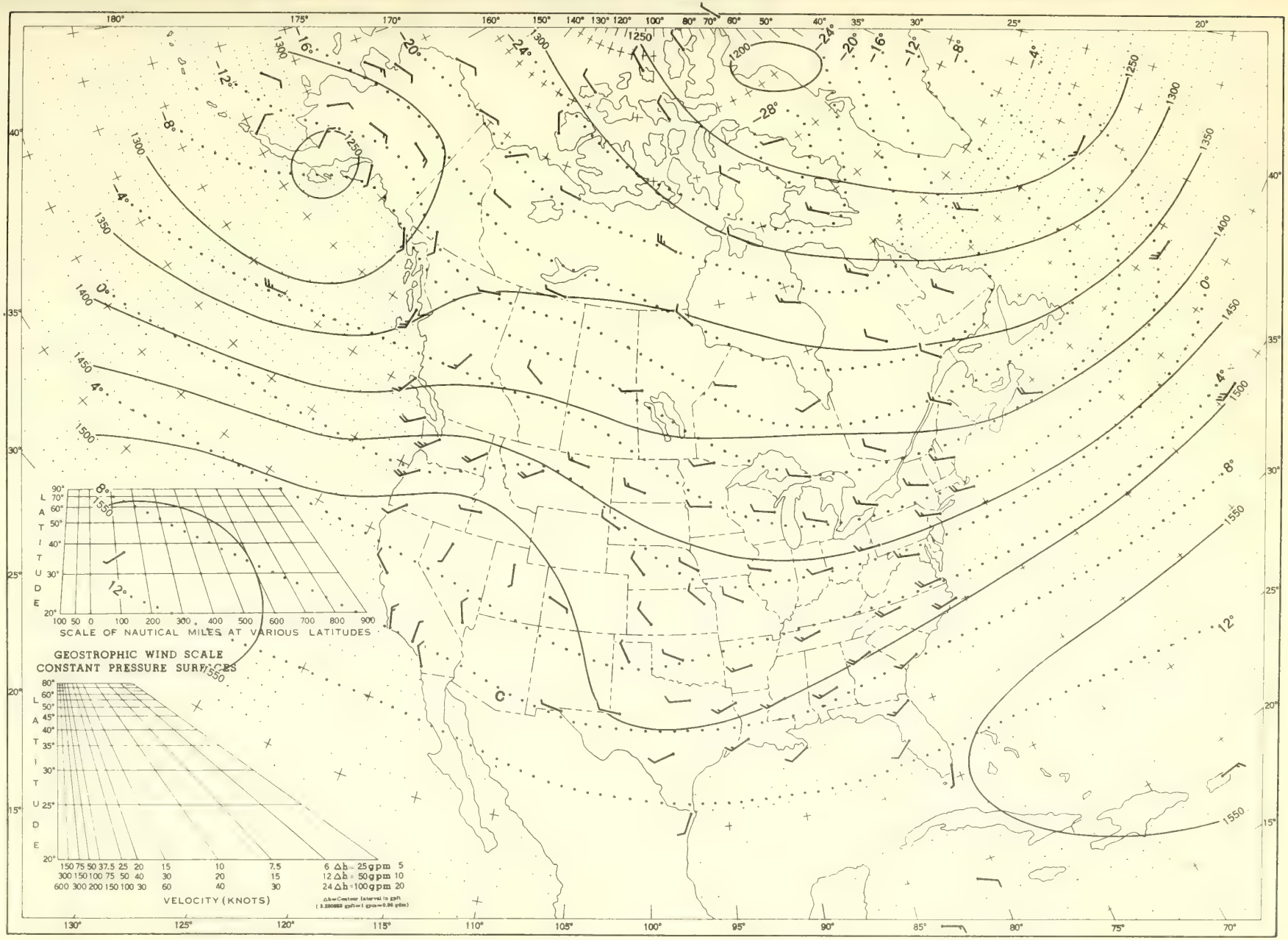
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, February 1961. Inset: Departure of Average Pressure (mb.) from Normal, February 1961.



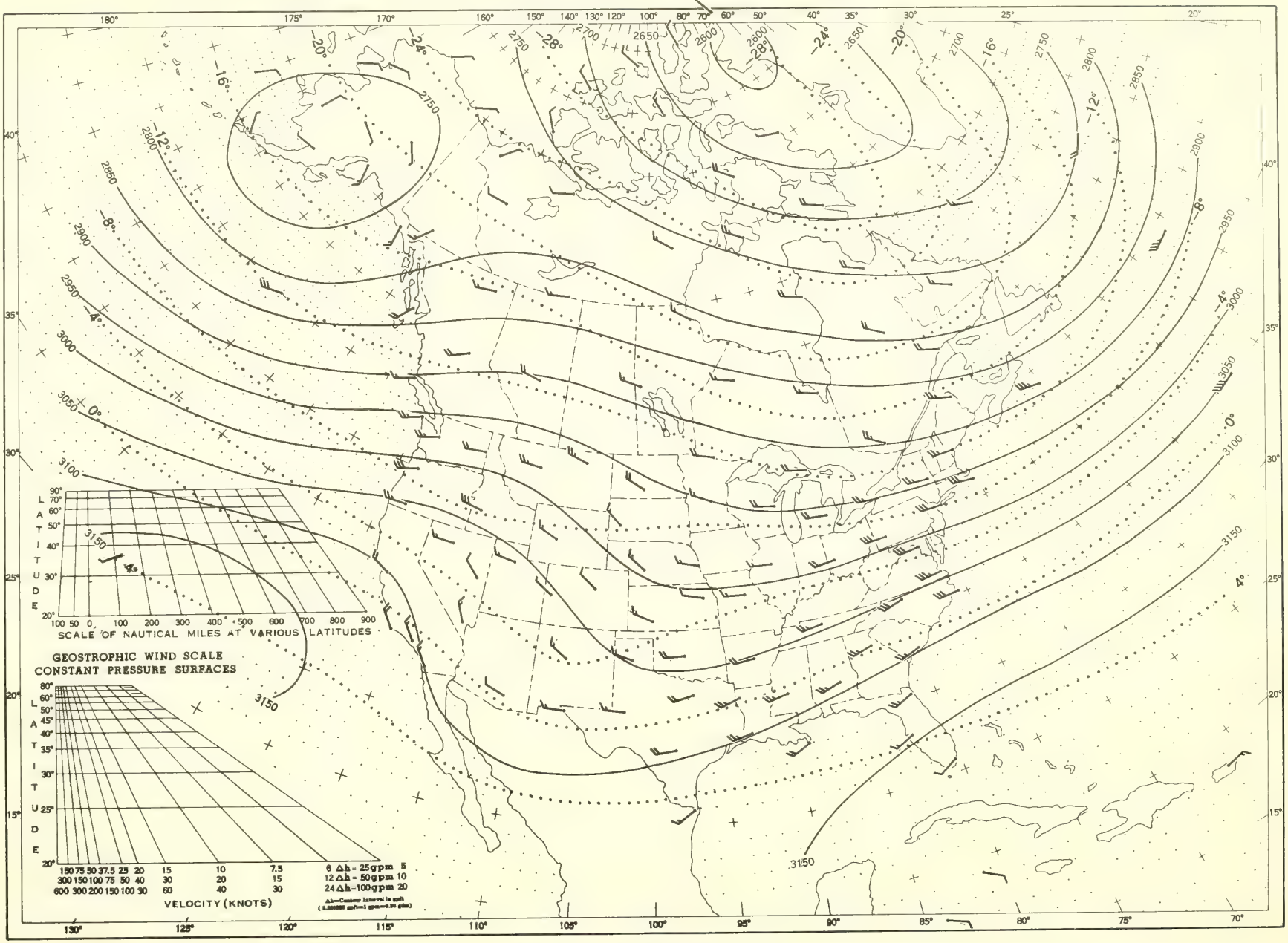
Average sea level pressures are obtained from the averages of the 7:00 a. m. and 7:00 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, February 1961. Average Height and Temperature, and Resultant Winds.



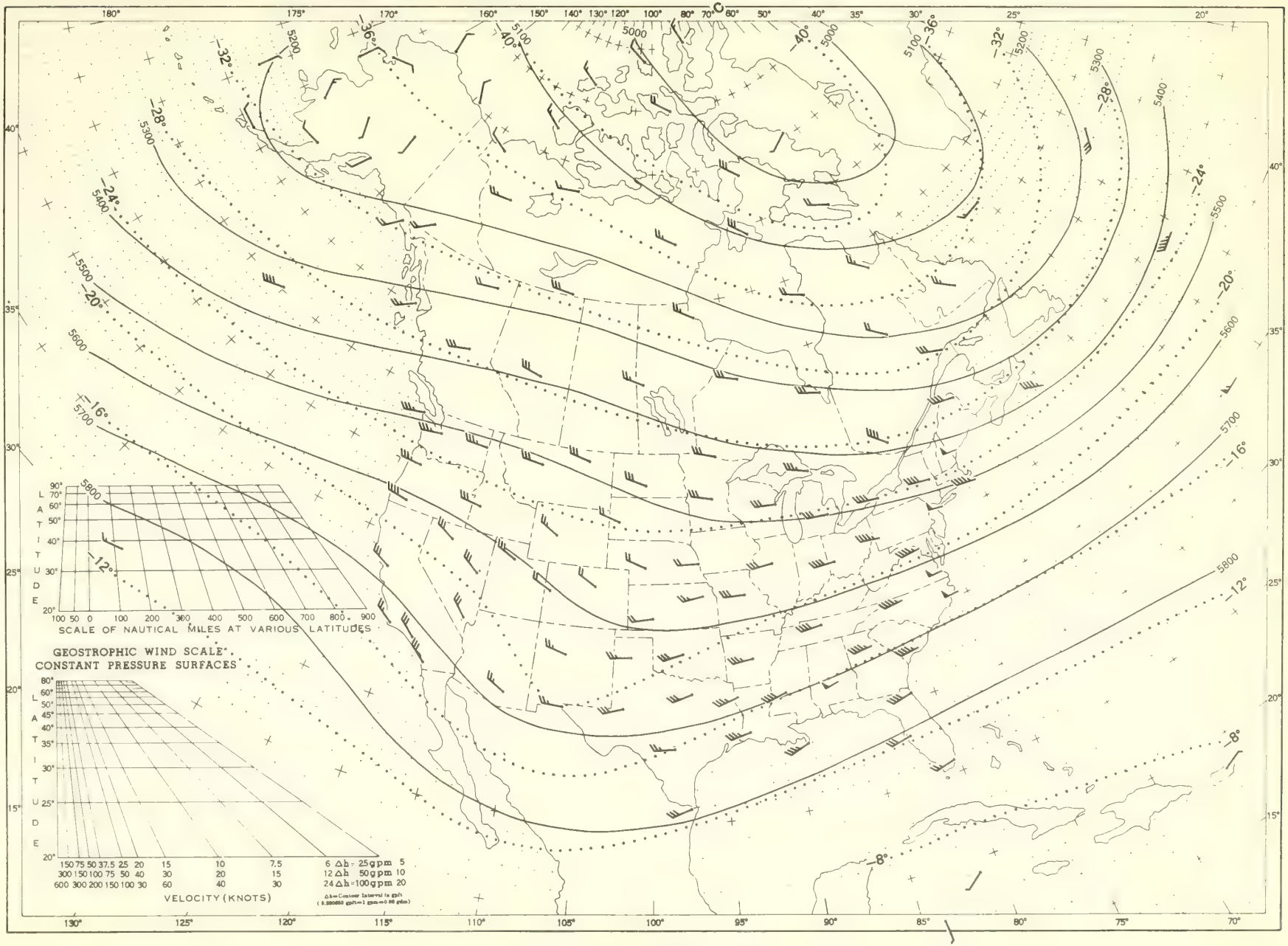
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, February 1961. Average Height and Temperature, and Resultant Winds.



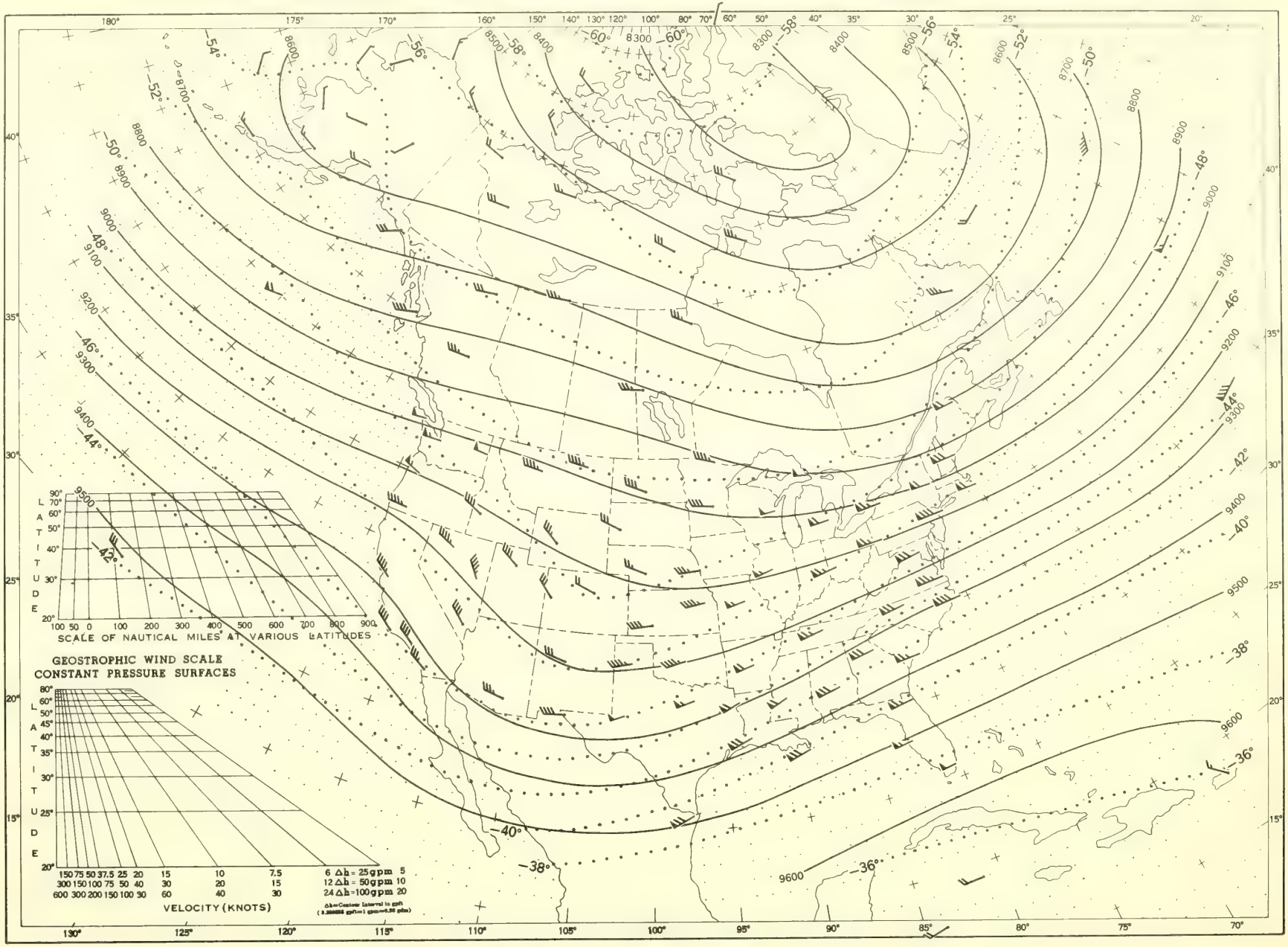
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, February 1961. Average Height and Temperature, and Resultant Winds.



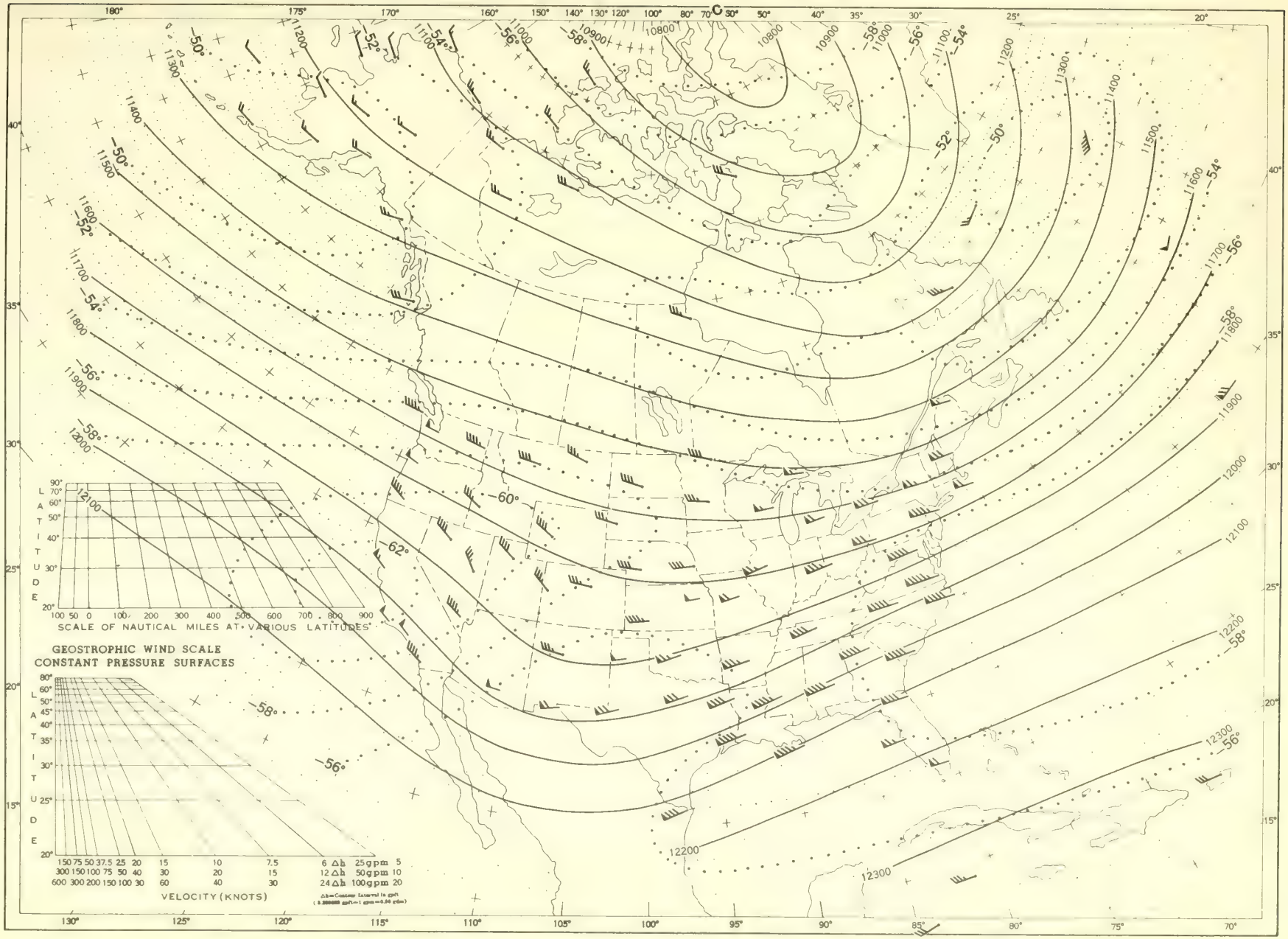
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, February 1961. Average Height and Temperature, and Resultant Winds.



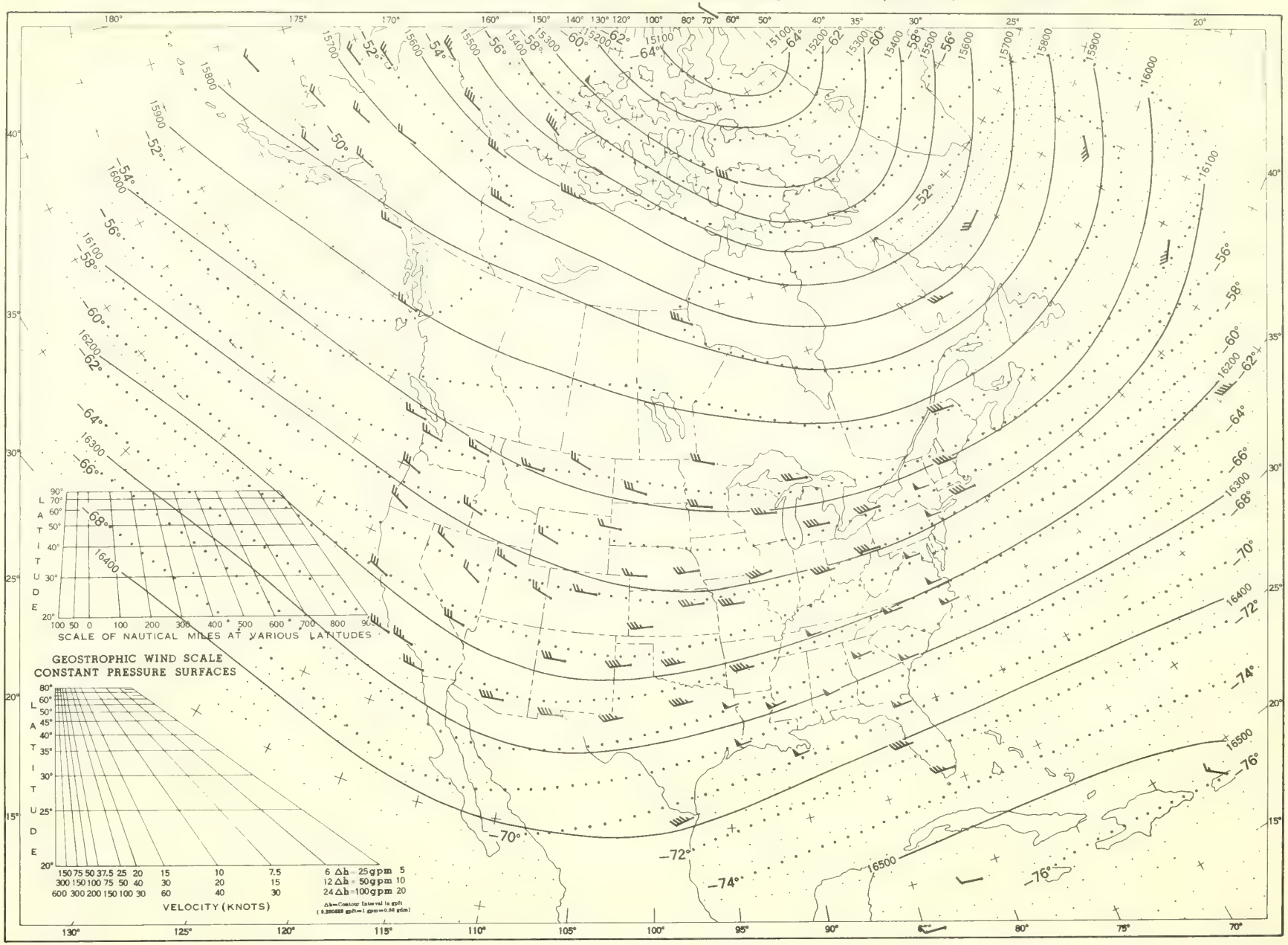
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, February 1961. Average Height and Temperature, and Resultant Winds.



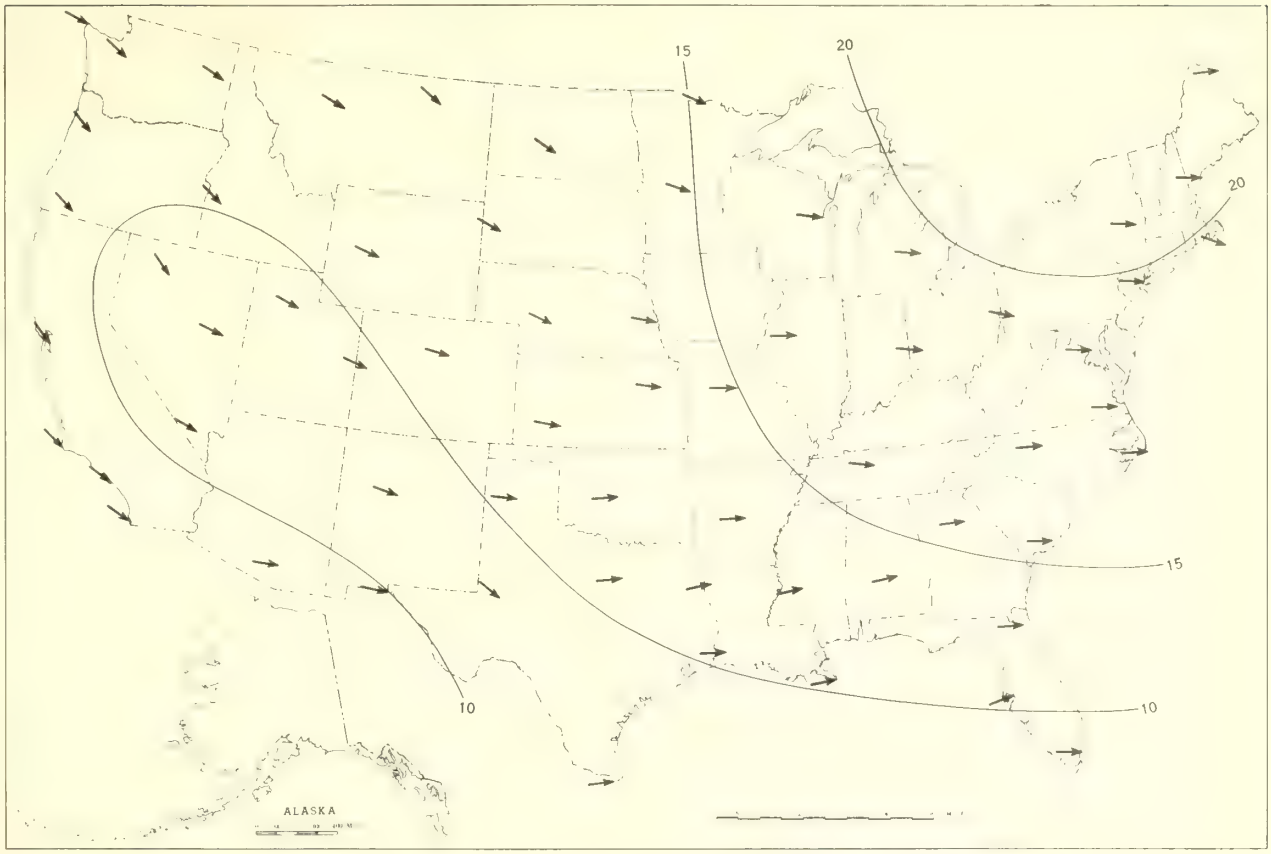
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, February 1961 Average Height and Temperature, and Resultant Winds.



See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, February 1961. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, February 1961. Resultant Winds.

Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-WB-Asheville 5-2-61 - 1850

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

MARCH 1961

Volume 12 No. 3

GENERAL SUMMARY OF WEATHER CONDITIONS

The weather of March 1961 was mild and wet over most of the country. Precipitation was much above normal in Washington and Oregon and central portions of the Nation, with heavy snowfall from the central and southwestern Great Plains to the Great Lakes region. North Dakota and southern Texas were the only extensive areas with less than 25 percent of normal precipitation. Temperatures averaged above normal everywhere, except slightly below in New England and parts of New York and the Pacific States. Much flooding occurred in central and southern sections of the Nation.

TEMPERATURE. --Temperatures for March averaged above normal by as much as 10° in the northern Great Plains, where above normal temperatures persisted until the last 3 or 4 days of the month. East of the Rockies the most extensive cold spell occurred on the 9th and 10th, when freezing extended into the Winter Garden area of Texas and scattered light to moderate frost into the Florida Everglades. Some light to moderate crop damage was reported from the latter area. Another cold spell on the 17th and 18th was limited mainly to the Northeast, with subzero minima rather general over interior sections of New England and a low of -21° at Stillwater Reservoir, N. Y.

During the month temperatures rose to the highest levels on record for so early in the season at several scattered locations across the country. Among these were Augusta, Ga., 86° on the 5th and 6th; Pendleton, Oreg., 70° on the 14th; and Casper, Wyo , 86° on the 16th. The month's highest temperature was 100° at Rio Grande City, Tex., on the 17th and the lowest in the contiguous United States, -24° at Taylor Park, Colo., on the 8th.

PRECIPITATION. --Precipitation was below normal in the northern Great Plains, central and southern Texas, southwest Border areas, and parts of Florida and New England. Elsewhere monthly totals were about normal to well above.

This was the second consecutive very dry month along the Mexican Border. Total precipitation for February and March at Phoenix, Ariz., was only 37 percent of normal; at Las Vegas, Nev., only 55 percent of the usual amount of moisture fell since the first of the year; and total precipitation of 1.38 inches for the period November 1960 through March 24, 1961 has been the least for such period since 1865 at Prescott, Ariz. In southern Texas surface soil moisture was short at the end of the month.

In the northern Great Plains precipitation was less than 25 percent of normal in much of North Dakota and less than 50 percent in portions of nearby states. At the end of the month soil moisture was deficient in parts of the Dakotas, central and northern Minnesota, and eastern Montana, particularly in the latter area where winter precipitation was much below normal.

Precipitation was unusually heavy and well distributed through the month in much of the central Great Plains and Mississippi Valley. Measurable amounts occurred on about half of the days, many stations had over 200 percent of normal, and extreme monthly totals exceeded 7 inches. This heavy precipitation resulted in widespread flooding. Topeka, Kans., had its wettest March, 6.32 inches.

In the Southern States where severe flooding occurred in February, well above normal rainfall in that area kept many streams above flood stage during most of March. Heavy rains and snowmelt in the upper Mississippi Valley caused extensive flooding. At Waterloo, Iowa, where precipitation totaled 5.43 inches for the month, floods caused millions of dollars damage.

In the Far West precipitation was near record proportions for March at many stations in Washington and Oregon, and was above normal in Idaho, western Montana, Utah, Colorado, New Mexico, and northern Arizona. In much of California, Nevada, and Utah where winter precipitation was less than 50 percent of normal, the irrigation water outlook for the coming season was very unfavorable.

SNOW. --On March 1 the snow cover at lower elevations across the country was only a few inches and almost entirely limited to a narrow belt along the Canadian Border from North Dakota to Maine. At the end of the month only the upper Great Lakes region and northern New England remained covered. In the latter area depths still ranged up to more than 20 inches.

Snowfall occurred several times during the month in a wide belt extending from the central Great Plains to the Great Lakes. Falls in this area from the 3d to the 8th accumulated to more than a foot at numerous locations, and the ground remained covered until near midmonth. Heavy falls in Iowa from the 6th to the 8th left 8 to 20 inches across the northern half of the State and 1 to 10 inches in the southern part. Several inches of snowfall in southern Wisconsin during this storm were drifted 8 feet high by 40 m.p.h. winds. At Marquette, Mich., 21.2 inches of snow fell on the 4th to the 6th, the heaviest 3-day snowfall there since November 22-24, 1893. Locally heavy snowfalls occurred in the southwestern Great Plains several times during the latter half of the month. At Amarillo, Tex., 6.3 inches fell on the 17th, 4.2 inches on the 19th, and 4.2 inches during the last 3 days. In the northeast portion of the Texas Panhandle falls of 7 to 12 inches on the 31st disrupted communications.

In many areas east of the Rockies where snowfall is a common occurrence in March, monthly totals, however, were much below normal. Williston, N. Dak., had only 0.3 inch, the least since 1926; Cleveland, Ohio, 1.4 inches, the least since 1938; and Sheridan, Wyo., 0.8 inch, equaling the least of record.

In the Far West heavy snowfall substantially increased the mountain snowpack in Utah, Colorado, and New Mexico, but it still remained below normal except near normal in New Mexico. The pack also was about normal in the State of Washington, but was below normal in other western states. In California the pack is only 30 percent of normal in the extreme southern Sierras, 50 percent in the central Sierras and about normal or above in some northern areas

of the State.

DESTRUCTIVE STORMS.--Severe local storms were numerous in central and southeastern sections of the country during March.

An outbreak of severe storms in the midcontinent area on the 4th and 5th was highlighted by a tornado in Chicago, which killed 1 person, injured about 115 others, and damaged property to the extent of millions of dollars on the 4th.

An unusually severe hailstorm struck Shreveport, La., on the 27th. Hailstones as large as soft balls were reported and stones at the Weather Bureau Station measured 4 1/2 inches in diameter; more than 10,000 buildings were damaged.

CONDENSED CLIMATOLOGICAL SUMMARY

MARCH 1961

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	8 Stations	85	19+	Double Springs	21	10	Melvin	18.48	Columbia	4.28
Arizona	Yuma WB AP	93	22	Maverick	-4	8	Tonto Cr Fish Hatch	4.74	4 Stations	.00
Arkansas	Camden 1	86	6	2 Stations	21	10	Monticello 3S	13.35	Siloam Springs	2.50
California	2 Stations	92	31+	White Mountain #2	-7	28	Gasquet RS	23.27	2 Stations	.00
Colorado	Eversoll Ranch	80	14	Taylor Park	-24	8	Wolf Creek Pass 4W	12.74	Stonington	.26
Connecticut	2 Stations	74	28	Norfolk 2SW	1	18	Norfolk 2SW	5.08	Dawson Lake	2.22
Delaware	Selbyville	80	5	Georgetown 5SW	17	18	Lewes 1SW	5.69	Newark University Farm	3.77
Florida	Avon Park	94	29	Alexander Springs	28	11	Milton Exp Station	8.56	Dania 4WNW	.21
Georgia	Americus 4ENE	93	6	Blairsville Exp Sta	18	11	Flat Top	10.51	Atkinson 1W	1.50
Idaho	2 Stations	74	22+	Obsidian 3SSE	-19	8	Burke 2ENE	5.95	Chilly Barton Flat	.02
Illinois	Springfield WB AP	79	4	Marengo	10	10	Cairo WB City	7.56	Toulon	1.99
Indiana	Shoals Hiway 50 Br	77	28	Collegeville St Jos C	13	17	Indianapolis WB AP	7.91	Edwardsport Pwr Plt	2.85
Iowa	Keokuk L and D 19	74	4	Saratoga 2E	3	10	Emmetsburg	7.64	Inwood 2W	.58
Kansas	Aetna 2S	83	14	2 Stations	13	9	Leavenworth	7.73	Imperial	.51
Kentucky	Inez	85	27	Benham	19	17	2 Stations	9.17	Shelbyville	2.94
Louisiana	Donaldsonville	90	29	Many 4NNE	27	10	Simmesport	17.21	Hackberry	1.60
Maine	Sanford 2NNW	63	27	Squa Pan Dam	-18	1	Gardiner	4.07	Upper Dam	1.69
Maryland	La Plata 1W	84	6	Bittinger 2NW	9	17	Bittinger 2NW	10.03	Glenn Dale Sta	3.10
Massachusetts	2 Stations	72	28	Knoghtsville Dam	-2	18	Rockport 1ESE	5.18	Adams	1.66
Michigan	Dowagiac 2NE	76	27	Champion Van Riper Pk	-15	17+	2 Stations	4.42	Eagle Harbor Coast Gd	.97
Minnesota	Beardsley	70	25	Roseau Power Plant	-8	16	Harmony	D4.79	Hallock	T
Mississippi	3 Stations	85	7+	Houston 2NE	24	10	Shubuta	17.93	Biloxi City	5.33
Missouri	Jeff City Lincoln U	82	4	2 Stations	14	10	Kennett Radio KBOA	9.52	Eldon	3.17
Montana	Albion 1N	77	24	Lincoln 14NE	-19	4	Gibson Dam	4.34	Malta 35S	.00
Nebraska	4 Stations	78	26+	Ellsmere 9ENE	-3	9	Harbine	4.66	Rushville	.29
Nevada	N Las Vegas Doxarm	86	23+	Gibbs Ranch	-1	8	Mt Rose Highway Sta	3.99	2 Stations	.00
New Hampshire	Keene	70	28	First Conn Lake	-20	21	South Lyndeboro	4.53	Woodstock	1.35
New Jersey	Burlington	79	28	High Point Park	2	18	Burlington	7.61	Midland Park	3.31
New Mexico	2 Stations	85	23+	Gavilan	-22	8	Truchas	4.31	2 Stations	.00
New York	Ellenville	76	28	Stillwater Reservoir	-21	18	NY Westleigh Stat Is	6.33	Avon	1.10
North Carolina	Whiteville	88	5	2 Stations	14	10+	Coweeta 8	9.55	Ocracoke	1.81
North Dakota	2 Stations	77	24	Belcourt Indian Res	-13	9	Wishek	.93	4 Stations	T
Ohio	do	79	27	Chardon	8	17	Eaton	6.40	Painesville 2N	2.17
Oklahoma	do	88	15+	Kenton	14	9	Broken Bow 1N	8.32	Kenton	.48
Oregon	Spray	78	14	Fremont	2	24	Valsetz	25.47	Wagontire	.33
Pennsylvania	3 Stations	79	29+	Titusville Water Works	-1	17	Newell	6.50	Clearfield	1.70
Puerto Rico	Dorado 4W	93	24	Guinee Reservoir	51	9	Maricae Fish Hatchery	17.69	Sien Farm	.20
Rhode Island	Greenville	67	28	Greenville	10	18	2 Stations	4.16	Block Island WB AP	2.92
South Carolina	2 Stations	89	7+	2 Stations	24	18+	Antreville	7.80	Givhans Ferry State Pk	2.37
South Dakota	6 Stations	80	26+	Deerfield 5NW	-9	5	Centerville	1.58	Fort Sully 8NE	T
Tennessee	3 Stations	80	28+	Unicoi 2ESE	19	17	Iron City	12.32	Odomville	2.65
Texas	Rio Grande City 2ESE	100	17	Stratford	14	9	Center	10.37	Numerous Stations	.00
Utah	St George PH	81	22	3 Stations	-9	8	Alta	9.87	Hanksville FAA AP	.20
Vermont	Bennington 2NNW	75	28	West Burke	-14	18	Whitingham 3W	4.06	McIndoe Falls	1.14
Virginia	Lexington	85	5	Big Meadows	7	17	Dunbar	6.80	Luray 5E	2.19
Washington	Trinidad 2SSE	75	31	2 Stations	-1	4	Aberdeen 20NNE	20.75	Irene Mt Wauconda	1.00
West Virginia	Williamson	81	6	Spruce Knob	6	18+	Kumbrabow State Forest	9.89	Petersburg	2.46
Wisconsin	Lake Geneva	70	26	Brule Island	-17	10	Racine	6.08	Madeline Island	1.38
Wyoming	Deaver	76	24	Bondurant 3NW	-22	8	Albin	3.10	Heart Mtn.	.03

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

\+ And also on an earlier date or dates.

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation of ground	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 90 F or above	No. of days: Min 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 0.1 inch or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb	Mb	F	F	F	F	F		F				F	%	In	In	In			In	In	M p.h		M p.h							%
ALABAMA																																
BIRMINGHAM	610	990.6	1016.1	68	47	57.3	3.5	81	7	30	10	0	1	47	70	9.22	2.91	2.73	15	8	0.0	0	9.5	S	54	NE	18	8	4	19	6.8	46
HUNTSVILLE	605	992.3	1015.9	66	45	55.4		79	26	29	10	0	2	44	69	8.45		2.62	14	7	T	0	9.4	SE	46*	E	18	5	7	19	7.2	
MOBILE	211	1013.9	1016.4	72	55	62.2	2.7	80	18	34	10	0	0	53	76	10.35	2.73	3.35	17	8	0.0	0	11.8	SSE	40*	W	17	13	2	16	5.5	
MONTGOMERY	195	1008.1	1016.6	70	48	59.9	1.8	83	7+	33	10	0	0	50	75	10.41	3.91	4.23	12	8	0.0	0	9.5	S	43	W	8	11	3	17	6.4	50
ALASKA																																
ANCHORAGE	40	999.3	1004.5	26	7	16.3	- 8.5	44	31	-10	14	0	30	4	60	0.34	-0.26	0.18	5	0	5.8	7	5.8	N	21*	N	17	9	8	14	6.0	56
ANNETTE	110	1001.7	1005.0	45	36	40.5	2.4	58	26	26	6	0	9	33	76	9.72	1.04	2.31	24	0	6.7	2	11.4	ESE	43*	ESE	8	3	2	26	8.5	
BARROW	[illegible]	1022.7	1023.5	-15	-26	-20.8	- 5.9	3	31	-48	3	0	31	-32	56	0.22	0.10	0.09	6	0	2.2	16	15.6	ENE	45*	ENE	30	8	10	13	6.1	
BETTLES ISLAND	39	1020.8	1021.3	-16	-26	-21.1	- 6.8	- 2	31	-50	8	0	31	-32	57	0.27	0.01	0.12	8	0	4.2	12	17.5	ENE	54*	ESE	31	9	4	18	6.3	
BETHEL	125	1007.5	1009.6	13	- 6	3.6	- 7.9	43	30	-29	13	0	31	- 5	68	0.44	-0.48	0.14	9	0	5.1	8	11.5	NE	22*	NE	30+	9	1	21	6.8	
COLD BAY	90	1000.7	1005.9	30	20	25.1	- 4.6	42	29	2	15	0	28	20	79	1.72	-0.17	0.35	17	0	13.6	5	18.2	NNW	67*	ESE	22	4	9	18	7.3	
CORDOVA	40	1000.3	1001.8	37	17	27.2	- 2.9	46	29	- 5	14	0	28	22	81	4.37	-1.55	1.34	13	0	14.8	11	4.0	ESE	18*	E	29+	6	12	13	6.6	
FAIRBANKS	436	992.9	1011.1	19	-14	.7	- 8.3	48	30	-38	14+	0	31	-11	57	0.11	-0.47	0.11	3	0	1.7	13	5.2	N	17*	SW	1	10	10	11	5.4	
JUNEAU	17	1003.7	1004.3	40	29	34.5	1.7	47	31+	11	6	0	20	29	81	2.67	-0.80	0.47	18	0	16.3	5	9.5	ESE	36*	ESE	18	1	3	27	9.1	34
KING SALMON	44	1003.7	1005.8	20	0	10.2	-11.1	43	30	-30	13	0	30	0	64	0.63	-0.59	0.39	6	0	8.7	9	9.1	N	35*	ESE	29	10	5	16	5.8	
KOTZEBUE	10	1013.9	1014.3	2	-14	- 6.2	- 4.6	38	31	-36	16	0	31	-14	71	0.15	-0.12	0.06	6	0	3.6	13	9.7	E	32*	E	5	11	8	12	5.7	
MCGRATH	334	997.3	1010.7	15	-16	- .3	- 8.1	48	30	-45	14	0	31	-14	57	T	-0.98	T	0	0	T	12	4.5	N	20*	N	18	15	8	8	4.4	
NOME	13	1010.8	1011.4	9	- [illegible]	.1	- 8.4	32	31+	-32	11	0	31	- 9	64	0.18	-0.73	0.09	8	0	2.5	11	7.8	ENE	31*	ENE	30	10	4	17	6.1	56
ST. PAUL ISLAND	22	1007.1	1008.1	24	14	18.8	- 5.7	35	3	1	8	0	31	15	86	0.89	-0.28	0.24	15	0	7.9	9						5	8	18	7.2	
SHEMYA	100	1006.1	1008.6	32	20	30.3		36	20+	22	16+	0	29	26	82	0.42		0.11	10	0	8.6	8	21.5	N	46*	ENE	26	0	9	22	8.4	
YAKUTAT	28	1010.4	1002.8	39	25	31.9	1.1	45	31+	6	5	0	24	28	86	9.07	-0.82	2.67	20	0	38.3	59	7.6	ENE	29*	SE	18	1	4	26	8.7	
ARIZONA																																
FLAGSTAFF	6993			49	21	34.9	0.5	66	22	8	7	0	31			2.89	1.32	0.76	11	0	29.3	12						10	9	12	5.9	
PHOENIX	1117	972.4	1012.2	75	45	59.6	- 0.3	85	22	37	1	0	0	31	38	0.41	-0.25	0.23	4	0	0.0	0	7.0	SE	25*	W	15+	12	12	7	4.7	84
PRESCOTT	5014	843.9	1012.6	60	31	45.2	0.4	77	22	20	8	0	20	24	50	1.48	0.50	1.06	7	0	9.0	5	8.7	S	49	SW	25	11	11	9	5.2	81
TUCSON	2584	923.5	1011.6	73	44	58.2	0.3	85	23	34	8+	0	0	24	32	0.41	-0.27	0.37	3	0	0.0	0	9.7	SE	33	SW	3	13	9	9	4.3	87
WINSLOW	4880	844.3	1011.5	61	30	45.6	0.1	75	23+	15	8	0	20	23	48	0.86	0.46	0.52	6	0	6.6	3	11.5	SW	46*	SSW	25	8	14	9	5.2	
YUMA	199	1007.5	1013.0	81	50	65.7	0.0	93	22	45	5+	2	0	30	31	0.01	-0.25	0.01	1	0	0.0	0	8.7	W	27	W	15	17	8	6	3.8	94
ARKANSAS																																
FORT SMITH	449	976.6	1013.2	65	43	54.1	1.8	83	15	27	10	0	3	43	69	5.26	2.17	1.79	13	8	0.0	0	10.3	E	37	W	12+	8	6	17	6.6	49
LITTLE ROCK	257	1001.0	1014.3	66	46	55.4	3.1	83	15	32	10	0	1	45	69	8.07	3.22	1.92	17	8	0.0	0	10.3	WSW	47	NE	17	8	8	15	6.0	48
TEXARKANA	261		1013.6	68	49	58.5	2.5	82	6	35	1	0	0	48	74	9.67	4.74	2.31	16	11	0.0	0	9.7	SSE								
CALIFORNIA																																
BAKERSFIELD	494	979.7	1018.1	67	44	55.2	- 1.9	79	14+	36	5	0	0	42	62	0.38	-0.73	0.17	7	0	0.0	0	6.2	NNW	35*	NNE	15	8	13	10	5.9	
EL CENTRO	41	971.6	1012.1	68	50	47.5	0.1	76	22	17	7	0	19			0.11	-0.55	0.11	1	0	T	0						8	14	9	5.2	
BLUE CANYON	5[illegible]	836.2	1015.[illegible]	42	30	36.0	- 2.7	57	29	23	7	0	23			10.59	3.13	1.56	19	1	54.4	16	9.4	SSW	67	ENE	28	5	3	23	7.8	
BISHOP	[illegible]	928.2	1015.[illegible]	58	4[illegible]	58.6	1.7	84	1	41	5	0	0	40	56	0.59	-1.66	0.48	4	0	0.0	0	7.5	SSE	31*	NW	17	11	9	11	5.6	
BURBANK	43	1014.4	1017.[illegible]	55	44	49.7	0.6	63	13	37	4	0	0			7.90	3.26	1.54	21	2	0.0	0	8.6	SW	34	S	16	2	5	24	8.3	49
EUREKA	331	1006.4	1017.[illegible]	66	41	53.4	- 2.1	77	30	34	10+	0	0	40	64	1.04	-0.59	0.39	6	3	0.0	0	7.6	NW	24	NW	23	8	10	13	5.9	81
LONG BEACH	34	1015.2	1016.4	68	47	57.3		83	1	42	26+	0	0	42	61	0.29		0.23	3	0	0.0	0	8.1	W	35*	NW	17+	8	12	11	5.9	
LOS ANGELES	99	1012.2	1016.0	64	49	56.7	0.4	80	1	45	9+	0	0	46	69	0.46	-1.45	0.36	3	0	0.0	0	9.8	WSW	37*	SW	15	8	13	10	5.6	
LOS ANGELES U	312			69	52	60.1	1.2	82	1	48	26+	0	0	46	65	0.57	-1.79	0.40	4	0	0.0	0	7.2	W#	34	W	15	10	10	11	5.3	75
MT. WILSON	3544	890.6	1016.[illegible]	48	30	38.9	- 2.8	66	30	19	7	0	23			6.42	2.34	2.07	17	0	40.2	9						6	3	22	7.4	
OAKLAND	3	1018.3	1018.[illegible]	61	45	52.9	- 0.5	72	29	39	18+	0	0	43	72	2.47	0.16	1.00	14	0	0.0	0	11.[illegible]	WNW	40*	W	16	3	13	15	6.9	
POINT ARGUELLO	367	1003.7	1017.[illegible]	5[illegible]	45	52.2		67	1	34	8	0	0			0.57		0.38	8	0	0.0	0	10.9		28*	NW	2	10	11	10	5.4	
RED BLUFF	341	1003.7	1016.[illegible]	61	42	51.3	- 3.0	79	29	34	7	0	0	39	65	3.05	0.44	1.05	11	3	0.0	0	11.0	S	45	SE	14	5	9	17	7.2	60
SACRAMENTO	17	1016.6	1017.[illegible]	63	43	53.0	- 0.9	76	29	37	7	0	0	44	75	2.02	-0.07	0.97	10	2	0.0	0	7.7	SW	26	NW	28+	5	10	16	6.9	67
SAN BERNARDINO	4817	861.2	1015.2	52	36	44.1	- 0.6	63	13	29	28+	0	12			0.53	-1.28	0.29	6	0	2.9	2	16.7	N	46*	N	3	10	11	10	4.9	
SAN DIEGO	13	1012.5	1015.9	66	52	58.9	0.7	79	1	47	29+	0	0	48	69	0.85	-0.67	0.40	7	0	0.0	0	7.0	WNW	27	NW	15	12	8	11	5.3	70
SAN FRANCISCO	8	1018.0	1018.6	61	46	53.3	0.5	70	29	40	7	0	0	45	75	3.39	0.95	1.45	15	0	0.0	0	10.5	WNW	37	W	16	3	11	17	6.7	
SAN FRANCISCO C	52			59	49	54.3	- 0.6	70	29	46	4+	0	0			2.27	-0.51	0.77	14	0	0.0	0	8.8	W#	30	W	2					79
SANTA MARIA	238	1009.1	1018.1	64	41	52.4	- 1.6	73	1	35	26+	0	0	43	74	0.71	-1.58	0.42	9	0	0.0	0	9.5	WNW	32*	NW	9+	15	10	6	4.4	
COLORADO																																
ALAMOSA	7536	766.0	1012.9	47	18	32.6	0.8	63	23	6	1	0	31			0.62	0.19	0.36	10	0	12.5	6						4	13	14	6.5	
COLORADO SPRINGS	6173	806.0	1014.8	48	25	36.2	- 0.6	66	15+	10	1	0	30	21	61	1.21	0.52	0.75	9	0	9.5	5	11.0	SSE	31*	NW	10+	4	12	15	6.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 90 F or above	Min 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 01 inch or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days clear	Partly cloudy	Cloudy	Sunshine	Possible sunshine
COLORADO	Ft	Mb.	Mb	F	F	F	F	F		F				F	%	In	In	In			In	In	Mph		Mph							
DENVER	5283	832.7	1012.6	51	27	38.9	1.1	69	24+	4	6	0	24	24	61	2.51	1.32	0.86	11	0	29.2	9	9.0	SSW	42	NW	21	9	7	15	6.4	64
GRAND JUNCTION	4849	855.4	1012.7	53	32	42.4	1.2	74	23	20	7+	0	16	25	55	1.47	0.60	0.67	10	1	7.9	2	9.1	ESE	37	SE	25	5	9	17	7.2	66
PUEBLO	4639	851.7	1012.0	55	28	41.5	1.5	73	15+	17	9	0	26	24	58	0.69	-0.01	0.29	7	0	4.5	1	9.1	NE	40	NW	1+	5	11	15	6.7	66
CONNECTICUT																																
BRIDGEPORT	7	1015.2	1016.1	45	31	37.5	0.6	62	27	14	18	0	18	27	68	2.60	-1.00	0.83	15	1	4.6	1	11.7	NNW	40	E	8	6	10	15	6.6	
HARTFORD	169	1009.0	1015.2	45	26	35.3	- 1.9	73	28	9	18	0	24	22	63	3.86	0.05	1.34	13	0	15.7	6	8.6	NW	32	NW	10	5	11	15	6.2	60
NEW HAVEN	6	1015.2		45	30	37.2	0.1	60	28	14	18	0	19			3.77	-0.35	1.02	15	2	8.1	2	9.1		32	NW	10	7	9	15	6.5	62
DELAWARE																																
WILMINGTON	78	1012.1	1015.5	51	34	42.6	0.1	76	28	20	18+	0	12	31	69	5.19	1.58	1.17	13	1	1.1	1	10.5	NW	38	NW	10	6	7	19	7.2	
DIST. OF COLUMBIA																																
WASHINGTON U	72			55	39	47.3	1.6	82	6	24	17	0	5			3.84	0.48	1.00	13													
WASH NATL AP	14	1011.3	1015.9	57	38	47.6	2.3	81	6	24	17	0	5	34	64	4.18	1.15	1.05	13	0	T	0	9.7	ENE	35	NW	16+	8	4	19	6.9	51
FLORIDA																																
APALACHICOLA U	13	1015.6		70	58	64.0	3.1	77	29+	43	10	0	0			3.45	-1.47	1.33	8	7	0.0	0	8.6		38	E	18	10	6	15	5.7	73
DAYTONA BEACH	31	1015.8	1017.7	78	56	67.1	3.4	87	30+	35	11	0	0	57	74	1.17	-2.45	0.58	6	4	0.0	0	9.3	SE	28*	SE	18+	8	8	15	6.2	
FORT MYERS	15	1016.3		83	60	71.7	3.1	90	18+	40	11	2	0			3.58	1.40	3.00	4	2	0.0	0	8.4		29*	SW	31	9	15	7	5.2	
JACKSONVILLE	24	1016.0	1017.5	79	57	67.9	5.6	89	30	37	11	0	0	55	68	1.17	-2.25	0.88	5	5	0.0	0	11.0	SW	44	W	9	9	12	10	5.6	69
KEY WEST	5	1015.4	1016.8	81	71	75.7	2.0	86	31	58	11	0	0	66	72	1.28	-0.29	0.52	7	2	0.0	0	12.2	SE	32	SE	17	11	12	8	5.3	76
LAKELAND U	214			81	60	70.1	3.5	88	7	42	10	0	0			3.81	0.01	1.25	6	6	0.0	0	7.7					7	15	9	5.5	72
MIAMI BEACH	9			79	69	74.4	2.2	85	16+	49	10	0	0			1.29	-1.00	0.95	7		0.0	0	9.1		28	NW	9	8	16	7	5.0	72
MIAMI	7	1015.8	1017.2	81	67	73.8	2.5	87	31+	48	10	0	0	60	65	1.91	-0.34	1.48	7	2	0.0	0	10.5	ESE	25*	NW	10+	6	15	10	6.0	
ORLANDO	106	1012.9	1017.5	82	59	70.6	3.9	90	29	40	11	1	0	57	68	2.21	-1.05	1.35	5	6	0.0	0	8.8	SE	35*	S	31	9	10	12	5.6	
PENSACOLA U	13			69	56	62.9	2.7	77	8	39	10	0	0			7.09	1.09	3.16	14	4	0.0	0	11.4		38	SE	19					51
TALLAHASSEE	64	1014.2	1016.9	76	52	63.8	3.3	87	29	34	11	0	0	53	74	4.43	-0.64	1.39	9	7	0.0	0	7.5	S	40*	NW	29	9	9	13	5.8	
TAMPA	19	1016.1	1017.8	81	60	70.4	4.4	88	5+	42	11	0	0	58	70	2.23	-0.89	1.58	4	2	0.0	0	11.3	SSE	36*	NW	9	9	12	10	5.6	82
WEST PALM BEACH	15	1016.4	1017.6	81	64	72.6	2.6	90	31+	44	10	2	0	60	67	3.57	0.35	1.85	7	2	0.0	0	11.0	SE	29*	NW	9	7	10	14	6.1	
GEORGIA																																
ATHENS	798	988.0	1016.8	66	43	54.8	2.1	79	5+	31	10	0	2	46	76	6.98	1.81	2.72	12	2	T	0	9.3	W	32*	NW	8	8	5	18	6.6	
ATLANTA	975	974.5	1016.7	65	44	54.7	2.0	80	4	33	25	0	0	42	65	7.33	1.66	2.93	11	2	T	0	12.3	WNW	36*	W	8	9	3	19	6.7	45
AUGUSTA	143	1009.5	1016.4	72	46	58.6	3.1	86	6+	34	25+	0	0	46	69	5.04	0.78	2.91	9	3	0.0	0	7.3	WNW	33*	NW	9	6	9	16	6.8	
COLUMBUS	395	1002.2		71	46	58.1	3.4	83	7	33	3+	0	0			6.54	0.73	4.02	12	6	0.0	0	8.7		33*	SSE	27+	9	4	18	6.4	
MACON	356	1002.7	1016.6	71	48	59.5	1.7	86	6+	34	25+	0	0	46	68	5.40	0.29	2.78	12	3	0.0	0	9.5	WNW	37	W	9	8	6	17	6.4	49
ROME	637	992.8		66	40	52.7	1.0	77	26	27	3+	0	7			5.56	-0.27	2.09	13	3	T	0						6	4	21	7.0	
SAVANNAH	48	1014.9	1017.2	75	51	63.2	4.5	86	29+	33	10	0	0	50	70	4.69	1.20	1.49	7	4	0.0	0	9.7	WNW	36	NW	9	7	12	12	6.0	74
THOMASVILLE U	283			76	54	64.9	4.3	86	30	37	10	0	0			5.03	-0.32	3.53	9	7	0.0	0										
HAWAII																																
HILO	31	1015.9	1017.2	81	63	71.9	1.1	84	31+	60	15+	0	0	63	76	5.75	-9.97	1.48	17	0	0.0	0	8.9	SW	23*	E	4+	5	11	15	6.7	42
HONOLULU	7	1016.9	1017.4	83	68	75.7	2.7	86	30+	64	27+	0	0	63	67	0.43	-1.87	0.19	4	0	0.0	0	10.1	ENE	37	E	1	13	14	4	4.5	86
LIHUE	115	1012.5	1017.6	81	67	73.9	3.3	85	31+	62	15+	0	0	65	76	3.42	-0.65	2.28	14	1	0.0	0	11.3	NE	27	NE	21	12	10	9	5.1	74
IDAHO																																
BOISE	2841	917.0	1013.7	54	35	44.4	2.6	71	22+	25	3	0	11	31	62	1.39	0.05	0.69	13	1	0.8	T	9.1	SE	30	SE	8	3	6	22	7.9	49
IDAHO FALLS 42NW R	4790			47	18	32.7	4.0	63	15	- 2	5	0	31			0.42	-0.03	0.19	8				7.5	SSW	40A	SSW	1					
IDAHO FALLS 46W R	4933	844.2	1014.2	48	20	33.8	3.8	60	30+	6	8	0	31			0.12	-0.33	0.06	6	0	0.8	T	8.6	SW	32A	SW	1					
LEWISTON	1413	961.4	1013.4	54	36	44.6	1.0	67	19	19	3	0	5			1.82	0.68	0.52	16	0	3.0	3						2	7	22	7.9	
POCATELLO	4444	859.5	1014.4	49	28	38.6	2.0	65	23	19	3	0	21	26	63	1.11	-0.02	0.37	15	0	2.7	1	12.3	WSW	41	W	20	3	6	22	8.0	64
ILLINOIS																																
CAIRO U	314	1001.4		59	44	51.4	2.4	73	27+	34	10	0	0			7.56	2.84	1.38	18	8	T	T	11.4	SW	39	S	12	5	8	18	7.4	46
CHICAGO O HARE	658	988.5	1013.9	46	30	38.0		72	26	15	10	0	21	31	79	4.01		1.23	11	2	2.4	2	12.4	SSE	38*	SSW	27	4	5	22	7.8	
CHICAGO MIDWAY	610	990.9	1014.2	48	34	40.8	3.8	71	26	24	10	0	13	31	71	2.96	0.11	0.81	12	3	3.8	3	12.7	ENE	47	SW	27	4	5	22	7.8	38
MOLINE	589	990.9	1013.6	47	31	39.3	2.1	70	26	20	10	0	16	30	72	4.48	2.00	1.28	12	3	2.4	2	12.1	NW	40	W	27	3	6	22	8.1	45
PEORIA	652	991.2	1014.1	49	32	40.6	2.3	77	4	22	10	0	16	32	77	3.26	0.47	1.00	12	3	0.7	1	12.7	ENE	43	SW	27	2	9	20	7.9	44
ROCKFORD	728	986.1	1014.1	45	30	37.4	2.4	68	26	17	10	0	23	30	77	5.62	3.07	1.45	13	2	7.8	8	11.2	ENE	35*	SW	27	3	5	23	7.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

MARCH 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max. 90 F. or above	No of days: Min 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 01 inch or more	No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days sunrise to sunset: Clear 0.3	No of days sunrise to sunset: Partly cloudy 4.7	No of days sunrise to sunset: Cloudy 8.10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F		F.				F.	%	In	In.	In			In	In	Mph		Mph							%
ILLINOIS																																
SPRINGFIELD	588	989.8	1013.6	53	35	43.8	3.6	79	4	23	16	0	12	35	74	3.47	0.16	1.07	15	4	0.7	1	15.7	E	65	SW	27	4	6	21	7.7	46
INDIANA																																
EVANSVILLE	383	998.3	1014.2	58	41	49.6	3.0	76	27	28	16	0	5	39	69	4.81	0.52	1.08	16	6	T	T	11.9	S	41	E	18	4	6	21	7.6	38
FORT WAYNE	801	982.4	1014.3	49	33	41.1	4.3	72	27	19	17	0	14	32	75	4.04	0.88	1.34	14	3	0.1	T	15.4	ENE	57	SW	6	4	10	17	7.3	47
INDIANAPOLIS	797	983.4	1014.0	52	36	43.6	3.5	72	27	23	17	0	10	36	79	7.91	4.02	2.62	15	5	0.4	1	11.0	SW	40	N	9	1	8	22	8.1	49
SOUTH BEND	768	985.1	1013.8	47	30	38.8	3.1	71	27	16	17	0	20	31	77	3.80	0.85	0.95	15	3	1.4	1	13.7	E	51*	SSW	27	1	11	19	8.0	
IOWA																																
BURLINGTON	694	987.8	1014.2	50	32	40.8	2.3	72	4	22	10	0	16	32	75	4.50	1.69	1.32	13	5	2.2	1	14.0	NW	48	SW	27	1	9	21	8.2	43
DES MOINES	948	983.1	1015.2	44	31	37.5	0.5	68	25	23	16	0	24	30	78	5.37	3.34	1.58	15	5	16.4	4	14.6	NW	40	W	27	4	4	23	8.1	40
DUBUQUE	1065	988.2	1014.2	42	28	34.7	1.4	63	25	11	10	0	26	28	75	5.96	3.71	1.77	17	2	18.6	12						3	5	23	8.1	
SIOUX CITY	1095	972.9	1015.1	45	30	37.5	2.5	70	26	22	10+	0	25	28	70	1.87	0.61	0.49	13	0	12.3	7	13.5	NNW	40	NW	27	3	10	18	7.4	52
WATERLOO	868	981.7	1014.4	41	28	34.8	0.7	69	25	16	16	0	25	30	84	5.43	3.44	1.30	13	3	10.0	8	11.4	NW	29*	NW	27	3	9	19	7.9	
KANSAS																																
CONCORDIA U	1375	963.1		52	34	42.7	1.1	75	14	24	9	0	11		68	2.93	1.60	1.39	12	4	3.5	2	8.9	NW*	32	NW	8	6	5	17	6.9	47
DODGE CITY	2594	924.1	1013.3	55	32	43.5	0.9	79	14	21	1	0	20	29	66	1.32	0.17	0.99	8	4	2.0	2	16.9	ENE	43	NW	7	7	10	14	6.5	64
GOODLAND	3645	884.5	1012.9	52	27	39.4	2.9	74	25	17	5	0	28	26	66	1.01	-0.08	0.29	10	3	10.5	2	13.8	NNW	46*	NNW	12	6	10	15	6.5	
TOPEKA	877	977.0	1013.7	53	34	43.3	0.7	74	14	27	9	0	16	34	74	6.32	4.29	2.02	15	6	8.5	[illegible]	14.6	NNE	40	SW	10	3	6	22	8.0	42
WICHITA	1321	895.7	1012.7	57	36	46.6	1.3	77	14	27	1	0	5	36	71	4.83	3.09	2.65	11	3	7.5	3	15.1	S	59	W	27	6	10	15	6.7	54
KENTUCKY																																
LEXINGTON	979	978.5	1015.0	56	38	47.0	2.7	70	27	24	17	0	7	40	78	6.18	1.72	1.31	14	3	T	T	12.7	S				4	2	25	8.0	
LOUISVILLE	474	995.1	1014.5	57	39	47.6	2.0	74	27	26	17	0	7	39	75	7.63	2.96	2.75	16	3	0.4	T	9.1	W	34	W	6	3	3	25	8.1	35
LOUISIANA																																
ALEXANDRIA	92	1010.2	1014.8	72	51	61.3		81	13+	30	10	0	1	52	77	12.06		3.76	11	10	0.0	0	8.6	SSW				11	5	15	5.7	
BATON ROUGE	64	1011.9	1015.1	74	53	63.4	3.1	82	7	34	10	0	0	55	78	5.64	-0.18	2.51	14	10	0.0	0	11.0	SE				10	4	17	6.1	
LAKE CHARLES	12	1012.5	1014.3	73	56	64.3	3.7	82	29	38	10	0	0	56	77	2.58	-2.18	1.07	9	5	0.0	0	8.0	S	35*	NW	17	10	6	15	6.0	
NEW ORLEANS U	9			74	60	67.0	4.0	83	13	47	10	0	0		80	7.72	1.16	3.84	11	6	0.0	0	7.9		27	NE	27	14	9	8	4.8	65
NEW ORLEANS	3	1013.2	1015.5	74	55	64.6	2.9	84	13	34	10	0	0	58	80	8.53	2.63	3.60	14	7	0.0	0	10.5	SSE	24*	SSE	20	11	4	16	5.8	
SHREVEPORT	252	1004.7	1014.2	72	51	61.2	3.0	85	6	34	10	0	0	51	71	6.15	1.45	2.02	15	11	0.0	0	15.2	S				10	7	14	5.7	57
MAINE																																
CARIBOU	624	989.7	1013.9	32	10	21.0	- 0.7	51	23	- 9	14	0	30	13	71	2.64	0.24	0.87	13	0	39.7	47	12.6	NW	33*	NW	20	4	8	14	6.1	
PORTLAND	61	1010.1	1014.4	40	20	30.1	- 1.4	60	27	0	18	0	31	21	70	2.48	-1.55	0.73	9	1	21.0	13	10.1	NW	42	E	9	8	10	13	6.2	61
MARYLAND																																
BALTIMORE	146	1011.0	1016.0	55	35	45.0	1.8	79	28	20	18	0	11	32	66	3.87	0.24	0.86	13	0	T	0	10.7	WNW	38	W	16	4	5	17	6.5	56
BALTIMORE U	14			55	39	46.8	1.5	81	28	23	17	0	5			4.00	0.37	1.03	11													
FREDERICK	294			54	33	43.1	- 0.2	76	28	16	18	0	18			4.25	0.94	1.03	15		1.9	1										
MASSACHUSETTS																																
BLUE HILL OBS R	629	989.1		43	27	35.0		67	28	10	18	0	24		61	4.78	0.91	1.31	12		17.4	5	15.2	NNW	42	ENE	9					51
BOSTON	15	1009.0	1014.0	44	30	36.8	- 0.8	65	27	16	18+	0	20	23	63	4.71	1.28	1.51	12	0	9.0	3	13.6	NNW	47	ESE	9	8	7	16	6.5	60
NANTUCKET	43	1013.4		42	31	36.5	- 0.1	53	28	20	18+	0	17		73	4.30	0.25	1.70	13	0	2.8	T	14.8	NW	42	E	9	6	9	16	6.8	50
PITTSFIELD	1170			40	22	31.2	0.4	70	28	2	18	0	27			2.07	-1.15	0.54	19		14.3	8										
WORCESTER	986	976.0	1013.7	41	25	33.0	- 0.2	66	28	8	18+	0	26	18	59	4.05	0.62	1.38	12	1	17.6	7	9.6	NW	28*	ENE	8	4	9	18	6.9	
MICHIGAN																																
ALPENA	689	989.2		39	19	28.7	1.3	64	27	- 8	17+	0	30	23	75	2.67	0.46	1.10	14	2	18.0	11	10.1	SE*	35	NE	8	4	10	17	7.3	46
DETROIT	619	987.5	1015.0	47	32	39.1	4.0	70	27	15	10	0	17	28	68	2.68	0.15	0.87	13	1	0.4	T	12.9	E	41	W	6	5	3	23	7.6	42
DETROIT M WAYNE CO	630	989.5	1014.2	47	31	39.0		71	27	15	10	0	17	28	71	2.34		0.84	12	2	0.5	T	13.2	ENE				5	4	22	7.6	
DETROIT WILLOW RUN	722	985.1	1014.3	48	31	39.1	3.6	73	27	14	10	0	19	28	70	2.81	0.46	1.18	10	1	0.7	T	15.4	E	46*	ENE	8	5	4	22	7.6	
ESCANABA U	594	992.2		37	23	29.8	3.6	51	24	6	17	0	27		76	2.29	0.51	0.89	12	0	8.0	6	11.4		40	N	8	5	8	18	7.4	45
FLINT	766	986.5	1015.0	45	28	36.4	4.0	69	27	8	10	0	21	27	73	2.94	0.75	1.17	13	3	6.7	4	11.6	E	40*	SW	6	5	6	20	7.5	
GRAND RAPIDS	681	988.8	1014.6	46	30	37.7	5.2	70	27	15	17	0	21	27	70	3.26	0.91	0.91	13	3	5.6	2	12.2	WNW	40	SW	27	3	8	20	7.9	41
LANSING	852	981.7	1014.4	46	28	37.0	3.8	72	27	12	10	0	23	26	71	2.87	0.30	0.89	12	1	2.9	2	14.6	ENE	59	W	6	4	6	21	7.7	49
MARQUETTE U	677	987.5		37	24	30.6	3.7	56	26	10	17	0	28		75	2.94	0.89	1.25	15	0	24.8	25	8.7	N*	37	SW	2	2	5	24	8.4	39

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

MARCH 1961

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 90 F or above	No of days: Min 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 01 inch or more	No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear 0-3	No of days (sunrise to sunset): Partly cloudy, 4 7	No of days (sunrise to sunset): Cloudy, 8 10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb	Mb	F	F	F	F	F		F				F	%	In	In	In			In	In	M p.h		M p h							%
MICHIGAN																																
MUSKEGON	627	990.9	1014.7	43	28	35.9	3.5	67	27	12	10	0	22	27	74	3.34	1.16	0.81	12	2	13.7	7	12.7	ENE	39*	SSW	27	2	10	19	7.8	
SAULT STE MARIE	721	992.2	1015.7	34	19	26.6	3.6	46	27	- 5	10	0	29	19	76	2.18	0.33	0.62	14	2	16.6	21	11.4	E	30*	NW	9	7	6	18	7.4	42
MINNESOTA																																
DULUTH	1428	973.2	1015.4	37	21	29.4	7.2	50	26	7	7	0	30	22	77	2.53	0.75	1.70	12	1	8.8	9	14.1	ENE	36	NW	27	6	8	17	6.9	55
INTERNATIONAL FALLS	1179	972.9	1015.5	39	18	28.6	8.6	54	25	- 2	16	0	28	21	72	0.68	-0.35	0.56	9	0	0.9	13	8.4	NW	25*	W	14	7	9	15	6.7	
MINNEAPOLIS	830	981.4	1015.5	41	24	32.0	1.1	61	25	4	7	0	29	25	75	2.81	1.33	1.26	11	0	15.1	11	10.7	N	27	NW	2	5	7	19	7.3	52
ROCHESTER	1297	965.5	1014.7	37	24	30.4	0.0	52	27	10	16	0	28	24	77	2.70	1.15	0.82	15	1	18.9	11	14.1	NW				3	7	21	7.9	
ST CLOUD	1034	976.3	1015.5	43	24	33.6	6.7	63	25	12	16	0	29	24	70	0.57	-0.58	0.23	6	1	5.6	4						7	9	15	6.7	
MISSISSIPPI																																
JACKSON	305	1002.8	1015.0	71	50	60.5	3.7	83	7	31	10	0	1	50	72	8.90	2.67	2.38	14	11	0.0	0	7.6	SSE	33	N	28	11	7	13	5.7	54
MERIDIAN	292	1001.7	1015.9	71	48	59.6	3.1	84	7	30	10	0	2	51	77	9.59	3.01	2.83	13	10	0.0	0	8.7	SSW	29*	NW	9	11	5	15	6.0	
VICKSBURG U	234	1004.3		70	53	61.3	3.2	82	26+	40	10	0	0			10.11	4.08	2.74	15	12	0.0	0	10.1		33	E	17	13	3	15	5.7	52
MISSOURI																																
COLUMBIA	778	984.1	1012.9	55	36	45.1	2.3	77	4	24	16+	0	8	35	73	4.68	1.67	1.47	13	5	0.8	T	13.6	ENE	45	NW	8	3	7	21	7.7	44
KANSAS CITY	742	993.2	1013.5	52	35	43.8	0.0	70	4	27	16	0	9	31	64	6.66	4.15	2.41	13	7	0.7	T	12.0	ENE	40	SW	10	3	4	24	8.1	40
ST JOSEPH	809	978.0		50	34	41.9	0.0	70	14	27	24	0	18			6.78	4.57	2.48	14	5	3.7	T	14.8	NNW	40*	NNW	8	3	7	21	7.8	
ST LOUIS	535	992.9	1013.9	55	36	45.5	1.1	78	4	22	10	0	8	33	66	4.75	1.33	1.44	13	3	T	T	12.3	WNW	38	SE	12+	2	10	19	7.8	41
ST LOUIS RFC	465			56	40	48.0	2.7	75	4	31	17+	0	3			5.10	1.46	1.71	14		T	T										
SPRINGFIELD	1265	965.1	1013.3	58	37	47.3	2.4	78	4	24	10	0	6	37	71	6.14	2.98	2.87	12	7	T	T	14.8	SSE	54	NW	8	5	10	16	7.2	54
MONTANA																																
BILLINGS	3567	886.2	1012.0	53	30	41.0	6.9	68	23	14	5	0	20	21	51	0.72	-0.21	0.40	8	0	2.4	2	11.6	WSW	49	NW	1	5	11	15	6.9	68
GLASGOW	2277	937.0	1012.6	48	28	37.8	9.4	64	24+	12	5	0	25	25	65	0.35	-0.25	0.20	4	0	5.0	2						5	9	17	6.8	
GREAT FALLS	3662	883.2	1011.3	50	26	37.7	5.2	66	15	6	5	0	26	21	55	0.88	-0.11	0.59	7	0	7.9	6	11.6	SW	56	SW	1	2	11	18	7.5	61
HAVRE U	2583	921.4	1011.9	49	25	37.3	7.0	68	23	6	5	0	27			0.18	-0.52	0.13	3	0	1.4	1	9.3	NE#	45	W	1	3	9	19	7.4	53
HELENA	3893	868.3	1012.7	49	25	37.0	4.8	67	15	- 1	4	0	24	21	55	1.03	0.31	0.59	7	0	9.1	6	9.6	W	42	W	1	1	8	22	8.2	57
KALISPELL	2965	907.2	1011.9	47	27	36.7	3.0	61	19	- 1	5	0	25			1.12	0.11	0.37	13	0	7.2	3	6.4					2	5	24	8.3	
MILES CITY	2629	927.2	1012.5	52	29	40.1	8.9	70	24	17	5	0	23	25	58	0.38	-0.32	0.26	5	0	3.0	3	10.9	SE	35*	W	13+	8	8	15	6.2	
MISSOULA	3200	898.1	1014.4	48	26	37.0	2.3	63	19	10	4	0	26	28	74	1.39	0.56	0.36	16	1	5.2	1	6.8	NW	35	NW	1	3	3	25	8.5	48
NEBRASKA																																
GRAND ISLAND	1842	946.8	1014.2	49	30	39.2	1.6	74	25	11	9	0	25	28	69	1.53	0.25	0.61	7	0	6.6	4	14.8	NNW				5	9	17	7.0	
LINCOLN U	1150			48	32	39.9	0.5	71	26	23	9	0	18			3.32	1.85	1.18	11	4	5.1	3	11.8	NW#	47	S	25	6	6	19	7.3	48
NORFOLK	1544	957.0	1014.2	45	28	36.6	1.7	71	25	17	9	0	27	27	68	1.55	0.00	0.55	7	0	12.1	8						5	10	16	7.4	
NORTH PLATTE	2779	912.3	1013.1	49	27	37.9	1.5	76	25	5	9	0	26	26	67	2.24	1.33	0.93	7	2	20.0	12	13.1	NNW	43	S	25	5	10	16	6.9	51
OMAHA	978	973.2	1014.5	47	32	39.5	1.3	65	26+	23	16	0	20	30	72	3.59	2.27	1.42	14	2	6.4	4	13.4	NNW	44	N	8	5	5	21	7.6	37
OMAHA N OMAHA AP	1323	965.1		45	30	37.7	1.8	67	26	23	16	0	25			3.21	1.89	1.52	12	3	6.7	4						5	6	20	7.6	
SCOTTSBLUFF	3950	874.7	1012.9	50	26	38.4	3.5	71	24	1	6	0	26	27	67	2.62	1.74	0.81	13	2	13.4	4	12.9	WNW	52*	W	1	8	10	13	6.4	
VALENTINE	2587	921.1		47	26	36.5	3.2	76	25	4	9	0	27		72	0.82	-0.43	0.34	6	2	6.9	5	11.3	N#	47	NW	2	7	7	17	7.1	52
NEVADA																																
ELKO	5075	841.2	1014.0	48	24	35.8	- 0.3	68	22	17	21+	0	29	24	61	0.93	0.24	0.28	12	0	11.0	4	6.1	SW	23*	NW	15	2	7	22	8.2	
ELY	6257	805.3	1014.2	47	21	34.0	- 1.3	70	22	10	26	0	31	20	61	1.21	-0.08	0.31	13	0	18.5	4	8.8	S	38	SW	15	3	6	22	7.4	74
LAS VEGAS	2162	945.8	1011.1	70	43	56.2	- 0.3	82	14	35	5	0	0	24	32	0.51	0.16	0.28	3	0	0.0	0	9.8	SW	58*	NNW	17	8	16	7	5.2	81
RENO	4404	859.1	1014.3	57	26	41.6	1.0	70	31+	16	3	0	26	24	52	0.40	-0.30	0.10	7	0	1.1	1	8.3	WNW	51	SW	14	5	11	15	6.7	75
WINNEMUCCA	4299	865.6	1014.9	53	26	39.5	0.1	70	22	16	7+	0	26	25	59	1.10	0.24	0.60	12	0	2.1	1	8.1	S	36	W	1	3	4	24	8.3	25
NEW HAMPSHIRE																																
CONCORD	339	1003.5	1014.8	43	22	32.4	0.6	64	27	7	12	0	30	18	59	1.48	-1.56	0.47	10	0	14.7	10	7.7	NW	30	E	9	8	9	14	6.2	54
MT WASHINGTON OBS	6262	795.6		21	4	12.3	0.3	38	28	-16	17	0	31		76	3.85	-1.70	1.60	13	0	24.1	5	34.6	W	116Y	NW	11	7	7	17	7.0	42
NEW JERSEY																																
ATLANTIC CITY	58	1013.4	1015.9	52	34	43.0	1.5	78	28	17	18	0	10	32	68	6.36	3.01	1.67	13	1	0.2	T	12.8	NW	35	E	8	6	9	16	6.5	58
ATLANTIC CITY U				49	35	42.0	0.5	73	28	20	18	0	7			5.48	1.95	1.44	14				14.1		35	E	8					
NEWARK	30	1014.6	1015.8	49	33	41.2	0.7	73	5	17	18+	0	12	26	59	4.96	1.18	1.54	16	0	4.0	1	13.1	NW	31*	NW	9	6	12	13	6.3	
TRENTON U	56	1007.9		50	33	41.6	0.3	76	28	17	18	0	13			5.81	2.61	1.68	15	3	0.4	T	10.4	NW	34	NW	10	7	11	13	6.1	58

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																																
ALBUQUERQUE	5310	844.2	1010.3	60	34	47.0	1.0	73	23	18	8	0	13	21	41	0.61	0.17	0.27	4	0	3.0	2	9.5	S	40	NW	7+	10	9	12	5.7	73
CLAYTON	4969	843.2	1013.5	55	28	41.8	0.3	75	14	16	20	0	26			0.55	-0.11	0.23	6	0	3.1	1						7	10	14	6.5	
RATON	6379	800.2	1010.8	54	24	39.3	1.2	68	14	10	1	0	29			0.83	0.19	0.63	6	1	2.2	1						6	10	15	6.7	
ROSWELL	3612	888.9	1010.5	68	31	49.9	- 0.8	84	14	18	9	0	19	25	47	0.81	0.28	0.67	6	2	1.4	T	9.9		41	NW	7	12	7	12	5.2	
SILVER CITY	5453	830.3	1010.5	63	32	47.3		76	22	19	1	0	15			0.15		0.08	3	0	0.1	T						16	7	8	4.0	
NEW YORK																																
ALBANY	277	1011.8	1015.7	42	24	33.0	- 0.1	73	28	3	18	0	26	23	67	3.11	0.78	1.18	14	1	21.7	14	8.9	WNW	37	NW	10	6	5	20	7.4	56
BINGHAMTON	1601	954.0	1014.6	39	25	32.0	0.9	66	5	5	18+	0	25	24	75	2.82	-0.17	0.54	20	1	13.8	4	11.0	NW	31	W	15	2	4	25	8.5	40
BUFFALO	693	986.6	1015.5	42	27	34.2	1.2	71	27	8	17	0	23	26	73	2.59	-0.13	0.65	21	2	5.1	2	11.5	SW	38	SW	6	2	3	26	8.5	36
NEW YORK	19	1013.8	1015.7	48	34	40.9	0.4	68	5	18	17	0	8	27	62	5.10	1.60	1.52	16	0	3.8	T	13.2	WNW	52	NW	10	6	10	15	6.2	
NEW YORK U	10			49	34	41.5	0.6	73	28	18	18+	0	8	25	58	4.23	0.56	1.00	14	0	1.2	1	10.5	NW	34	NE	14	9	14	8	5.4	61
ROCHESTER	543	995.8	1015.8	43	26	34.3	1.3	74	27	6	11	0	23	26	75	2.70	-0.26	0.80	19	2	19.5	9	13.0	WSW	43	W	6	1	8	22	8.4	39
SCHENECTADY	217			43	26	34.2	1.7	72	28	6	18	0	24			3.06	0.37	1.17	12		19.3	14						12	10	9	5.0	
SYRACUSE	424	992.9	1015.9	41	25	33.2	- 1.0	72	28	2	18	0	26	24	72	4.27	0.98	1.05	21	0	26.5	8	11.9	E	34	W	16	1	8	22	9.1	30
NORTH CAROLINA																																
ASHEVILLE U	2203	834.2		61	39	50.1	3.3	78	4	25	11	0	7			3.19	-0.38	1.18	12	1	T	T	9.8		35	NW	10	5	4	22	7.5	42
CAPE HATTERAS R	7	1014.1	1015.7	63	46	54.4	1.7	76	6	30	11	0	1	46	75	3.05	-0.84	1.60	9	0	0.0	0	14.2	SW	37	SE	31	7	12	12	6.3	66
CHARLOTTE	725	987.5	1016.2	65	41	52.9	1.9	79	5	29	11	0	4	39	65	4.40	0.31	1.79	12	1	T	0	8.2	SW	36	SW	8	6	4	21	7.1	62
GREENSBORO	891	984.1	1016.7	62	40	50.9	2.7	79	7	26	11	0	7	39	67	4.86	1.21	1.72	13	1	T	0	9.6	SW	31	W	9	6	5	20	7.3	61
RALEIGH	433	1001.9	1016.1	64	41	52.7	2.6	82	5	27	11	0	5	39	64	4.37	0.77	1.51	10	1	0.0	0	10.0	SSW	29+	E	31	7	5	19	6.7	63
WILMINGTON	30	1013.1	1016.1	70	47	58.6	3.9	84	5	31	11	0	1	48	73	4.52	1.07	2.36	11	1	0.0	0	11.9	SSW	36	SW	8	8	9	14	6.0	65
WINSTON SALEM	967	980.3	1016.1	62	41	51.7	3.2	78	7+	30	18	0	5	36	60	5.04	1.21	1.53	13	1	T	0	11.8	SW	32*	ENE	31+	6	5	20	7.1	
NORTH DAKOTA																																
BISMARCK	1647	952.9	1014.9	46	26	36.1	9.4	68	24	11	29	0	28	23	62	0.11	-0.65	0.06	5	0	0.8	T	12.3	NW	35	SE	24	7	4	20	7.2	67
DEVILS LAKE U	1471	960.7		38	22	29.8	7.2	58	24	7	9	0	30		77	0.14	-0.59	0.06	5	0	0.7	6	9.4	SE#	31	SE	24	5	6	20	7.5	41
FARGO	900	980.4	1016.0	44	25	34.5	9.2	67	25	12	16	0	26	26	73	0.38	-0.51	0.36	4	1	T	T	16.9	N	47	N	27	5	10	16	7.0	47
WILLISTON U	1877	944.5	1013.7	45	26	35.3	8.8	72	24	12	8	0	28	26	70	0.12	-0.63	0.08	3	0	0.3	3	7.4	NW#	27	SE	24	5	13	13	6.8	61
OHIO																																
AKRON	1210	976.0	1015.0	48	30	39.3	2.8	70	27	12	17	0	19	32	77	3.29	0.13	0.98	18	2	4.0	1	12.5	NW				5	5	21	7.7	
CINCINNATI OPS	761			55	38	46.8	3.5	74	27	24	17	0	8			5.57	1.50	1.10	15	5	1.4	1	8.1	S	29	SW	8					33
CINCINNATI	869	982.0	1014.6	55	38	46.5	4.8	73	27	24	17	0	7	36	70	4.76	0.72	0.93	14	3	1.4	1	12.1	SSW	35*	SSW	6	1	8	22	8.2	
CLEVELAND	787	985.9	1014.6	48	32	40.0	3.2	74	27	20	10	0	18	31	73	3.20	0.31	0.70	16	1	1.4	1	12.8	WNW	36	SW	6	4	4	23	8.1	45
COLUMBUS	815	984.1	1014.9	54	37	45.3	5.5	73	27	21	17	0	11	35	70	4.83	1.40	1.02	14	4	0.7	T	10.4	SSW	33	W	8	4	7	20	7.6	50
COLUMBUS U	724			52	37	44.9	3.8	71	27	22	17	0	7			4.34	1.12	0.81	14	4	0.2	T										
DAYTON	1002	977.4	1014.5	52	35	43.7	3.9	70	27	20	17	0	11	35	74	5.39	2.15	1.03	14	4	0.5	T	13.2	SSW	45	W	8	3	5	23	7.9	44
MANSFIELD	1296			49	32	40.1		70	27	18	17+	0	18			4.47		0.84	16	3	1.7	1						4	6	21	7.8	
SANDUSKY U	623	992.2		49	33	41.2	3.7	73	27	20	10	0	15			4.28	1.39	0.81	15	2	0.6	1	11.0		51	SW	6	5	9	17	6.7	50
TOLEDO	676	988.6	1014.8	49	30	39.1	3.3	73	27	15	17	0	19	29	72	3.09	0.23	1.09	12	3	0.6	T	11.9	ENE	32	SW	6	3	9	19	7.7	48
YOUNGSTOWN	1178	971.3	1014.9	47	30	38.6	1.9	72	27	11	17	0	18	31	75	3.14	-0.31	0.76	14	1	2.6	2	12.2	NW	31*	ESE	8	4	5	22	8.1	
OKLAHOMA																																
OKLAHOMA CITY	1280	969.2	1013.0	64	41	52.2	2.5	83	3	31	21+	0	3	36	59	3.35	1.26	1.10	9	5	0.7	T	16.0	SSE	52	SW	2	10	9	12	5.5	63
TULSA	672	988.2	1012.9	63	41	52.0	2.1	81	5	30	1	0	3	41	70	3.30	0.69	0.81	9	3	T	0	12.9	SSE	34	SW	7	7	10	14	6.2	49
OREGON																																
ASTORIA	8	1011.9	1012.2	53	39	45.8	0.5	61	18	29	4	0	2	41	84	10.69	2.42	1.60	25	1	0.4	T	9.1	SE	29*	SSW	19	1	0	30	9.3	
BURNS U	4151	869.3	1013.9	49	27	37.7	- 1.2	65	30+	16	7+	0	28	27	65	1.76	0.99	0.38	18	0	9.9	3						3	3	25	8.3	
EUGENE	361	1001.0	1014.8	55	39	46.9	0.2	69	30	32	28+	0	3			8.42	4.56	1.56	23	0	0.0	0	10.5		40*	SW	19	1	3	27	8.9	
MEACHAM	4050			41	29	34.9	0.9	53	19+	19	4+	0	24			4.09	0.43	1.08	24	0	21.9	16						0	5	26	8.9	
MEDFORD	1298	967.8	1015.8	56	36	46.2	- 1.0	70	30+	27	7	0	6	37	74	3.05	1.53	0.49	22	0	T	0	5.7	N	32*	SE	14	2	4	25	8.5	
PENDLETON	1482	959.0	1013.1	55	38	46.3	1.1	70	14	29	3	0	5	34	65	2.25	1.07	0.64	16	0	0.1	T	10.4	SSE	46*	W	19	4	6	21	8.0	
PORTLAND	21	1007.5	1013.2	55	41	47.7	1.1	65	29	30	28	0	1	40	78	6.04	2.57	1.07	25	0	T	0	9.6	ESE	50	S	5	0	3	28	9.4	35
ROSEBURG	505	996.3	1015.2	56	39	47.7	0.8	71	30	30	28+	0	2			6.46	3.53	1.12	24	0	0.0	0	5.4	S#	26	SW	19+	1	4	26	8.9	36
SALEM	195	1006.8	1014.0	54	38	46.4	- 0.4	66	30	30	28	0	3	42	86	8.19	4.00	1.29	24	0	T	0	8.7	S	38*	SSW	5	2	2	27	8.9	
SEXTON SUMMIT R	3836	880.1	1015.2	42	30	36.0	- 3.3	61	30	24	6	0	23			8.89	5.93	1.14	24	0	32.0	9	13.6	S				1	3	27	9.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max. 90 F. or above	No of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 01 inch or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days sunrise to sunset: Clear, 0-3	No of days sunrise to sunset: Partly cloudy 4-7	No of days sunrise to sunset: Cloudy 8-10	Sky cover tenths, sunrise to sunset	Possible sunshine
	Ft	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In	In.	In.			In	In	M p.h		M p h							
PACIFIC AREA																																
CANTON ISLAND	9	1008.1	1008.5	88	79	83.3	0.2	91	29	74	28	3	0	73	77	0.69	-1.23	0.62	4	0	0.0	0	15.1	ENE	24*	NE	17	1	3	27	9.2	
ENIWETOK	13	1009.8	1010.5	86	77	81.8		88	9+	73	4	0	0	73	75	1.98		0.56	12	0	0.0	0	19.7									
JOHNSTON	7	1008.5	1009.1	84	74	78.6		85	27+	71	24+	0	0	69	73	0.77		0.42	13	0	0.0	0	14.2		32	E	6	15	15	1	3.9	55
KOROR R	94	1007.8	1011.6	88	76	81.5	0.6	90	30	74	25+	1	0	75	82	6.25	-1.43	2.68	15	1	0.0	0	7.2	NE	19	NE	6	0	1	30	9.4	70
KWAJALEIN	8	1009.8	1010.7	87	77	82.1		90	17	72	19	1	0	74	77	4.32		1.59	20	0	0.0	0	17.4	ENE	29*	E	14	1	7	23	8.3	
MAJURO	10	1009.8	1010.1	87	78	82.6		88	27+	75	27	0	0	75	77	4.24		1.92	14	0	0.0	0	13.2	ENE	30	E	17	1	4	26	8.9	
PONAPE R	123	1004.7	1010.0	87	75	80.9	- 0.7	89	22	72	28+	0	0	75	83	17.47	6.11	6.56	22	4	0.0	0	6.0	NE	29	NE	14	0	1	30	9.5	57
TAGUAC GUAM R	361			84	73	78.8	0.8	87	31	68	10+	0	0			4.85	2.27	1.15	25	0	0.0	0	9.0	NE*	24	NE	13					52
TRUK MOEN ISLAND	8	1009.8	1010.1	86	77	81.6	0.3	88	27+	72	8	0	0	75	80	6.01	-0.62	2.24	21	1	0.0	0	7.3	NNE	28	SE	22	0	3	28	9.3	79
WAKE ISLAND	11	1014.9	1015.3	83	74	78.1	0.2	88	23	67	3	0	0	70	78	3.47	2.07	0.84	13	0	0.0	0	14.5	ENE	29*	ENE	15+	6	18	7	5.4	
YAP R	55	1008.8	1010.8	86	76	81.1	- 0.4	90	15	72	6	1	0	75	81	11.15	6.44	3.59	21	0	0.0	0	8.2	NE	50	NE	25	0	0	31	9.9	60
PENNSYLVANIA																																
ALLENTOWN	376	1001.5	1016.2	48	30	39.0	1.1	74	28	13	18	0	21	28	69	4.47	1.28	1.18	14	1	5.0	2	11.9	WNW	38*	NW	10	7	8	16	6.5	
ERIE	732	987.8	1014.7	45	29	37.4	3.3	74	27	13	17	0	20	29	73	2.13	-0.66	0.46	13	1	0.7	1	13.5	SW	37*	SE	6	3	4	24	8.5	
HARRISBURG	335	1001.7	1016.0	50	33	41.5	0.7	73	28+	18	17	0	15	28	64	4.19	1.32	0.62	15	1	4.0	2	9.0	WNW	31	NW	10	7	6	18	7.0	54
PHILADELPHIA	7	1010.9	1016.1	52	35	43.1	0.8	79	28	22	18+	0	10	31	66	5.17	1.85	1.13	12	1	0.1	T	10.4	ENE	35	NW	10	7	10	14	6.6	52
PHILADELPHIA U	35			52	36	44.1	0.6	79	28	20	18	0	8																			
PITTSBURGH	1151	984.2	1015.4	50	33	41.3	2.7	74	27	14	17	0	15	31	71	3.48	0.28	0.94	17	3	1.4	T	11.2	WSW	30*	SW	6	5	5	21	7.7	33
PITTSBURGH U	749			52	36	44.2	2.6	74	27	17	17	0	9			3.68	0.27	1.03	19		0.9											31
READING U	266	1003.3		51	34	42.2	0.6	76	28	17	17	0	12			4.26	0.95	1.10	14	3	1.8	1	11.6		56	E	8	8	9	14	6.3	54
SCRANTON	940	980.7	1016.1	43	27	35.1	- 1.2	70	28	7	18	0	23	25	71	2.87	0.04	0.78	16	0	9.3	3	9.5	NW	29	W	28+	3	10	18	7.5	47
WILLIAMSPORT	527	996.7		47	30	38.2	- 0.1	73	28	13	18	0	22			3.75	0.41	1.02	15		12.5	4						4	10	17	7.4	
RHODE ISLAND																																
BLOCK ISLAND	110	1010.0		42	30	36.4	- 0.7	54	4	17	17	0	19			2.92	-0.62	1.26	11	0	5.4	2						6	12	13	6.3	
PROVIDENCE	55	1008.2	1014.6	45	29	37.0	0.2	62	27	15	18	0	21	24	63	4.16	0.58	1.26	13	0	12.2	5	11.9	N	29*	NW	16+	7	10	14	6.3	55
SOUTH CAROLINA																																
CHARLESTON	41	1014.2	1016.4	74	49	61.3	4.1	86	30+	34	11+	0	0	50	72	5.83	2.21	2.45	7	2	0.0	0	9.7	SSW	48*	SE	18	6	15	10	5.8	66
CHARLESTON U	9			70	54	61.7	3.6	84	30	37	10	0	0			5.27	1.89	2.54	6		0.0	0	11.1		38	SE	18					
COLUMBIA	217	1003.2	1016.3	71	45	58.1	2.9	85	6	31	10	0	1	45	67	5.75	1.96	3.16	9	3	0.0	0	8.2	SW	31*	NW	9	7	10	14	6.3	56
FLORENCE	146	1009.8	1015.7	71	46	58.4	3.0	85	6	32	11+	0	2	44	65	4.23	0.69	2.57	10	0	0.0	0	8.9	SSW	23*	SW	9	7	9	15	6.2	
GREENVILLE	1018	978.5	1016.3	67	43	55.0	3.5	80	19	27	10	0	4	40	62	4.54	0.03	1.35	10	2	0.0	T	8.7	SW	42	SW	8	8	4	19	6.8	64
SPARTANBURG	801	985.7	1016.0	66	44	54.5	2.8	76	4	31	18+	0	2	40	66	4.04	-0.45	1.31	11	1	T	T	8.0	SW	35*	W	8	7	4	20	7.0	
SOUTH DAKOTA																																
HURON	1282	966.8	1015.2	47	26	36.3	4.6	77	25	13	29	0	28	27	72	0.37	-0.72	0.20	5	0	3.6	2	12.7	SSW	40	S	25	4	9	18	7.3	61
RAPID CITY	3165	897.1	1013.2	51	28	39.4	8.1	74	25+	17	5	0	27	24	61	0.75	-0.31	0.28	6	0	3.8	3	12.2	NNW	38	NW	21	3	10	18	7.2	58
SIOUX FALLS	1420	962.1	1014.8	44	27	35.6	3.6	67	25	18	29	0	27	25	68	1.14	-0.21	0.50	7	0	12.0	7	12.0	NW	34*	NNW	27	6	8	17	7.0	
TENNESSEE																																
BRISTOL	1519	960.7	1015.5	61	40	50.6	3.9	76	5	27	10	0	8	39	70	4.12	0.35	1.28	14	2	1.0	T	8.2	WNW	30*	W	8	5	6	20	7.6	
CHATTANOOGA	670	987.9	1016.0	64	42	52.8	2.1	75	26	28	2	0	4	42	71	6.55	0.50	3.55	13	5	T	0	9.0	S	36	SW	8	6	3	22	7.7	40
KNOXVILLE	950	980.2	1016.0	62	41	51.6	2.2	77	4	31	10	0	3	42	71	7.80	2.97	3.43	15	5	0.1	T	9.4	WSW	47	SW	31	5	3	23	8.0	47
MEMPHIS	263	999.6	1014.6	64	46	55.1	3.1	78	6	29	10	0	1	44	70	7.13	1.54	1.36	16	9	0.0	0	12.5	S	35	W	8	7	9	15	6.5	57
MEMPHIS U	271			62	47	54.8	2.4	75	6	36	9	0	0			7.61	2.41	1.74	15		0.0	0										
NASHVILLE	577	994.6	1014.8	62	42	52.2	2.4	73	28+	29	10	0	4	42	70	6.52	1.24	1.66	19	9	0.2	T	9.5	S	41	W	13	4	6	21	7.7	31
OAK RIDGE	905	981.8		62	41	51.8	3.7	75	26	27	2	0	4			7.33	1.64	3.02	14	6	0.4	T	5.0		41*		8	5	3	23	7.9	
TEXAS																																
ABILENE	1759	950.9	1012.1	71	46	58.0	2.9	88	15	33	9	0	0	37	53	0.65	-0.47	0.26	5	4	0.0	0	11.9	SSE	38	W	7	13	7	11	4.9	69
AMARILLO	3590	884.5	1011.0	62	35	48.5	2.4	84	14	20	1	0	10	28	53	2.55	1.51	0.99	8	1	14.7	4	14.8	SW	42	W	26	6	13	12	6.2	68
AUSTIN	615	990.9	1013.0	74	53	63.7	3.4	86	28	36	10	0	0	50	66	0.67	-1.87	0.46	5	2	0.0	0	11.3	SSE	30	N	8	10	10	11	5.5	59
BROWNSVILLE	16	1009.8	1012.6	81	63	71.5	3.5	89	13	45	9	0	0	61	76	0.04	-1.07	0.02	3	0	0.0	0	13.8	SSE	39	S	3	8	5	18	6.5	61
CORPUS CHRISTI	43	1011.9	1013.2	78	59	68.5	3.2	90	7	45	21+	1	0	58	73	0.08	-1.55	0.04	3	0	0.0	0	13.3	SE	38	NW	31	8	8	15	6.4	56
DALLAS	481	994.6	1013.3	71	49	60.0	2.6	85	12	36	9+	0	0	45	63	4.90	2.09	2.73	12	6	0.0	0	12.7	S	35	SW	16	11	4	16	5.9	57
DEL RIO U	957			79	53	66.2	3.3	93	28	39	9	2	0			0.08	-0.85	0.04	3	0	0.0	0										
EL PASO	3918	882.8	1010.9	70	42	56.3	1.8	81	23	24	2	0	2	21	29	0.29	0.01	0.25	3	0	T	0	14.9	WSW	49	W	18	14	9	8	4.3	93
FORT WORTH	544	992.6	1013.5	70	49	59.3	3.6	83	28+	35	1	0	0	45	64	2.95	0.28	1.86	8	8	0.0	0	14.6	S	37*	S	5	11	6	14	5.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F or above	Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No of days: 01 inch or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
TEXAS	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In	In	M p h		M p h.							%
GALVESTON U	7			69	60	64.8	3.0	79	13	50	31+	0	0			0.26	-2.84	0.22	4		0.0	0	13.5		38	NW	31					60
GALVESTON	5	1011.9	1014.4	69	59	64.2	2.4	75	29+	48	9	0	0	55	73	0.34	-2.92	0.26	5	2	0.0	0	11.9	SE				9	6	16	6.5	
HOUSTON U	41	1008.5		74	59	66.3	3.7	82	29	46	9	0	0			1.33	-1.77	0.68	12	2	0.0	0	12.1	SE#	36	NW	8	11	5	15	6.0	58
HOUSTON	50	1011.2	1014.4	76	57	66.8	5.2	84	29	42	2	0	0	57	76	1.84	-0.94	1.20	10	2	0.0	0	10.6	SSE				11	4	16	6.1	
LAREDO	500	996.3	1011.8	85	58	71.5	3.1	96	16	43	1	9	0	51	57	0.04	-0.86	0.03	2	0	0.0	0	11.2	SE	33*	NW	31	12	11	8	5.0	
LUBBOCK	3243	900.1	1012.3	65	36	50.5	0.8	82	15	22	1	0	9	31	53	1.34	0.54	0.68	7	2	6.9	4	15.9	W	52*	W	7	9	12	10	5.3	
MIDLAND	2854	912.3	1011.2	70	41	55.4	- 0.3	84	3	30	20+	0	4	32	49	1.12	0.49	0.54	6	4	T	T	12.2	S	35*	W	5	12	9	10	5.1	
PORT ARTHUR	16	1012.5	1014.0	76	55	65.4	5.1	84	29+	40	9+	0	0	55	74	1.77	-2.23	1.21	9	2	0.0	0	12.4	SSE	41	NW	17	10	5	16	6.1	47
SAN ANGELO	1903	944.8	1012.2	74	44	58.9	0.7	86	28	29	9	0	2	38	51	0.26	-0.69	0.12	4	2	0.0	0	14.2	SSW	58*	W	16	12	11	8	4.4	
SAN ANTONIO	792	987.8	1012.9	77	54	65.7	4.3	87	28	37	10	0	0	51	63	0.03	-2.09	0.01	3	0	0.0	0	10.7	SSE	36	NW	31	12	9	10	4.9	65
VICTORIA	110	1008.5	1013.1	76	56	66.2	2.3	85	28+	39	10	0	0	55	69	0.55	-2.09	0.37	4	1	0.0	0	14.5	SSE	49Y	NW	31	10	6	15	6.1	
WACO	500	992.6	1013.6	73	51	61.6	3.2	86	12	37	1	0	0	48	66	1.76	-1.18	1.01	8	3	0.0	0	16.0	S	40*	SSW	16	9	9	13	5.5	
WICHITA FALLS	994	975.3	1012.4	68	43	55.7	2.7	87	15	32	9	0	1	40	61	3.35	1.74	1.31	8	3	0.0	0	13.5	S	39*	NW	7	12	6	13	5.5	
UTAH																																
MILFORD	5028	840.2	1013.2	53	24	38.7	- 0.5	69	22+	2	5	0	29			1.45	0.39	0.63	11	1	10.5	4						6	9	16	6.8	
SALT LAKE CITY	4220	864.5	1013.6	54	32	42.9	1.8	73	23	24	5+	0	17	30	62	1.95	0.19	0.62	12	2	4.9	2	9.8	SSE	31	S	9	5	6	20	7.5	50
WENDOVER	4237	867.6	1012.5	52	32	42.2		65	31	24	8+	0	21			0.42		0.23	7	1	0.2	T						3	11	17	7.1	
VERMONT																																
BURLINGTON	331	1000.1	1015.5	36	17	26.5	- 2.8	69	28	- 8	11	0	29	16	67	1.56	-0.63	0.90	12	0	16.5	11	8.1	N	37	S	14	7	6	18	7.3	50
VIRGINIA																																
LYNCHBURG	947	990.5		59	39	49.3	2.4	79	7+	26	18	0	6			4.15	0.58	0.98	14	0	T	T	4.7		32	S	6	7	7	17	6.7	55
NORFOLK	26	1014.5	1016.2	63	43	53.1	4.0	84	6	28	11	0	1	41	67	3.59	0.32	0.84	13	2	0.0	0	12.5	SW	34	W	9	8	8	15	6.3	68
RICHMOND	162	1009.7	1016.3	62	40	50.8	3.3	84	6+	22	18	0	4	36	63	4.02	0.60	1.46	15	0	T	T	8.5	WSW	30	[illegible]	17	8	6	17	6.6	51
ROANOKE	1174	972.8	1015.8	60	40	50.1	3.8	80	5	28	11	0	8	34	54	4.17	0.98	1.16	13	1	0.0	T	10.9	WNW				8	5	18	6.8	
WASHINGTON																																
OLYMPIA	190	1005.1	1012.5	53	36	44.5	0.8	63	28	27	21	0	10	39	84	6.25	1.76	0.93	22	0	0.5	T	7.4	SW	35*	SW	5	0	5	26	9.1	
SEATTLE TACOMA	430	998.3	1012.6	52	38	45.3	0.8	61	14	23	14	0	3	37	75	4.46	1.06	0.81	23	1	1.9	2	9.4	SSW	37*	S	19	0	6	25	8.7	
SEATTLE	14	1010.8	1011.9																													
SEATTLE U	14			54	40	47.0	0.3	61	29+	33	4	0	0	39	72	4.02	1.14	0.81	21		T	0	8.3	SE	58	SW	20					46
SPOKANE	2357	943.1	1012.7	48	32	39.9	1.3	61	19	14	5	0	16	31	74	1.75	0.41	0.40	13	0	6.7	3	10.0	SSW	40	SW	1	2	6	21	8.0	48
STAMPEDE PASS R	3958	873.0	1012.9	35	27	31.1	0.4	47	29	15	4	0	28			4.24	-1.36	2.31	25	0	60.4	142						0	4	27	9.1	
TATOOSH ISLAND	121	1007.5	1010.5	4[illegible]	3[illegible]	43.[illegible]	- 0.8	54	27+	28	4	0	4	40	81	8.70	[illegible].88	1.08	25	0	T	0	16.8	E	77	SW	10	1	5	27	9.0	32
WALLA WALLA U	949	976.6	1012.6	56	41	48.5	1.5	70	14	31	3	0	1			2.00	[illegible].48	0.62	12	0	0.7	T	6.7	W#	35	[illegible]	8	4	5	22	7.9	45
YAKIMA	1061	973.2	1012.9	54	30	42.9	- 0.3	67	31+	19	6	0	18	32	67	2.[illegible]4	1.58	0.56	10	0	4.2	2	7.5	WNW	35*	SW	14+	2	11	18	7.6	
WEST INDIES																																
SAN JUAN P.R. U	47			82	72	76.6	1.2	90	24	60	24	2	0			3.17	0.75	1.36	16													
SAN JUAN P.R.	15	1013.6	1016.0	81	69	76.6	1.6	90	25	64	27	1	0	57	70	3.64	-0.25	2.74	19	0	0.[illegible]	0	11.0	ENE	34*	ENE	14+	2	17	2	5.6	56
SWAN ISLAND	33	1011.7		84	76	77.9	0.3	86	31+	68	10	0	0			2.02	1.22	0.98	11	0	0.0	0						7	16	8	5.5	
WEST VIRGINIA																																
CHARLESTON	950	979.2	1015.3	57	31	48.0	3.1	76	27	24	17+	0	7	33	60	4.97	[illegible].71	2.02	18	1	0.5	T	7.6	[illegible]	32*	NNW	6	4	6	21	8.1	
HUNTINGTON U	567			59	40	49.4	2.[illegible]	79	27+	27	17	0	5			4.[illegible]	-0.[illegible]	2.46	16		T	T										
PARKERSBURG U	615			57	3[illegible]	47.0	4.0	77	27	22	17	0				4.6	[illegible].13	1.61	13	0	T	T	7.1		36	W	[illegible]	6	7	18	7.3	38
WISCONSIN																																
GREEN BAY	684	991.9	1015.1	3[illegible]	27	32.9	4.3	61	26	12	10	0	27	26	75	2.12	[illegible].36	0.72	13	[illegible]	[illegible].1	[illegible]	13.4	NE	45	SW	27	4	10	17	7.2	41
LA CROSSE	652	989.5	1014.8	40	27	34.2	2.6	62	28	14	12+	0	27	27	75	3.37	1.51	1.00	11	3	16.4	11	10.[illegible]	S	24*	N	9	3	4	14	7.5	
MADISON	858	978.0	1014.3	41	26	33.8	1.3	63	27+	5	10	0	28	28	80	3.42	1.54	0.87	11	3	11.[illegible]	10	11.[illegible]	ENE	40	SW	27	3	5	22	8.1	35
MILWAUKEE	672	989.2	1015.0	40	28	35.2	1.9	62	26	12	11	0	22	30	83	3.[illegible]	1.61	1.12	11	2	14.[illegible]	[illegible]	14.[illegible]	WNW	45	S	27	3	11	17	7.7	3[illegible]
WYOMING																																
CASPER	5814	831.7	1011.2	4[illegible]	26	37.2	4.6	67	27+	11	27	0	26	20	62	1.16	0.03	0.40	10	1	0.5	5	14.2	[illegible]	49*	SW	20	4	9	17	7.3	
CHEYENNE	6131	806.0	1013.4	41	22	31.6	- 2.2	62	24	3	4	1	30	22	66	2.[illegible]	0.3[illegible]	0.45	13	2	23.[illegible]	[illegible]	14.[illegible]	WNW	56	[illegible]	21	6	9	16	6.6	58
LANDER	5563	830.3	1016.4	48	24	36.2	4.9	64	15	13	4	0	29	18	50	1.60	-0.[illegible]	0.44	6	0	7.2	4	[illegible]	SSW	42	W	1	7	11	13	6.1	7[illegible]
SHERIDAN	3942	880.1	1012.8	60	26	38.0	6.4	71	24	14	9	0	27	26	62	2.61	-0.7[illegible]	0.31	12	0	2.0	T	[illegible]	WNW	62	NW	1	3	14	12	6.2	5[illegible]

Data from airport unless otherwise specified. U indicates Urban. R indicates Rural sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Maximum hourly average.
\- And also on an earlier [illegible] date.
B Number of days maximum 90 F. or above for Alaskan Stations.
\= Wind direction to 8 compass points only.
Y Peak Gust.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	Sky cover tenths: Clear, 0.3	Sky cover tenths: Partly cloudy, 4.7	Sky cover tenths: Cloudy, 8.0	Sky cover tenths: Number of days	Percent of time possible sunshine
	M	Mb	Mb	C	C	C	C	C		C				C	%	Mm	Mm	Mm			Mm	Mm	Mps		Mps								
ALABAMA																																	
BIRMINGHAM	186	990.6	1016.1	20.0	8.3	14.1	1.9	27.2	7	-1.1	10	0	1	8.3	70	234	74	69	15	8	0	0	4.2	S	24.1	SE	18	8	4	19	6.8	47
HUNTSVILLE	184	992.3	1015.9	18.9	7.2	13.0		26.1	26	-1.7	10	0	2	6.7	69	215		67	14	7	T	0	4.0	SE	20.6*	E	18	5	7	19	7.2	
MOBILE	64	1013.9	1016.4	22.2	11.7	16.8	1.5	26.7	18	1.1	10	0	0	11.7	76	263	69	86	17	8	C	0	5.3	SSE	17.9*	W	17	13	2	16	5.5	
MONTGOMERY	59	1008.1	1016.6	21.1	8.9	14.9	1.0	28.3	7+	0.6	10	0	0	10.0	75	264	99	107	12	3	0	0	4.2	S	17.2	W	8	11	3	17	6.4	50
ALASKA																																	
ANCHORAGE	27	999.3	1004.5	-3.3	-13.9	-8.7	-4.7	6.7	31	-23.3	14	0	30	-15.6	60	9	-7	5	5	0	147	178	2.6	N	9.4*	N	17	4	8	19	6.0	56
ANNETTE	34	1001.7	1005.9	7.2	2.2	4.7	1.3	14.4	26	-3.3	6	0	9	.6	76	247	26	59	24	0	170	51	5.1	ESE	14.2*	ESE	9	3	2	26	8.5	
BARROW	7	1022.7	1023.5	-26.1	-32.2	-29.3	-3.3	-16.1	31	-44.4	3	0	31	-35.6	56	6	3	2	6	0	56	406	7.0	ENE	20.1*	ENE	30	8	10	13	6.1	
BARTER ISLAND	12	1020.0	1021.8	-26.7	-32.2	-29.5	-3.8	-18.9	31	-45.6	8	0	31	-35.6	57	7	0	3	8	0	107	305	7.8	ENE	24.1*	ESE	31	9	4	18	6.3	
BETHEL	38	1007.5	1008.6	-10.6	-21.1	-15.8	-4.4	6.1	30	-33.9	13	0	31	-20.6	68	11	-12	4	9	0	130	203	5.1	NE	9.8*	NE	30+	9	1	21	6.8	
COLD BAY	27	1002.7	1005.9	-1.1	-6.7	-3.8	-2.6	5.6	29	-16.7	15	0	28	-6.7	79	44	-4	9	17	0	345	127	9.1	NNW	30.0*	ESE	22	4	7	19	7.3	
CORDOVA	12	1000.0	1001.8	2.8	-8.3	-2.7	-1.6	7.8	29	-20.6	14	0	28	-5.6	81	111	-39	34	13	0	376	279	1.8	ESE	8.0*	E	29+	6	12	13	6.0	
FAIRBANKS	133	992.9	1011.1	-9.4	-25.6	-17.4	-4.6	8.9	30	-38.9	14+	0	31	-23.9	57	3	-12	3	3	0	43	330	2.3	N	7.6*	WSW	1	10	10	11	5.4	
JUNEAU	5	1003.7	1004.5	4.4	-1.7	1.4	0.9	8.3	31+	-11.7	6	0	20	-1.7	81	68	-20	12	18	0	414	127	4.2	ESE	16.1*	ESE	18	1	3	27	4.1	34
KING SALMON	13	1003.7	1005.8	-6.7	-17.8	-12.1	-6.2	6.1	30	-34.4	13	0	30	-17.8	64	16	-15	10	6	0	221	229	4.1	N	15.6*	ESE	29	10	5	16	5.8	
KOTZEBUE	3	1013.9	1014.3	-16.7	-25.6	-21.2	-2.6	3.3	31	-37.8	16	0	31	-25.6	71	4	-3	2	6	0	91	330	4.3	E	14.3*	E	5	11	2	17	5.7	
MC GRATH	102	997.3	1010.7	-9.4	-26.7	-18.2	-4.5	8.9	30	-42.8	14	0	31	-25.6	57	T	-25	T	0	0	T	305	2.0	N	8.9*	N	18	15	8	3	4.4	
NOME	4	1010.8	1011.4	-12.8	-22.8	-17.7	-4.7	0.0	31+	-35.6	11	0	31	-22.8	64	5	-19	2	8	0	64	279	3.5	ENE	13.9*	ENE	30	10	4	17	6.1	56
ST. PAUL ISLAND	7	1007.1	1008.1	-4.4	-10.0	-7.3	-3.2	1.7	3	-17.2	8	0	31	-9.4	86	23	-7	6	15	0	201	229						5	8	18	7.2	
SHEMYA	37	1006.1	1009.6	0.6	-2.2	-0.9		2.2	20+	-5.6	16+	0	29	-3.3	82	11		3	10	0	218	203	9.6	N	20.6*	ENE	26	0	9	22	8.4	
YAKUTAT	9	1001.4	1002.5	3.9	-3.9	-0.1	0.6	7.2	31+	-14.4	5	0	24	-2.2	86	230	-21	68	20	0	973	1499	3.4	ENE	13.0*	SE	18	1	4	26	8.7	
ARIZONA																																	
FLAGSTAFF	2131			9.4	-6.1	1.6	0.3	18.9	22	-13.3	7	0	31			73	34	19	11	0	744	305						10	9	12	5.9	
PHOENIX	338	972.9	1012.2	23.9	7.2	15.3	-0.2	29.4	22	2.8	1	0	0	-0.6	38	10	-6	6	4	0	0	0	3.1	SE	11.2*	W	15+	12	12	7	4.7	84
PRESCOTT	1528	843.9	1012.6	15.6	-0.6	7.3	0.2	25.0	22	-6.7	8	0	20	-4.4	50	38	13	27	7	0	229	127	3.9	S	21.9	SW	25	11	11	9	5.2	81
TUCSON	788	923.5	1011.6	22.8	6.7	14.6	0.2	29.4	23	1.1	8+	0	0	-4.4	32	10	-7	9	3	0	0	0	4.3	SE	14.8	SW	3	13	9	9	4.3	87
WINSLOW	1487	848.3	1011.5	16.1	-1.1	7.6	0.1	23.9	23+	-9.4	8	0	20	-5.0	48	22	12	13	6	0	168	76	5.1	SW	20.6*	SSW	25	8	14	9	5.2	
YUMA	61	1007.5	1013.0	27.2	10.0	18.7	0.0	33.9	22	7.2	5+	2	0	-1.1	31	T	-6	0	1	0	0	0	3.9	W	12.1	W	15	17	8	6	3.8	94
ARKANSAS																																	
FORT SMITH	137	996.6	1013.8	18.3	6.1	12.3	1.0	28.3	15	-2.8	10	0	3	6.1	69	134	55	45	13	8	0	0	4.6	E	16.5	W	12+	8	6	17	6.0	49
LITTLE ROCK	78	1001.0	1014.3	18.9	7.8	13.3	1.7	28.3	15	0.0	10	0	1	7.2	69	205	82	49	17	8	0	0	4.6	WSW	21.0	NE	17	8	8	15	6.0	48
TEXARKANA	110		1013.6	20.0	9.4	14.7	1.4	27.8	6	1.7	1	0	0	8.9	74	246	120	59	16	11	0	0	4.3	SSE								
CALIFORNIA																																	
BAKERSFIELD	151	999.7	1018.1	19.4	6.7	12.9	-1.1	26.1	14+	2.2	5	0	0	5.6	62	10	-19	4	7	0	0	0	2.8	NNW	15.6*	NNE	15	8	13	10	5.9	
BISHOP	1252	871.0	1012.2	18.3	-1.1	8.6	0.1	24.4	22	-8.3	7	0	19			3	-14	3	1	0	T	0						8	14	9	5.2	
BLUE CANYON	1609	836.8	1015.9	5.6	-1.1	2.2	-1.5	13.9	29	-5.0	7	0	23			269	80	40	19	1	1382	406	4.2	SSW	30.0	ENE	28	5	3	23	7.8	
BURBANK	213	989.2	1015.4	20.6	8.9	14.8	0.9	28.9	1	5.0	5	0	0	4.4	56	15	-42	12	4	0	0	0	3.4	SSE	13.9*	NW	17	11	9	11	5.6	
EUREKA U	13	1014.9	1017.3	12.8	6.7	9.8	0.3	17.2	13	2.8	4	0	0			201	83	39	21	2	0	0	3.8	S#	15.2	S	16	2	5	24	3.3	49
FRESNO	101	1005.4	1017.3	18.9	5.0	11.9	-1.2	25.0	30	1.1	10+	0	0	4.4	64	26	-15	10	6	3	0	0	3.4	NW	10.7	NW	23	8	10	13	5.9	81
LONG BEACH	10	1015.2	1016.4	20.0	8.3	14.1		28.3	1	5.6	26+	0	0	5.6	61	7		6	3	0	0	0	3.6	W	15.6*	NW	17+	8	12	11	5.9	
LOS ANGELES	30	1012.2	1016.0	17.8	9.4	13.8	0.2	26.7	1	7.2	9+	0	0	7.8	69	12	-37	9	3	0	0	0	4.4	WSW	16.5*	WSW	15	8	13	10	5.6	
LOS ANGELES U	95			20.6	11.1	15.6	0.7	27.8	1	8.9	26+	0	0	7.8	65	14	-45	10	4	0	0	0	3.2	W#	15.2	W	15	10	10	11	5.3	75
MT. SHASTA R	1090	890.6	1016.3	8.9	-1.1	3.8	-1.6	18.9	30	-7.2	7	0	23			163	59	53	17	0	1021	229						6	3	22	7.4	
OAKLAND	1	1018.3	1018.6	16.1	7.2	11.6	-0.3	22.2	29	3.9	18+	0	0	6.1	72	63	4	25	14	0	0	0	5.3	WNW	17.9*	W	16	3	13	15	6.9	
POINT ARGUELLO	112	1003.7	1017.2	15.0	7.2	11.2		19.4	1	1.1	8	0	0			14		10	8	0	0	0	4.9		12.5*	NW	2	10	11	10	5.4	
RED BLUFF	104	1003.7	1016.8	16.1	5.6	10.7	-1.7	26.1	29	1.1	7	0	0	3.9	65	77	11	27	11	3	0	0	4.9	S	20.1	SE	14	5	9	17	7.2	60
SACRAMENTO	5	1016.6	1017.5	17.2	6.1	11.7	-0.5	24.4	29	2.8	7	0	0	6.7	75	51	-2	25	10	2	0	0	3.4	SW	11.6	NW	28+	5	10	16	6.9	67
SANDBERG R	1377	861.2	1015.2	11.1	2.2	6.7	-0.3	20.0	13	-1.7	28+	0	12			13	-33	7	6	0	74	51	7.5	N	20.6*	N	3	10	11	10	4.9	
SAN DIEGO	4	1012.5	1015.9	18.9	11.1	14.9	0.4	26.1	1	8.3	29+	0	0	8.9	69	22	-17	10	7	0	0	0	3.1	WNW	12.1	NW	15	12	8	11	5.3	70
SAN FRANCISCO	2	1018.0	1018.6	16.1	7.8	11.8	0.3	21.1	29	4.4	7	0	0	7.2	75	86	24	37	15	0	0	0	4.7	WNW	16.5	W	16	3	11	17	6.7	
SAN FRANCISCO U	16			15.0	9.4	12.4	-0.3	21.1	29	7.8	4+	0	0			58	-13	20	14	0	0	0	3.9	W#	13.4	W	2					79
SANTA MARIA	73	1009.1	1018.1	17.8	5.0	11.3	-0.9	22.8	1	1.7	26+	0	0	6.1	74	18	-40	11	9	0	0	0	4.2	WNW	14.3*	WNW	9+	15	10	6	4.4	
COLORADO																																	
ALAMOSA	2297	766.0	1012.9	8.3	-7.8	0.3	0.4	17.2	23	-14.4	1	0	31			16	5	9	10	0	318	152						4	13	14	6.5	
COLORADO SPRINGS	1882	806.0	1014.8	8.9	-3.9	2.3	-0.3	18.9	15+	-12.2	1	0	30	-6.1	61	31	13	19	9	0	241	127	4.9	SSE	13.9*	WNW	10+	4	12	15	6.7	
DENVER	1610	832.7	1012.8	10.6	-2.8	3.8	0.6	20.6	24+	-15.6	6	0	24	-4.4	61	64	34	22	11	0	742	229	4.0	SSW	18.8	NW	21	9	7	15	6.4	64
GRAND JUNCTION	1478	855.4	1012.7	11.7	0.0	5.8	0.7	23.3	23	-6.7	7+	0	16	-3.9	55	37	15	17	10	1	198	51	4.1	ESE	16.5	SE	25	5	9	17	7.2	66
PUEBLO	1414	851.7	1012.0	12.8	-2.2	5.3	0.8	22.8	15+	-8.3	9	0	26	-4.4	58	18	-0	7	7	0	122	25	4.1	NE	17.9	NW	12+	5	11	15	6.7	66

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb	C	C.	C.	C	C		C				C.	%	Mm	Mm.	Mm			Mm	Mm.	M p s		M p s							%
CONNECTICUT																																
BRIDGEPORT	2	1015.2	1016.1	7.2	- 0.6	3.1	0.3	16.7	27	-10.0	18	0	18	- 2.8	68	66	- 25	21	15	1	117	25	5.2	NNW	17.9	E	8	6	10	15	6.6	
HARTFORD	52	1009.0	1015.2	7.2	- 3.3	1.8	-1.1	22.8	28	-12.8	18	0	24	- 5.6	63	98	1	34	13	0	399	152	3.8	NW	14.3	NW	10	5	11	15	6.8	60
NEW HAVEN	2	1015.2		7.2	- 1.1	2.9	0.1	15.6	28	-10.0	18	0	19			96	- 9	26	15	2	206	51	4.1		14.3	NW	10	7	9	15	6.6	62
DELAWARE																																
WILMINGTON	24	1012.1	1015.5	10.6	1.1	5.9	0.1	24.4	28	- 6.7	18+	0	12	- 0.6	69	132	40	30	13	1	28	25	4.7	NW	17.0	NW	10	6	7	18	7.0	
DIST. OF COLUMBIA																																
WASHINGTON U	22			12.8	3.9	8.5	0.9	27.8	6	- 4.4	17	0	5			98	12	25	13													
WASH NATL AP	4	1011.3	1015.9	13.9	3.3	8.7	1.3	27.2	6	- 4.4	17	0	5	1.1	64	106	29	27	13	0	T	0	4.3	ENE	15.6	NW	16+	8	4	19	6.9	51
FLORIDA																																
APALACHICOLA U	4	1015.6		21.1	14.4	17.8	1.7	25.0	29+	6.1	10	0	0			88	- 37	34	8	7	0	0	3.8		17.0	E	18	10	6	15	5.7	73
DAYTONA BEACH	9	1015.8	1017.7	25.6	13.3	19.5	1.9	30.6	30+	1.7	11	0	0	13.9	74	30	- 62	15	6	4	0	0	4.2	SE	12.5*	SE	18+	8	8	15	6.2	
FORT MYERS	5	1016.3		28.3	15.6	22.1	1.7	32.2	18+	4.4	11	2	0			91	36	76	4	2	0	0	3.8		13.0*	WSW	31	9	15	7	5.2	
JACKSONVILLE	7	1016.0	1017.5	26.1	13.9	19.9	3.1	31.7	30	2.8	11	0	0	12.8	68	30	- 57	22	5	5	0	0	4.9	SW	19.7	W	9	9	12	10	5.6	6[illegible]
KEY WEST	2	1015.4	1016.8	27.2	21.7	24.3	1.1	30.0	31	14.4	11	0	0	18.9	72	33	- 7	13	7	2	0	0	5.5	SE	14.3	SE	17	11	12	6	5.3	76
LAKELAND U	65			27.2	15.6	21.2	1.9	31.1	7	5.6	10	0	0			97	0	32	6	6	0	0	3.4					7	15	9	5.5	72
MIAMI BEACH	3			26.1	20.6	23.6	1.2	29.4	16+	9.4	10	0	0			33	- 25	24	7		0	0	4.1		12.5	NW	4	8	16	7	5.0	72
MIAMI	2	1015.8	1017.2	27.2	19.4	23.2	1.4	30.6	31+	8.9	10	0	0	15.6	65	49	- 9	38	7	2	0	0	4.7	ESE	11.2*	NW	10+	6	15	10	6.0	
ORLANDO	32	1012.9	1017.5	27.8	15.0	21.4	2.2	32.2	29	4.4	11	1	0	13.9	68	56	- 27	34	5	6	0	0	3.[illegible]	SE	15.6*	S	31	9	10	12	5.6	
PENSACOLA U	4			20.6	13.3	17.2	1.5	25.0	8	3.9	10	0	0			180	28	80	14	4	0	0	5.1		17.0	SE	18					51
TALLAHASSEE	20	1014.2	1016.9	24.4	11.1	17.7	1.8	30.6	29	1.1	11	0	0	11.7	74	113	- 16	35	9	7	0	0	3.4	S	17.9*	NW	29	9	9	13	5.8	
TAMPA	6	1016.1	1017.8	27.2	15.6	21.3	2.4	31.1	5+	5.6	11	0	0	14.4	70	57	- 23	40	4	2	0	0	5.1	SSE	16.1*	WNW	9	9	12	10	5.6	8[illegible]
WEST PALM BEACH	5	1016.4	1017.6	27.2	17.8	22.6	1.4	32.2	31+	6.7	10	2	0	15.6	67	91	9	47	7	2	0	0	4.9	SE	13.0*	NW	9	7	10	14	6.1	
GEORGIA																																
ATHENS	243	988.0	1016.8	18.9	6.1	12.7	1.2	26.1	5+	- 0.6	10	0	2	7.8	76	177	46	69	12	2	T	0	4.2	W	14.3*	WNW	8	8	5	18	6.6	
ATLANTA	297	974.5	1016.7	18.3	6.7	12.6	1.1	26.7	4	0.6	25	0	0	5.6	65	186	42	74	11	2	T	0	5.5	WNW	16.1*	W	8	9	3	19	6.7	45
AUGUSTA	44	1009.5	1016.4	22.2	7.8	14.8	1.7	30.0	6+	1.1	25+	0	0	7.8	69	128	20	74	9	3	0	0	3.3	WNW	14.8*	WNW	4	6	9	16	6.8	
COLUMBUS	117	1002.2		21.7	7.8	14.5	1.9	28.3	7	0.6	3+	0	0			166	19	102	12	6	0	0	3.9		14.8*	SSE	27+	9	4	18	6.4	
MACON	109	1002.7	1016.6	21.7	8.9	15.3	0.9	30.0	6+	1.1	25+	0	0	7.8	68	137	7	71	12	3	0	0	4.2	WNW	16.5	W	8	8	6	17	6.4	49
ROME	194	992.8		18.9	4.4	11.5	0.6	25.0	26	- 2.8	3+	0	7			141	- 7	53	13	3	T	0						6	4	21	7.0	
SAVANNAH	15	1014.9	1017.2	23.9	10.6	17.3	2.5	30.0	29+	0.6	10	0	0	10.0	70	119	30	38	7	4	0	0	4.3	WNW	16.1	NW	9	7	12	12	6.0	74
THOMASVILLE U	86			24.4	12.2	18.3	2.4	30.0	30	2.8	10	0	0			128	- 8	90	9	7	0	0										
HAWAII																																
HILO	9	1015.9	1017.2	27.2	17.2	22.2	0.6	28.9	31+	15.6	15+	0	0	17.2	76	146	-253	38	17	0	0	0	4.0	SW	10.3*	E	4+	5	11	15	6.7	42
HONOLULU	2	1016.9	1017.4	28.3	20.0	24.3	1.5	30.0	30+	17.8	27+	0	0	17.2	67	87	- 17	58	14	1	0	0	5.1	NE	10.1	NE	21	12	10	9	5.1	74
LIHUE	35	1012.5	1017.6	27.2	19.4	23.3	1.8	29.4	31+	16.7	15+	0	0	18.3	76	11	- 47	5	4	0	0	0	4.6	ENE	16.9	E	1	13	14	4	4.5	86
IDAHO																																
BOISE	866	917.0	1013.7	12.2	1.7	6.9	1.4	21.7	22+	- 3.9	3	0	11	- .6	62	35	1	18	13	1	20	0	4.1	SE	13.4	SE	8	3	6	22	7.9	49
IDAHO FALLS 42NW R	1460			8.3	- 7.8	0.4	2.2	17.2	15	-18.9	5	0	31			11	- 1	5	8				3.4	SSW	17.7A	SSW	1					
IDAHO FALLS 46W R	1594	844.2	1014.2	8.9	- 6.7	1.0	2.1	15.6	30+	-14.4	8	0	31			3	- 8	2	6	0	20	0	3.8	SW	14.3A	SW	1					
LEWISTON	431	961.4	1013.4	12.2	2.7	7.0	0.6	19.4	19	- 7.2	3	0	5			46	17	13	16	0	76	76						2	7	22	7.4	
POCATELLO	1355	859.5	1014.4	9.4	- 2.2	3.7	1.1	18.3	23	- 7.2	3	0	21	- 3.3	63	28	- 1	9	15	0	69	25	5.5	WSW	13.3	W	20	3	6	22	8.0	64
ILLINOIS																																
CAIRO U	96	1001.4		15.0	6.7	10.8	1.3	22.8	27+	1.1	10	0	0			192	72	35	18	8	T	0	5.1	SW	17.4	S	12	5	8	18	7.4	45
CHICAGO O'HARE	201	988.5	1013.9	7.8	- 1.1	3.3		22.2	26	- 9.4	10	0	21	- 0.6	79	182		31	11	2	61	51	5.5	SSE	17.0*	SSW	27	4	5	22	7.8	
CHICAGO MIDWAY	186	990.9	1014.2	8.9	1.1	4.9	2.1	21.7	26	- 4.4	10	0	13	- 0.6	71	75	3	21	12	3	97	76	5.7	ENE	21.0	SW	27	4	5	22	7.6	54
MOLINE	180	990.9	1013.6	8.3	- 0.6	4.1	1.2	21.1	26	- 6.7	10	0	16	- 1.1	72	114	51	33	12	3	61	51	5.4	NW	17.9	W	27	3	6	22	8.1	45
PEORIA	199	991.2	1014.1	9.4	0.0	4.8	1.3	25.0	4	- 5.6	10	0	16	0.0	77	83	12	25	12	3	18	25	5.7	ENE	17.2	SW	27	2	9	20	7.4	44
ROCKFORD	222	986.1	1014.1	7.2	- 1.1	3.0	1.3	20.0	26	- 8.3	10	0	23	- 1.1	77	143	78	37	13	2	198	203	5.3	ENE	15.6*	WSW	27	3	5	23	7.9	
SPRINGFIELD	179	989.9	1013.6	11.7	1.7	6.6	2.0	26.1	4	- 5.0	16	0	12	1.7	74	89	4	27	15	4	19	25	7.0	E	29.1	SW	27	4	6	21	7.7	46
INDIANA																																
EVANSVILLE	117	998.3	1014.2	14.4	5.0	9.8	1.7	24.4	27	- 2.2	16	0	5	3.9	69	122	13	27	16	6	T	0	5.3	S	18.3	E	18	4	6	21	7.6	38
FORT WAYNE	244	982.4	1014.3	9.4	0.6	5.1	2.4	22.2	27	- 7.2	17	0	14	0.0	75	103	22	34	14	3	3	0	6.3	ENE	25.5	SW	6	4	10	17	7.3	47
INDIANAPOLIS	243	983.4	1014.0	11.1	2.2	6.4	1.9	22.2	27	- 5.0	17	0	10	2.2	79	201	102	67	15	5	10	25	4.4	SW	17.3	N	9	1	8	22	8.1	49
SOUTH BEND	234	985.1	1013.8	8.3	- 1.1	3.8	1.7	21.7	27	- 8.9	17	0	20	- 0.6	77	97	22	24	15	3	36	25	6.1	E	22.8*	SSW	27	1	11	19	8.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile (1.6 kilometers): Direction	Fastest mile (1.6 kilometers): Date	No of days (sunrise to sunset): Clear 0-3	No of days (sunrise to sunset): Partly cloudy 4-7	No of days (sunrise to sunset): Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb	C	C	C	C	C		C				C.	%	Mm.	Mm	Mm.			Mm	Mm	Mps		Mps								%
IOWA																																	
BURLINGTON	212	987.8	1014.2	10.0	0.0	4.9	1.3	22.2	4	- 5.6	10	0	16	0.0	75	114	43	24	13	5	56	25	6.4	NW	21.0	SW	27	1	9	21	8.2	45
DES MOINES	289	983.1	1015.2	6.7	- 0.6	3.1	0.3	20.0	25	- 5.0	16	0	24	- 1.1	78	136	85	42	15	5	417	102	6.5	NW	17.[illegible]	W	27	4	4	23	8.1	40
DUBUQUE	325	989.2	1014.2	5.6	- 2.2	1.5	0.8	17.2	25	-11.7	10	0	26	- 2.2	75	151	94	45	17	2	472	305						3	5	23	8.1	
SIOUX CITY	334	972.9	1015.1	7.2	- 1.1	3.1	1.4	21.1	26	- 5.6	10+	0	25	- 2.2	70	47	15	12	13	3	312	178	6.0	NNW	17.[illegible]	NW	27	3	10	18	7.4	55
WATERLOO	265	981.7	1014.4	5.0	- 2.2	1.6	0.4	20.6	25	- 8.9	16	0	25	- 1.1	84	138	87	33	13	3	254	203	5.1	NW	13.0*	WNW	27	3	9	19	7.9	
KANSAS																																	
CONCORDIA U	419	963.1		11.1	1.1	5.9	0.6	23.9	14	- 4.4	9	0	11		68	74	41	35	12	-	89	51	4.0	[illegible]	14.3	NW	8	6	8	17	6.9	47
DODGE CITY	791	924.1	1013.3	12.8	0.0	6.4	0.5	26.1	14	- 6.1	1	0	20	- 1.7	66	34	4	25	5	4	51	51	7.6	ENE	19.2	NW	7	7	10	14	6.5	64
GOODLAND	1111	884.5	1012.9	11.1	- 2.8	4.1	1.6	23.3	25	- 8.3	5	0	28	- 3.3	66	26	- 2	7	10	3	267	51	6.2	NNW	20.6*	NNW	12	6	10	15	6.5	
TOPEKA	267	977.0	1013.7	11.7	1.1	6.3	0.4	23.3	14	- 2.8	9	0	16	1.1	74	161	109	51	15	6	216	51	6.5	NNE	17.9	SW	10	3	6	22	8.0	42
WICHITA	403	895.7	1012.7	13.9	2.2	8.1	0.7	25.0	14	- 2.8	1	0	5	2.2	71	123	78	67	11	3	141	76	6.8	C	26.4	W	27	6	10	15	6.7	54
KENTUCKY																																	
LEXINGTON	298	978.5	1015.0	13.3	3.3	8.3	1.5	21.1	27	- 4.4	17	0	7	4.4	78	157	44	33	14	3	T	0	5.7	S				4	2	25	8.0	
LOUISVILLE	144	995.1	1014.5	13.9	3.9	8.7	1.1	23.3	27	- 3.3	17	0	7	3.9	75	194	75	70	16	3	10	0	4.1	W	15.2	W	6	3	3	25	8.1	35
LOUISIANA																																	
ALEXANDRIA	28	1010.2	1014.8	22.2	10.6	16.3		27.2	13+	- 1.1	10	0	1	11.1	77	306		96	11	10	0	0	3.8	SSW				11	5	15	5.7	
BATON ROUGE	20	1011.9	1015.1	23.3	11.7	17.4	1.7	27.8	7	1.1	10	0	0	12.8	78	143	- 5	64	14	10	0	0	4.9	SE				10	4	17	6.1	
LAKE CHARLES	4	1012.5	1014.3	22.8	13.3	17.9	2.1	27.8	29	3.3	10	0	0	13.3	77	66	- 55	27	9	5	0	0	3.6	S	15.6*	NW	17	10	6	15	6.0	
NEW ORLEANS U	3			23.3	15.6	19.4	2.2	28.3	13	8.3	10	0	0		80	196	29	98	11	6	0	0	3.5		12.1	NE	27	14	9	8	4.8	65
NEW ORLEANS	1	1013.2	1015.5	23.3	12.8	18.1	1.6	28.9	13	1.1	10	0	0	14.4	80	217	67	91	14	7	0	0	4.7	SSE	13.0*	SSE	20	11	4	16	5.8	
SHREVEPORT	77	1004.7	1014.2	22.2	10.6	16.2	1.7	29.4	6	1.1	10	0	0	10.6	71	156	37	51	15	11	0	0	6.9	S				10	7	14	5.7	57
MAINE																																	
CARIBOU	190	989.7	1013.9	0.0	-12.2	- 6.1	-0.4	10.6	23	-22.8	14	0	30	-10.6	71	67	6	22	13	0	1008	1194	5.6	NW	14.8*	NW	20	9	8	14	6.1	
PORTLAND	19	1010.1	1014.4	4.4	- 6.7	- 1.1	-0.8	15.6	27	-17.8	18	0	31	- 6.1	70	63	- 39	19	4	1	533	330	4.5	NW	18.8	E	9	8	10	13	6.2	61
MARYLAND																																	
BALTIMORE	45	1011.0	1016.0	12.8	1.7	7.2	1.0	26.1	28	- 6.7	18	0	11	0.0	66	98	6	22	13	0	T	0	4.8	WNW	17.0	W	16	9	5	17	6.5	56
BALTIMORE U	4			12.8	3.9	8.2	0.8	27.2	28	- 5.0	17	0	5			102	9	26	11													
FREDERICK	90			12.2	0.6	6.2	-0.1	24.4	28	- 8.9	18	0	18			108	24	26	15		46	25										
MASSACHUSETTS																																	
BLUE HILL OBS R	192	989.1		6.1	- 2.8	1.7		19.4	28	-12.2	18	0	24		61	121	23	33	12		442	127	6.8	NNW	18.8	ENE	9					51
BOSTON	5	1009.0	1014.0	6.7	- 1.1	2.7	-0.4	18.3	27	- 8.9	18+	0	20	- 5.0	63	120	33	38	12	0	229	76	6.1	NNW	21.0	ESE	9	8	7	16	6.5	60
NANTUCKET	13	1013.4		5.6	- 0.6	2.5	-0.1	11.7	28	- 6.7	18+	0	17		73	129	6	43	13	0	71	0	6.6	NW	18.8	E	9	6	9	16	6.8	50
PITTSFIELD	357			4.4	- 5.6	- 0.4	0.2	21.1	28	-16.7	18	0	27			53	- 29	14	18		363	203										
WORCESTER	301	976.0	1013.7	5.0	- 3.9	0.6	-0.1	18.9	28	-13.3	18+	0	26	- 7.8	59	103	16	35	12	1	447	178	4.3	NW	12.5*	ENE	8	4	9	18	6.9	
MICHIGAN																																	
ALPENA	210	989.2		3.9	- 7.2	- 1.8	0.7	17.8	27	-22.2	17+	0	30	- 5.0	75	68	12	28	14	2	457	279	4.5	SE#	15.6	NE	8	4	10	17	7.3	46
DETROIT	189	987.5	1015.0	8.3	0.0	3.9	2.2	21.1	27	- 9.4	10	0	17	- 2.2	68	68	4	22	13	1	10	0	5.8	E	18.3	W	6	5	3	23	7.6	42
DETROIT M WAYNE CO	192	989.5	1014.2	8.3	- 0.6	3.9		21.7	27	- 9.4	10	0	17	- 2.2	71	59		21	12	2	13	0	5.9	ENE				5	4	22	7.6	
DETROIT WILLOW RUN	220	985.1	1014.3	8.9	- 0.6	3.9	2.0	22.8	27	-10.0	10	0	19	- 2.2	70	71	12	30	10	1	18	0	6.9	E	20.6*	ENE	8	5	4	22	7.6	
ESCANABA U	181	992.2		2.8	- 5.0	- 1.2	2.0	10.6	24	-14.4	17	0	27		76	58	13	23	12	0	203	152	5.1		17.9	N	8	5	8	18	7.4	45
FLINT	233	986.5	1015.0	7.2	- 2.2	2.4	2.2	20.6	27	-13.3	10	0	21	- 2.8	73	75	19	30	13	3	170	102	5.2	E	17.9*	WSW	6	5	6	20	7.5	
GRAND RAPIDS	208	988.8	1014.6	7.8	- 1.1	3.2	2.9	21.1	27	- 9.4	17	0	21	- 2.8	70	83	23	23	13	3	142	51	5.5	WNW	17.9	SW	27	3	8	20	7.9	41
LANSING	260	981.7	1014.4	7.8	- 2.2	2.8	2.1	22.2	27	-11.1	10	0	23	- 3.3	71	73	8	23	12	1	74	51	6.5	ENE	26.4	W	6	4	6	21	7.7	49
MARQUETTE U	206	987.5		2.8	- 4.4	- 0.8	2.1	13.3	26	-12.2	17	0	28		75	75	23	32	15	0	630	635	3.9	N#	16.5	SW	2	2	5	24	8.4	39
MUSKEGON	191	990.9	1014.7	6.1	- 2.2	2.2	1.9	19.4	27	-11.1	10	0	22	- 2.8	74	85	29	21	12	2	348	229	5.7	ENE	17.4*	SSW	27	2	10	19	7.8	
SAULT STE MARIE	220	992.2	1015.7	1.1	- 7.2	- 3.0	2.0	7.8	27	-20.6	10	0	29	- 7.2	76	55	8	16	14	2	422	533	5.1	E	13.4*	NW	9	7	6	18	7.4	42
MINNESOTA																																	
DULUTH	429	973.2	1015.4	2.8	- 6.1	- 1.4	4.0	10.0	26	-13.9	7	0	30	- 5.6	77	64	19	43	12	1	224	229	6.3	ENE	16.1	NW	27	6	8	17	6.9	55
INTERNATIONAL FALLS	359	972.9	1015.5	3.9	- 7.8	- 1.9	4.8	12.2	25	-18.9	16	0	28	- 6.1	72	17	- 9	14	9	0	23	330	3.8	NW	11.2*	W	14	7	9	15	6.7	
MINNEAPOLIS	253	981.4	1015.5	5.0	- 4.4	0.0	0.6	16.1	25	-15.6	7	0	29	- 3.9	75	71	34	32	11	0	384	279	4.8	N	12.1	WNW	2	5	7	19	7.3	52
ROCHESTER	395	965.5	1014.7	2.8	- 4.4	- 0.9	0.0	11.1	27	-12.2	16	0	28	- 4.4	77	69	29	21	15	1	480	279	6.3	NW				3	7	21	7.9	
ST CLOUD	315	976.3	1015.5	6.1	- 4.4	0.9	3.7	17.2	25	-11.1	16	0	29	- 4.4	70	14	- 15	6	6	1	142	102						7	9	15	6.7	
MISSISSIPPI																																	
JACKSON	93	1002.8	1015.0	21.7	10.0	15.8	2.1	28.3	7	- 0.6	10	0	1	10.0	72	226	68	60	14	11	0	0	3.4	SSE	14.8	N	28	11	7	13	5.7	54

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb	C.	C.	C.	C.	C		C.				C.	%	Mm.	Mm	Mm			Mm	Mm	M p s		M p s							%
MISSISSIPPI																																
MERIDIAN	89	1001.7	1015.9	21.7	8.9	15.3	1.7	28.9	7	- 1.1	10	0	2	10.6	77	244	76	72	13	10	0	0	3.9	SSW	13.2*	WNW	9	11	5	15	6.0	
VICKSBURG U	71	1004.3		21.1	11.7	16.3	1.8	27.8	26+	4.4	10	0	0			257	104	70	15	12	0	0	4.5		14.8	E	17	13	3	15	5.7	52
MISSOURI																																
COLUMBIA	237	984.1	1012.9	12.8	2.2	7.3	1.3	25.0	4	- 4.4	16+	0	8	1.7	73	119	42	37	13	5	20	0	6.1	ENE	20.1	NW	8	3	7	21	7.7	44
KANSAS CITY	226	993.2	1013.5	11.1	1.7	6.6	0.0	21.1	4	- 2.8	16	0	9	- 0.6	64	169	105	61	13	7	18	0	5.4	ENE	17.9	SW	10	3	4	24	8.1	40
ST JOSEPH	247	978.0		10.0	1.1	5.5	0.0	21.1	14	- 2.8	24	0	18			172	116	63	14	5	94	0	6.6	NNW	17.9*	NNW	8	3	7	21	7.2	
ST LOUIS	163	992.9	1013.9	12.8	2.2	7.5	0.6	25.6	4	- 5.6	10	0	8	0.6	66	121	34	37	13	3	T	0	5.5	WNW	17.0	SE	12+	2	10	19	7.8	41
ST LOUIS RFC	142			13.3	4.4	8.9	1.5	23.9	4	- 0.6	17+	0	3			130	37	42	14		T	0										
SPRINGFIELD	386	965.1	1013.3	14.4	2.8	8.5	1.3	25.6	4	- 4.4	10	0	6	2.8	71	156	76	73	12	7	T	0	6.6	SSE	24.1	NW	8	5	10	16	7.2	54
MONTANA																																
BILLINGS	1087	886.2	1012.0	11.7	- 1.1	5.0	3.8	20.0	23	-10.0	5	0	20	- 6.1	51	18	- 5	10	2	0	61	51	5.2	WSW	21.9	NW	1	5	11	15	6.4	6[illegible]
GLASGOW	694	937.0	1012.6	8.9	- 2.2	3.2	5.2	17.8	24+	-11.1	5	0	25	- 3.9	65	9	- 6	5	4	0	127	51						5	9	17	6.8	
GREAT FALLS	1116	883.2	1011.3	10.0	- 3.3	3.2	2.9	18.9	15	-14.4	5	0	26	- 6.1	55	22	- 3	15	7	0	201	152	5.2	SW	25.2	SW	1	2	11	18	7.5	61
HAVRE U	787	921.4	1011.9	9.4	- 3.9	2.9	3.9	20.0	23	-14.4	5	0	27			5	- 13	3	3	0	36	25	4.2	NE#	20.1	W	1	3	9	19	7.4	53
HELENA	1187	868.3	1012.7	9.4	- 3.9	2.8	2.7	19.4	15	-18.3	4	0	24	- 6.1	55	26	8	15	7	0	231	152	4.2	W	13.2	W	1	1	8	22	8.2	57
KALISPELL	904	907.2	1011.9	8.3	- 2.8	2.6	1.7	16.1	19	-18.3	5	0	25			28	3	9	13	0	183	76	2.7					2	5	24	8.3	
MILES CITY	801	927.2	1012.5	11.1	- 1.7	4.5	4.9	21.1	24	- 8.3	5	0	23	- 3.9	58	10	- 8	7	5	0	76	76	4.4	SE	15.6*	W	13+	8	8	15	6.2	
MISSOULA	975	898.1	1014.4	8.9	- 3.3	2.8	1.3	17.2	19	-12.2	4	0	26	- 2.2	74	35	14	9	16	1	13[illegible]	25	3.0	NW	15.6	NW	1	3	3	25	8.5	48
NEBRASKA																																
GRAND ISLAND	561	946.8	1014.2	9.4	- 1.1	4.0	0.9	23.3	25	-11.7	9	0	25	- 2.2	69	39	6	15	7	0	168	102	6.6	NNW				5	9	17	7.0	
LINCOLN U	351			8.9	0.0	4.4	0.3	21.7	26	- 5.0	9	0	18			84	47	30	11	4	130	76	5.3	NW#	21.0	S	25	6	6	19	7.3	46
NORFOLK	471	957.0	1014.2	7.2	- 2.2	2.6	0.9	21.7	25	- 8.3	9	0	27	- 2.8	68	39	0	14	7	0	307	203						5	10	16	7.4	
NORTH PLATTE	847	912.3	1013.1	9.4	- 2.8	3.3	0.8	24.4	25	-15.0	9	0	26	- 3.3	67	57	34	24	7	2	508	305	5.7	NNW	19.2	S	25	5	10	16	6.7	51
OMAHA	298	973.2	1014.5	8.3	0.0	4.2	0.7	18.3	26+	- 5.0	16	0	20	- 1.1	72	91	58	36	14	2	163	102	6.0	NNW	19.7	N	8	5	5	21	7.6	37
OMAHA N OMAHA APT	403	965.1		7.2	- 1.1	3.2	1.0	19.4	26	- 5.0	16	0	25			82	48	39	12	3	170	102						5	6	20	7.6	
SCOTTSBLUFF	1204	874.7	1012.9	10.0	- 3.3	3.6	1.9	21.7	24	-17.2	6	0	26	- 2.8	67	67	44	21	13	2	340	102	5.8	WNW	23.2*	W	1	8	10	13	6.4	
VALENTINE	789	921.1		8.3	- 3.3	2.5	1.8	24.4	25	-15.6	9	0	27		72	21	- 11	9	6	2	175	127	5.1	NW	21.0	NW	2	7	7	17	7.1	52
NEVADA																																
ELKO	1547	841.2	1014.0	8.9	- 4.4	2.1	-0.2	20.0	22	- 8.3	21+	0	29	- 4.4	61	24	6	7	12	2	279	102	2.7	SW	10.3*	WNW	15	2	7	22	8.2	
ELY	1907	805.3	1014.2	8.3	- 6.1	1.1	-0.7	21.1	22	-12.2	26	0	31	- 6.7	61	31	- 2	8	13	0	470	102	3.9	S	17.0	SW	15	3	6	22	7.4	74
LAS VEGAS	659	945.8	1011.1	21.1	6.1	13.4	-0.2	27.8	14	1.7	5	0	0	- 4.4	32	13	4	7	3	0	0	0	4.4	SW	25.9*	NNW	17	8	16	7	5.2	81
RENO	1342	859.1	1014.3	13.9	- 3.3	5.3	0.6	21.1	31+	- 8.9	3	0	26	- 4.4	52	10	- 8	3	7	0	28	25	3.7	WNW	22.9	SW	14	5	11	15	6.7	75
WINNEMUCCA	1310	865.6	1014.9	11.7	- 3.3	4.2	0.1	21.1	22	- 8.9	7+	0	26	- 3.9	59	28	6	15	12	0	53	25	3.6	S	16.1	W	1	3	4	24	8.3	25
NEW HAMPSHIRE																																
CONCORD	103	1003.5	1014.8	6.1	- 5.6	0.2	0.3	17.8	27	-13.9	12	0	30	- 7.8	59	38	- 40	12	10	0	373	254	3.4	NW	13.4	E	4	8	9	14	6.2	54
MT WASHINGTON OBS	1909	795.6		- 6.1	-15.6	-10.9	0.2	3.3	28	-26.7	17	0	31		76	98	- 43	41	13	3	612	1.7	15.5	W	51.9#	NW	11	7	7	17	7.0	42
NEW JERSEY																																
ATLANTIC CITY	18	1013.4	1015.9	11.1	1.1	6.1	0.8	25.6	28	- 8.3	18	0	10	0.0	68	162	76	42	13	1	5	0	5.7	NW	15.6	E	8	6	9	16	6.5	58
ATLANTIC CITY U				9.4	1.7	5.6	0.3	22.8	28	- 6.7	18	0	7			139	50	37	14				6.3		15.6	E	8					
NEWARK	9	1014.6	1015.8	9.4	0.6	5.1	0.4	22.8	5	- 8.3	18+	0	12	- 3.3	59	126	30	39	16	0	102	25	5.4	NW	13.4*	NW	9	6	12	13	6.3	
TRENTON J	17	1007.9		10.0	0.6	5.3	0.2	24.4	28	- 8.3	18	0	13			148	66	43	15	3	10	0	4.6	NW	15.2	NW	10	7	11	13	6.1	56
NEW MEXICO																																
ALBUQUERQUE	1618	844.2	1010.3	15.6	1.1	8.3	0.6	22.8	23	- 7.8	8	0	13	- 6.1	41	15	4	7	4	0	76	51	4.2	S	17.7	NW	7+	10	9	12	5.7	73
CLAYTON	1515	843.2	1013.5	12.8	- 2.2	5.4	0.2	23.9	14	- 8.9	20	0	26			14	- 3	6	6	0	79	25						7	10	14	6.5	
RATON	1944	800.2	1010.8	12.2	- 4.4	4.1	0.7	20.0	14	-12.2	1	0	29			21	5	16	6	1	96	25						6	10	15	6.7	
ROSWELL	1101	888.9	1010.5	20.0	- 0.6	9.9	-0.4	28.9	14	- 7.8	9	0	19	- 3.9	47	21	7	17	6	2	36	0	4.4		18.3	NW	7	12	7	12	5.2	
SILVER CITY	1662	830.3	1010.5	17.2	0.0	8.5		24.4	22	- 7.2	1	0	15			4		2	3	0	3	0						16	7	8	4.0	
NEW YORK																																
ALBANY	84	1011.8	1015.7	5.6	- 4.4	0.6	-0.1	22.8	28	-16.1	18	0	26	- 5.0	67	79	20	30	14	1	551	356	4.0	WNW	16.5	NW	10	6	5	20	7.4	56
BINGHAMTON	488	954.0	1014.6	3.9	- 3.9	0.0	0.5	18.9	5	-15.0	18+	0	25	- 4.4	75	72	- 4	14	20	1	351	102	4.9	NW	13.5	W	15	2	4	25	8.5	40
BUFFALO	211	986.6	1015.5	5.6	- 2.8	1.2	0.7	21.7	27	-13.3	17	0	23	- 3.3	73	66	- 3	17	21	2	130	51	5.1	SW	17.0	SW	6	2	3	26	8.5	36
NEW YORK	6	1013.8	1015.7	8.9	1.1	4.9	0.2	20.0	5	- 7.8	17	0	8	- 2.8	62	130	41	39	16	0	97	0	5.9	WNW	23.2	NW	10	6	10	15	6.2	
NEW YORK U	3			9.4	1.1	5.3	0.3	22.8	28	- 7.8	18+	0	8	- 3.9	58	107	14	25	14	0	30	25	4.7	NW	15.[illegible]	NE	14	9	14	8	5.4	61
ROCHESTER	166	995.8	1015.8	6.1	- 3.3	1.3	0.7	23.3	27	-14.4	11	0	23	- 3.3	75	69	- 7	20	19	2	495	229	5.8	WSW	19.2	W	6	1	8	22	8.4	39
SCHENECTADY	66			6.1	- 3.3	1.2	0.9	22.2	28	-14.4	18	0	24			78	9	33	12		490	356						12	10	9	5.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: 25 mm or more	Precipitation: No of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 k lometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb	C	C	C	C	C		C				C.	%	Mm	Mm	Mm			Mm	Mm	M p s		M p s							%
NEW YORK																																
SYRACUSE	129	992.9	1015.9	5.0	- 3.9	0.7	-0.6	22.2	28	-16.7	18	0	26	- 4.4	72	107	25	27	21	0	673	203	5.3	E	15.2	W	16	1	8	22	8.1	30
NORTH CAROLINA																																
ASHEVILLE U	671	834.2		16.1	3.9	10.1	1.8	25.6	4	- 3.9	11	0	7			81	- 10	30	12	1	T	0	4.4		15.6	NW	10	5	4	22	7.5	42
CAPE HATTERAS R	2	1014.1	1015.7	17.2	7.8	12.4	0.9	24.4	6	- 1.1	11	0	1	7.8	75	77	- 21	41	9	0	0	0	6.3	SW	16.5	SE	31	7	12	12	6.3	66
CHARLOTTE	221	987.5	1016.2	18.3	5.0	11.6	1.1	26.1	5	- 1.7	11	0	4	3.9	65	112	8	45	12	1	T	0	3.7	SW	16.1	SW	8	6	4	21	7.1	62
GREENSBORO	272	984.1	1016.7	16.7	4.4	10.5	1.5	26.1	7	- 3.3	11	0	7	3.9	67	123	31	44	13	1	T	0	4.3	SW	13.9	W	9	6	5	20	7.3	61
RALEIGH	132	1001.9	1016.1	17.8	5.0	11.5	1.4	27.8	5	- 2.8	11	0	5	3.9	64	111	20	38	10	1	0	0	4.5	SSW	13.0*	E	31	7	5	19	6.7	63
WILMINGTON	9	1013.1	1016.1	21.1	8.3	14.8	2.2	28.9	5	- 0.6	11	0	1	8.9	73	115	27	60	11	1	0	0	5.3	SSW	16.1	SW	8	8	9	14	6.0	65
WINSTON SALEM	295	980.3	1016.1	16.7	5.0	10.9	1.8	25.6	7+	- 1.1	18	0	5	2.2	60	128	31	39	13	1	T	0	5.3	SW	14.3*	ENE	31+	6	5	20	7.1	
NORTH DAKOTA																																
BISMARCK	502	952.9	1014.9	7.8	- 3.3	2.3	5.2	20.0	24	-11.7	29	0	28	- 5.0	62	3	- 17	2	5	0	20	0	5.5	NW	15.6	SE	24	7	4	20	7.2	67
DEVILS LAKE U	448	960.7		3.3	- 5.6	- 1.2	4.0	14.4	24	-13.9	9	0	30		77	4	- 15	2	5	0	18	152	4.2	SE*	13.9	SE	24	5	6	20	7.5	41
FARGO	274	980.4	1016.0	6.7	- 3.9	1.4	5.1	19.4	25	-11.1	16	0	26	- 3.3	73	10	- 13	9	4	1	T	0	7.6	N	21.0	N	27	5	10	16	7.0	47
WILLISTON U	572	944.5	1013.7	7.2	- 3.3	1.8	4.9	22.2	24	-11.1	8	0	28	- 3.3	70	3	- 16	2	3	0	8	76	3.3	NW*	12.1	SE	24	5	13	13	6.8	61
OHIO																																
AKRON	369	976.0	1015.0	8.9	- 1.1	4.1	1.6	21.1	27	-11.1	17	0	19	0.0	77	84	3	25	18	2	102	25	5.6	NW				5	5	21	7.7	
CINCINNATI ORS	232			12.8	3.3	8.2	1.9	23.3	27	- 4.4	17	0	8			141	38	28	15	5	36	25	3.6	S	13.0	SW	8					33
CINCINNATI	265	982.0	1014.6	12.8	3.3	8.1	2.7	22.8	27	- 4.4	17	0	7	2.2	70	121	18	24	14	3	36	25	5.4	SSW	15.6*	SSW	6	1	8	22	8.2	
CLEVELAND	240	985.9	1014.6	8.9	0.0	4.4	1.8	23.3	27	- 6.7	10	0	18	- 0.6	73	81	8	18	16	1	36	25	5.7	WNW	16.1	SW	6	4	4	23	8.1	45
COLUMBUS	248	984.1	1014.9	12.2	2.8	7.4	3.1	22.8	27	- 6.1	17	0	11	1.7	70	123	36	26	14	4	18	0	4.6	SSW	14.8	W	8	4	7	20	7.6	50
COLUMBUS U	221			11.1	2.8	7.2	2.1	21.7	27	- 5.6	17	0	7			110	28	21	14	4	5	0										
DAYTON	305	977.4	1014.5	11.1	1.7	6.5	2.2	21.1	27	- 6.7	17	0	11	1.7	74	137	55	26	14	4	13	0	5.9	SSW	20.1	W	8	3	5	23	7.9	44
MANSFIELD	395			9.4	0.0	4.5		21.1	27	- 7.8	17+	0	18			114		21	16	3	43	25						4	6	21	7.8	
SANDUSKY U	184	992.2		9.4	0.6	5.1	2.1	22.8	27	- 6.7	10	0	15			109	35	21	15	2	15	25	4.9		22.8	SW	6	5	9	17	6.7	50
TOLEDO	206	988.6	1014.8	9.4	- 1.1	3.9	1.8	22.8	27	- 9.4	17	0	19	- 1.7	72	78	6	28	12	3	15	0	5.3	ENE	14.3	SW	6	3	9	19	7.7	48
YOUNGSTOWN	359	971.3	1014.9	8.3	- 1.1	3.7	1.1	22.2	27	-11.7	17	0	18	- 0.6	75	80	- 8	19	14	1	66	51	5.5	NW	13.9*	ESE	8	4	5	22	8.1	
OKLAHOMA																																
OKLAHOMA CITY	390	969.2	1013.0	17.8	5.0	11.2	1.4	28.3	3	- 0.6	21+	0	3	2.2	59	85	32	28	9	5	18	0	7.2	SSE	23.2	SW	2	10	9	12	5.5	63
TULSA	205	988.2	1012.9	17.2	5.0	11.1	1.2	27.2	5	- 1.1	1	0	3	5.0	70	84	18	21	9	3	T	0	5.8	SSE	15.2	SW	7	7	10	14	6.2	49
OREGON																																
ASTORIA	2	1011.9	1012.2	11.7	3.9	7.7	0.3	16.1	18	- 1.7	4	0	2	5.0	84	272	61	41	25	1	10	0	4.1	SE	13.0*	SSW	19	1	0	30	9.3	
BURNS U	1265	869.3	1013.9	9.4	- 2.8	3.2	-0.7	18.3	30+	- 8.9	7+	0	28	- 2.8	65	45	25	10	18	0	251	76						3	3	25	8.3	
EUGENE	110	1001.0	1014.8	12.8	3.9	8.3	0.1	20.6	30	0.0	28+	0	3			214	116	40	23	0	0	0	4.7		17.9*	WSW	19	1	3	27	8.9	
MEACHAM	1234			5.0	- 1.7	1.6	0.5	11.7	19+	- 7.2	4+	0	24			104	11	27	24	0	556	406						0	5	26	8.9	
MEDFORD	396	967.8	1015.8	13.3	2.2	7.9	-0.6	21.1	30+	- 2.8	7	0	6	2.8	74	77	39	12	22	0	T	0	2.5	N	14.3*	SE	14	2	4	25	8.5	
PENDLETON	452	959.0	1013.1	12.8	3.3	7.9	0.6	21.1	14	- 1.7	3	0	5	1.1	65	57	27	16	16	0	3	0	4.6	SSE	20.6*	W	19	4	6	21	8.0	
PORTLAND	6	1007.5	1013.2	12.8	5.0	8.7	0.6	18.3	29	- 1.1	28	0	1	4.4	78	153	65	27	25	0	T	0	4.3	ESE	22.4	S	5	0	3	28	9.4	35
ROSEBURG	154	996.3	1015.2	13.3	3.9	8.7	0.4	21.7	30	- 1.1	28+	0	2			164	90	28	24	0	0	0	2.4	S*	11.6	SW	19+	1	4	26	8.9	36
SALEM	59	1006.8	1014.0	12.2	3.3	8.0	-0.2	18.9	30	- 1.1	28	0	3	5.6	86	208	102	33	24	0	T	0	3.9	S	17.0*	SSW	5	2	2	27	8.9	
SEXTON SUMMIT R	1169	880.1	1015.2	5.6	- 1.1	2.2	-1.8	16.1	30	- 4.4	6	0	23			226	151	29	24	0	813	229	6.1	S				1	3	27	9.0	
PACIFIC AREA																																
CANTON ISLAND	3	1008.1	1008.5	31.1	26.1	28.5	0.1	32.8	29	23.3	28	3	0	22.8	77	18	- 31	16	4	0	0	0	6.8	ENE	10.7*	NE	17	1	3	27	9.2	
ENIWETOK	4	1009.8	1010.5	30.0	25.0	27.7		31.1	9+	22.8	4	0	0	22.8	75	50		14	12	0	0	0	8.8									
JOHNSTON	2	1008.5	1009.1	28.9	23.3	25.9		29.4	27+	21.7	24+	0	0	20.6	73	20		11	13	0	0	0	6.3		14.3	E	6	15	15	1	3.9	55
KOROR R	29	1007.8	1011.6	31.1	24.4	27.5	0.3	32.2	30	23.3	25+	1	0	23.9	82	159	- 36	68	15	1	0	0	3.2	NE	8.5	NE	6	0	1	30	9.4	78
KWAJALEIN	2	1009.8	1010.7	30.6	25.0	27.8		32.2	17	22.2	19	1	0	23.3	77	110		40	20	0	0	0	7.8	ENE	13.0*	E	14	1	7	23	8.3	
MAJURO	3	1009.8	1010.1	30.6	25.6	28.1		31.1	27+	23.9	27	0	0	23.9	77	108		49	14	0	0	0	5.9	ENE	13.4	E	17	1	4	26	8.9	
PONAPE R	37	1004.7	1010.0	30.6	23.9	27.2	-0.4	31.7	22	22.2	28+	0	0	23.9	83	444	155	167	22	4	0	0	2.7	NE	13.0	NE	14	0	1	30	9.5	57
TRUK MOEN ISLAND	2	1009.8	1010.1	30.0	25.0	27.6	0.2	31.1	27+	22.2	8	0	0	23.9	80	123	58	29	25	0	0	0	4.0	NE*	10.7	NE	13					52
TAGUAC GUAM R	110			28.9	22.8	26.0	0.4	30.6	31	20.0	10+	0	0			153	- 16	57	21	1	0	0	3.3	NNE	12.5	SE	22	0	3	28	9.3	79
WAKE ISLAND	3	1014.9	1015.3	28.3	23.3	25.6	0.1	31.1	23	19.4	3	0	0	21.1	78	88	53	21	13	0	0	0	6.5	ENE	13.0*	ENE	15+	6	18	7	5.4	
YAP R	17	1008.8	1010.8	30.0	24.4	27.3	-0.2	32.2	15	22.2	6	1	0	23.9	81	283	164	91	21	0	0	0	3.7	NE	22.4	NE	25	0	0	31	9.9	60
PENNSYLVANIA																																
ALLENTOWN	115	1001.5	1016.2	8.9	- 1.1	3.9	0.6	23.3	28	-10.6	18	0	21	- 2.2	69	114	33	30	14	1	127	51	5.3	WNW	17.0*	WNW	10	7	8	16	6.5	
ERIE	223	987.8	1014.7	7.2	- 1.7	3.0	1.8	23.3	27	-10.6	17	0	20	- 1.7	73	54	- 17	12	13	1	18	25	6.0	SW	16.5*	SE	6	3	4	24	8.5	
HARRISBURG	102	1001.7	1016.0	10.0	0.6	5.3	0.4	22.8	28+	- 7.8	17	0	15	- 2.2	64	106	34	16	15	1	102	51	4.0	WNW	13.9	NW	10	7	6	18	7.0	54

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm	M p s		M p s							%
PENNSYLVANIA																																
PHILADELPHIA	2	1010.9	1016.1	11.1	1.7	6.2	0.4	26.1	28	- 5.6	18+	0	10	- 0.6	66	131	47	29	12	1	3	0	4.6	ENE	15.6	NW	10	7	10	14	6.6	52
PHILADELPHIA U	11			11.1	2.2	6.7	0.3	26.1	28	- 6.7	18	0	8																			
PITTSBURGH	351	984.2	1015.4	10.0	0.6	5.2	1.5	23.3	27	-10.0	17	0	15	- 0.6	71	88	7	24	17	3	36	0	5.0	WSW	13.4*	SW	6	5	5	21	7.7	35
PITTSBURGH U	228			11.1	2.2	6.8	1.4	23.3	27	- 8.3	17	0	9			93	7	26	19		23											31
READING U	81	1003.3		10.6	1.1	5.7	0.3	24.4	28	- 8.3	17	0	12			108	24	28	14	3	46	25	5.2		25.0	E	8	8	9	14	6.3	54
SCRANTON	287	980.7	1016.1	6.1	- 2.8	1.7	-0.7	21.1	28	-13.9	18	0	23	- 3.9	71	73	1	20	16	0	236	76	4.2	NW	13.0	W	28+	3	10	18	7.5	47
WILLIAMSPORT	161	996.7		8.3	- 1.1	3.4	-0.1	22.8	28	-10.6	18	0	22			95	10	26	15		318	102						4	10	17	7.4	
RHODE ISLAND																																
BLOCK ISLAND	34	1010.0		5.6	- 1.1	2.4	-0.4	12.2	4	- 8.3	17	0	19			74	- 16	32	11	0	137	51						6	12	13	6.3	
PROVIDENCE	17	1008.2	1014.6	7.2	- 1.7	2.8	0.1	16.7	27	- 9.4	18	0	21	- 4.4	63	106	15	32	13	0	310	127	5.3	N	13.0*	NW	16+	7	10	14	6.3	55
SOUTH CAROLINA																																
CHARLESTON	12	1014.2	1016.4	23.3	9.4	16.3	2.3	30.0	30+	1.1	11+	0	0	10.0	72	148	56	62	7	2	0	0	4.3	SSW	21.5*	SE	18	6	15	10	5.8	66
CHARLESTON U	3			21.1	12.2	16.5	2.0	28.9	30	2.8	10	0	0			134	48	65	6		0	0	5.0		17.0	SE	18					
COLUMBIA	66	1003.2	1016.3	21.7	7.2	14.5	1.6	29.4	6	- 0.6	10	0	1	7.2	57	146	50	80	9	3	0	0	3.7	SW	13.9*	WNW	9	7	10	14	6.3	56
FLORENCE	45	1009.8	1015.7	21.7	7.8	14.7	1.7	29.4	6	0.0	11+	0	2	6.7	65	107	18	65	10	0	0	0	4.0	SSW	10.3*	WSW	9	7	9	15	6.2	
GREENVILLE	310	978.5	1016.3	19.4	6.1	12.8	1.9	26.7	19	- 2.8	10	0	4	4.4	62	115	1	34	10	2	0	0	3.9	SW	18.8	SW	8	8	4	19	6.8	64
SPARTANBURG	244	985.7	1016.0	18.9	6.7	12.5	1.6	24.4	4	- 0.6	18+	0	2	4.4	66	103	- 11	33	11	1	T	0	3.6	SW	15.6*	W	8	7	4	20	7.0	
SOUTH DAKOTA																																
HURON	391	966.8	1015.2	8.3	- 3.3	2.4	2.6	25.0	25	-10.6	29	0	28	- 2.8	72	9	- 18	5	5	0	91	51	5.7	SSW	17.0	S	25	4	9	18	7.3	61
RAPID CITY	965	897.1	1013.2	10.6	- 2.2	4.1	4.5	23.3	25+	- 8.3	5	0	27	- 4.4	61	19	- 8	7	6	0	97	76	5.5	NNW	17.0	NW	21	3	10	18	7.2	58
SIOUX FALLS	433	962.1	1014.8	6.7	- 2.8	2.0	2.0	19.4	25	- 7.8	29	0	27	- 3.9	68	29	- 5	13	7	0	305	178	5.4	NW	15.2*	NNW	27	6	8	17	7.0	
TENNESSEE																																
BRISTOL	463	960.7	1015.5	16.1	4.4	10.3	2.2	24.4	5	- 2.8	10	0	8	3.9	70	105	9	33	14	2	25	0	3.7	WNW	13.4*	W	8	5	6	20	7.6	
CHATTANOOGA	204	987.9	1016.0	17.8	5.6	11.6	1.2	23.9	26	- 2.2	2	0	4	5.6	71	166	13	90	13	5	T	0	4.0	S	16.1	SW	8	6	3	22	7.7	40
KNOXVILLE	290	980.2	1016.0	16.7	5.0	10.9	1.2	25.0	4	- 0.6	10	0	3	5.6	71	198	75	87	15	5	3	0	4.2	WSW	21.0	SW	31	5	3	23	8.0	47
MEMPHIS	80	999.6	1014.6	17.8	7.8	12.8	1.7	25.6	6	- 1.7	10	0	1	6.7	70	181	39	35	16	9	0	0	5.6	S	15.6	W	8	7	9	15	6.5	57
MEMPHIS U	83			16.7	8.3	12.7	1.3	23.9	6	2.2	9	0	0			193	61	44	15		0	0										
NASHVILLE	176	994.6	1014.8	16.7	5.6	11.2	1.3	22.8	28+	- 1.7	10	0	4	5.6	70	166	31	42	14	9	5	0	4.2	S	18.3	W	13	4	6	21	7.7	51
OAK RIDGE	276	981.8		16.7	5.0	11.0	2.1	23.9	26	- 2.8	2	0	4			186	42	77	14	6	10	0	2.2		18.3*		8	5	3	23	7.7	
TEXAS																																
ABILENE	536	950.9	1012.1	21.7	7.8	14.4	1.6	31.1	15	0.6	9	0	0	2.8	53	17	- 12	7	5	4	0	0	5.3	SSE	17.0	W	7	13	7	11	4.9	67
AMARILLO	1094	884.5	1011.0	16.7	1.7	9.2	1.3	28.9	14	- 6.7	1	0	10	- 2.2	53	65	38	25	8	1	373	102	6.6	SW	18.8	W	26	6	13	12	6.2	63
AUSTIN	187	990.9	1013.0	23.3	11.7	17.6	1.9	30.0	28	2.2	10	0	0	10.0	66	17	- 47	12	5	2	0	0	5.1	SSE	13.4	N	8	10	10	11	5.5	57
BROWNSVILLE	5	1009.8	1012.6	27.2	17.2	21.9	1.9	31.7	13	7.2	9	0	0	16.1	76	1	- 27	1	3	0	0	0	6.2	SSE	17.4	S	3	8	5	18	6.5	61
CORPUS CHRISTI	13	1011.9	1013.2	25.6	15.0	20.3	1.8	32.2	7	7.2	21+	1	0	14.4	73	2	- 39	1	3	0	0	0	5.9	SE	17.0	NW	31	8	8	15	6.4	56
DALLAS	147	994.6	1013.3	21.7	9.4	15.6	1.4	29.4	12	2.2	9+	0	0	7.2	63	124	53	69	12	6	0	0	5.7	S	15.6	SW	16	11	4	16	5.7	57
DEL RIO U	292			26.1	11.7	19.0	1.8	33.9	28	3.9	9	2	0			2	- 22	1	3	0	0	0										
EL PASO	1194	882.8	1010.9	21.1	5.6	13.5	1.0	27.2	23	- 4.4	2	0	2	- 6.1	29	7	0	6	3	0	T	0	6.7	WSW	21.9	W	18	14	7	8	4.3	73
FORT WORTH	166	992.6	1013.5	21.1	9.4	15.2	2.0	28.3	28+	1.7	1	0	0	7.2	64	75	7	47	8	8	0	0	6.5	S	16.5*	S	5	11	6	14	5.9	
GALVESTON U	2			20.6	15.6	18.2	1.7	26.1	13	10.0	31+	0	0			7	- 72	6	4		0	0	6.0		17.0	NW	31					60
GALVESTON	2	1011.9	1014.4	20.6	15.0	17.9	1.3	23.9	29+	8.9	9	0	0	12.8	73	9	- 74	7	5	2	0	0	5.3	SE				9	6	16	6.5	
HOUSTON U	12	1008.5		23.3	15.0	19.1	2.1	27.8	29	7.8	9	0	0			34	- 45	17	12	2	0	0	5.4	SE*	16.1	NW	8	11	5	15	6.0	58
HOUSTON	15	1011.2	1014.4	24.4	13.9	19.3	2.9	28.9	29	5.6	2	0	0	13.9	76	47	- 24	30	10	2	0	0	4.7	SSE				11	4	16	6.1	
LAREDO	152	996.3	1011.8	29.4	14.4	21.9	1.7	35.6	16	6.1	1	9	0	10.6	57	1	- 22	1	2	0	0	0	5.0	SE	14.8*	NW	31	12	11	8	5.0	
LUBBOCK	988	900.1	1012.3	18.3	2.2	10.3	0.4	27.8	15	- 5.6	1	0	9	- .6	53	34	14	17	7	2	175	102	7.1	W	23.2*	W	7	9	12	10	5.2	
MIDLAND	870	912.3	1011.2	21.1	5.0	13.0	-0.2	28.9	3	- 1.1	20+	0	4	0.0	49	28	12	14	6	4	T	0	5.5	S	15.6*	W	5	12	9	10	5.1	
PORT ARTHUR	5	1012.5	1014.0	24.4	12.8	18.6	2.8	28.9	29+	4.4	9+	0	0	12.8	74	45	- 57	31	9	2	0	0	5.5	SSE	18.3	NW	17	10	5	16	6.1	47
SAN ANGELO	580	944.8	1012.2	23.3	6.7	14.9	0.4	30.0	28	- 1.7	9	0	2	3.3	51	7	- 18	3	4	2	0	0	6.3	SSW	25.9*	W	16	12	11	8	4.4	
SAN ANTONIO	241	987.8	1012.9	25.0	12.2	18.7	2.4	30.6	28	2.8	10	0	0	10.6	63	1	- 53	1	3	0	0	0	4.8	SSE	16.1	NW	31	12	9	10	4.9	65
VICTORIA	34	1008.5	1013.1	24.4	13.3	19.0	1.3	29.4	28+	3.9	10	0	0	12.8	69	14	- 53	9	4	1	0	0	6.6	SSE	21.9Y	NW	31	10	6	15	6.1	
WACO	152	992.6	1013.6	22.8	10.6	16.4	1.8	30.0	12	2.8	1	0	0	8.9	66	45	- 30	26	8	3	0	0	7.0	S	17.9*	SSW	16	9	9	13	5.5	
WICHITA FALLS	303	975.3	1012.4	20.0	6.1	13.2	1.5	30.6	15	0.0	9	0	1	4.4	61	85	44	33	8	3	0	0	6.0	S	17.4*	WNW	7	12	6	13	5.5	
UTAH																																
MILFORD	1533	840.2	1013.2	11.7	- 4.4	3.7	-0.3	20.6	22+	-16.7	5	0	29			37	10	16	11	1	267	102						6	9	16	6.8	
SALT LAKE CITY	1286	864.5	1013.6	12.2	0.0	6.1	1.0	22.8	23	- 4.4	5+	0	17	- 1.1	62	47	5	16	12	2	124	51	4.4	SSE	13.9	S	9	5	6	20	7.5	50
WENDOVER	1291	867.6	1012.5	11.1	0.0	5.7		18.3	31	- 4.4	8+	0	21			11		6	7	1	5	0						3	11	17	7.1	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

MARCH 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm	M p.s.		M.p.s.							%
VERMONT																																
BURLINGTON	101	1000.1	1015.5	2.2	- 8.3	- 3.1	-1.6	20.6	28	-22.2	11	0	29	- 8.9	67	40	- 16	23	12	0	419	279	3.6	N	16.5	S	14	7	6	18	7.3	50
VIRGINIA																																
LYNCHBURG	289	990.5		15.0	3.9	9.6	1.6	26.1	7+	- 3.3	18	0	6			105	15	25	14	0	T	0	4.3		14.3	S	6	7	7	17	6.7	55
NORFOLK	8	1014.5	1016.2	17.2	6.1	11.7	2.2	28.9	6	- 2.2	11	0	1	5.0	67	91	8	21	13	2	0	0	5.6	SW	15.2	W	9	8	8	15	6.3	68
RICHMOND	49	1009.7	1016.3	16.7	4.4	10.4	1.8	28.9	6+	- 5.6	18	0	4	2.2	63	102	15	38	15	0	T	0	3.8	WSW	13.4	N	17	8	6	17	6.6	51
ROANOKE	358	972.8	1015.8	15.6	4.4	10.1	2.1	26.7	5	- 2.2	11	0	8	1.1	59	106	25	29	13	1	8	0	4.9	WNW				8	5	18	6.8	
WASHINGTON																																
OLYMPIA	58	1005.1	1012.5	11.7	2.2	6.9	0.4	17.2	28	- 2.8	21	0	10	3.9	84	159	45	24	22	0	13	0	3.3	SW	15.6*	SW	5	0	5	26	9.1	
SEATTLE TACOMA	122	998.3	1012.6	11.1	3.3	7.4	0.4	16.1	14	- 5.0	14	0	3	2.8	75	113	27	21	23	1	46	51	4.2	SSW	16.5*	S	19	0	6	25	8.7	
SEATTLE	4	1010.8	1011.9																													
SEATTLE U	4			12.2	5.6	8.8	0.5	16.1	29+	0.6	4	0	0	3.9	72	107	29	21	21		T	0	3.7	SE	25.9	SW	20					46
SPOKANE	718	943.1	1012.7	8.9	0.0	4.4	1.0	16.1	19	- 7.2	3	0	16	- .6	74	44	10	10	13	0	170	76	4.5	SSW	18.8	SW	1	2	8	21	8.0	48
STAMPEDE PASS R	1206	873.0	1012.9	1.7	- 2.8	- 0.5	0.2	8.3	29	- 9.4	4	0	28			235	- 35	59	25	0	1544	3556						0	4	27	9.1	
TATOOSH ISLAND	31	1007.5	1010.5	9.4	3.9	6.6	-0.4	12.2	27+	- 2.2	4	0	4	4.4	81	221	22	27	25	0	T	0	7.5	E	34.4	SW	10	1	3	27	9.0	32
WALLA WALLA U	289	976.6	1012.5	13.3	5.0	9.1	0.8	21.1	14	- 0.6	3	0	1			51	12	16	12	0	18	0	3.0	W#	15.6	S	8	4	5	22	7.9	45
YAKIMA	323	973.2	1012.9	12.2	0.0	6.1	-0.4	19.4	31+	- 7.2	6	0	18	0.0	67	52	40	14	12	0	107	76	3.4	WNW	15.6*	WSW	19+	2	11	18	7.6	
WEST INDIES																																
SAN JUAN P.R. U	14			27.8	22.2	24.8	0.6	32.2	24	20.0	29	1	0			81	19	27	16													
SAN JUAN P.R.	5	1013.6	1016.6	29.4	20.6	24.8	0.9	32.2	25	17.9	29	1	0	19.4	75	67	- 1	19	19	0	0	0	4.9	ENE	11.2*	ENE	29+	2	27	2	5.6	56
SWAN ISLAND	10	1011.7		28.9	24.4	26.6	0.2	30.0	31+	20.0	10	0	0			56	31	25	11	0	0	0						7	16	8	5.5	
WEST VIRGINIA																																
CHARLESTON	290	979.2	1015.3	13.9	3.9	8.9	1.7	24.4	27	- 4.4	17+	0	7	0.6	60	124	18	21	18	1	15	0	3.4	S	14.3*	NNW	6	4	6	21	8.1	
HUNTINGTON U	173			15.0	4.4	9.7	1.2	23.9	27+	- 2.8	17	0	6			103	- 1	25	16		T	0										
PARKERSBURG U	187			13.9	3.9	8.8	2.3	25.0	27	- 5.6	17	0	8			119	29	26	13	3	T	0	3.2		16.1	W	8	6	7	18	7.3	38
WISCONSIN																																
GREEN BAY	210	991.9	1015.1	3.9	- 2.8	0.4	2.4	16.1	26	-11.1	10	0	27	- 3.3	78	54	9	18	13	2	206	51	6.0	NE	19.2	SW	27	4	10	17	7.2	41
LA CROSSE	199	989.5	1014.8	5.6	- 2.8	1.2	1.4	16.7	25	-10.0	12+	0	27	- 2.8	75	86	38	25	11	3	414	279	4.8	S	13.0*	N	8	3	9	19	7.5	
MADISON	262	978.0	1014.3	5.0	- 3.3	1.0	0.7	17.2	27+	-15.0	10	0	23	- 2.2	80	87	40	22	11	5	333	254	5.2	ENE	17.9	SW	27	3	5	23	8.1	35
MILWAUKEE	204	989.2	1015.2	5.6	- 2.2	1.8	1.1	20.0	26	-11.1	10	0	22	- 1.1	83	97	41	28	11	2	363	279	6.0	WNW	20.1	S	27	3	11	17	7.7	39
WYOMING																																
CASPER	1621	831.7	1011.2	8.9	- 3.3	2.8	2.6	19.4	23+	-11.7	29	0	26	- 5.6	62	29	1	12	10	1	216	127	6.3	SW	21.9*	WSW	20	4	8	19	7.3	
CHEYENNE	1869	806.0	1013.4	5.0	- 5.6	- 0.2	-0.1	16.7	24	-16.1	4	0	30	- 6.7	66	53	22	24	13	0	589	203	6.5	WNW	25.0	NW	21	6	9	16	6.6	58
LANDER	1696	830.3	1016.4	8.9	- 4.4	2.3	2.7	17.8	15	-10.6	4	0	29	- 7.8	50	17	- 12	11	6	0	198	102	2.9	SW#	18.8	W	1	7	11	13	6.1	79
SHERIDAN	1202	880.1	1012.8	10.0	- 3.3	3.3	3.6	21.7	24	-10.0	5	0	27	- 3.9	62	15	- 19	8	10	0	20	0	4.2	WNW	27.7	NW	1	5	14	12	6.2	59

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.
A Maximum hourly average.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
\# Wind direction to 8 compass points only.
Y Peak Gust.

Data in this table is obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65 F.)

MARCH 1961

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	252	2574	2622
Huntsville	305	2945	
Mobile	123	1629	1565
Montgomery	209	2268	2057
ALASKA			
Anchorage	1500	8576	8964
Annette	751	5120	5607
Barrow	2666	16766	15673
Barter Island	2678	16100	
Bethel	1901	10890	10587
Cold Bay	1232	7480	7393
Cordova	1166	7212	7601
Fairbanks	1995	12159	12336
Juneau	938	6605	7223
King Salmon	1696	9340	9176
Kotzebue	2211	12451	12867
McGrath	2040	12218	12261
Nome	2011	11106	11220
St. Paul	1427	8615	8163
Shemya	1069	7272	
Yakutat	1020	6771	7361
ARIZONA			
Flagstaff	925	5651	6161
Phoenix (U)	115	981	1430
Phoenix	166	1365	1624
Prescott	609	3686	3984
Tucson	206	1624	1692
Winslow	594	4504	4215
Yuma	38	598	937
ARKANSAS			
Ft. Smith	344	3085	3037
Little Rock	295	3044	2842
Texarkana	228	2388	2278
CALIFORNIA			
Bakersfield	296	2241	1989
Bishop	538	3505	3725
Blue Canyon	889	4054	4523
Burbank	194	993	1549
Eureka (U)	464	3490	3543
Fresno	352	2561	2344
Long Beach	235	1225	
Los Angeles (U)	146	724	1235
Los Angeles	248	1193	1653
Mt. Shasta (R)	803	4387	4833
Oakland	365	2434	2550
Point Arguello (R)	389	2770	
Red Bluff	418	2415	2318
Sacramento (U)	334	2333	2314
Sacramento	364	2397	2490
Sandberg (R)	641	3241	3491
San Diego	182	893	1283
San Francisco (U)	327	2502	2362
San Francisco	357	2440	2666
San Jose (U)	318	1892	1998
Santa Maria	385	2321	2277
COLORADO			
Alamosa	996	7235	7317
Colorado Springs	885	5330	5317
Denver	804	5110	5256
Grand Junction	696	4701	5226
Pueblo	721	4738	5023
CONNECTICUT			
Bridgeport	845	5031	5048
Hartford	916	5994	5379
New Haven	854	5245	5146
DELAWARE			
Wilmington	687	4755	4398
DIST. OF COLUMBIA			
Washington (U)	527	3951	3864
Washington	536	4113	3923
FLORIDA			
Apalachicola (U)	77	1261	1274
Daytona Beach	62	921	857
Fort Myers	17	351	405
Jacksonville	60	782	1220
Key West	3	84	77
Lakeland (U)	26	649	649
Miami	11	180	178
Miami Beach	7	113	123
Orlando	25	636	650
Pensacola (U)	97	1373	1390
Tallahassee	92	1474	1481
Tampa	22	601	674
West Palm Beach	17	248	248
GEORGIA			
Athens	319	2847	2657
Atlanta	322	2750	2673
Augusta	221	2452	2076
Columbus	225	2298	2299
Macon	202	2198	1987
Rome	377	3246	2952
Savannah	119	1841	1667
Thomasville (U)	76	1452	1434
IDAHO			
Boise	631	4578	5096
Idaho Falls 46W (R)	959	6725	7319
IDAHO (Cont'd.)			
Idaho Falls 42NW (R)	995	6978	7666
Lewiston	623	4436	4785
Pocatello	813	5616	5962
ILLINOIS			
Cairo (U)	417	3587	3527
Chicago (Midway)	741	5087	5516
Chicago (O'Hare)	830	5520	
Moline	789	5481	5667
Peoria	750	5422	5419
Rockford	849	5770	
Springfield	650	4899	5086
INDIANA			
Evansville	472	4147	4013
Ft. Wayne	733	5384	5492
Indianapolis	657	5056	4973
South Bend	806	5460	5683
IOWA			
Burlington	742	5203	5463
Des Moines	845	5481	5762
Dubuque	932	6120	6385
Sioux City	843	5817	6256
Waterloo	931	6271	6341
KANSAS			
Concordia (U)	683	4498	4816
Dodge City	658	4258	4561
Goodland	786	4939	5534
Topeka	663	4494	4731
Wichita	562	4088	4183
KENTUCKY			
Lexington	554	4244	4456
Louisville	536	4296	4055
LOUISIANA			
Alexandria	162	2075	
Baton Rouge	117	1720	1547
Lake Charles	95	1480	1503
New Orleans (U)	48	1142	1156
New Orleans	97	1420	1286
Shreveport	167	2090	2056
MAINE			
Caribou	1356	8311	8551
Portland	1075	6626	6477
MARYLAND			
Baltimore (U)	559	3925	3804
Baltimore	612	4492	4289
Frederick	673	5067	4380
MASSACHUSETTS			
Blue Hill Obs. (R)	924	5628	
Boston	865	5064	4979
Nantucket	876	5004	4927
Pittsfield	1040	6615	6563
Worcester	985	6155	
MICHIGAN			
Alpena	1116	7169	6739
Detroit (City AP)	795	5326	5535
Detroit (M. Wayne Co.)	803	5487	
Detroit (Willow Run)	794	5391	5618
Escanaba (U)	1083	6860	7216
Flint	879	6033	6143
Grand Rapids	841	5677	6089
Lansing	864	5911	
Marquette (U)	1060	6816	7074
Muskegon	898	5728	5981
S. Ste. Marie	1183	7539	7906
MINNESOTA			
Duluth	1100	7787	8439
Internat. Falls	1122	8538	9158
Minneapolis	1013	6995	6944
Rochester	1067	6795	7105
St. Cloud	968	7130	7793
MISSISSIPPI			
Jackson	169	2226	2121
Meridian	202	2320	2239
Vicksburg (U)	147	2082	1929
MISSOURI			
Columbia	610	4287	4638
Kansas City	649	4168	4477
St. Joseph	707	4682	4869
St. Louis (RFC)	521	3914	4098
St. Louis	597	4358	4290
Springfield	544	4047	4264
MONTANA			
Billings	738	4988	6119
Glasgow	836	6715	7668
Great Falls	839	5317	6409
Havre	857	6110	7178
Helena	863	5945	7000
Kalispell	870	6443	6810
Miles City	765	5789	6889
Missoula	862	6512	6723
NEBRASKA			
Grand Island	791	5209	5654
Lincoln (U)	769	4965	5284
Norfolk	876	5783	6253
North Platte	833	5452	5755
Omaha	784	5130	5564
Omaha N. Omaha AP	839	5488	
Scottsbluff	819	5617	5888
Valentine	873	5863	6161
NEVADA			
Elko	896	5817	6162
Ely	953	5910	6186
Las Vegas	268	2313	2333
Reno	721	4825	5034
Tonopah	740	4598	4946
Winnemucca	787	5201	5413
NEW HAMPSHIRE			
Concord	1002	6560	6554
Mt. Washington Obs. (R)	1630	11328	
NEW JERSEY			
Atlantic City	677	4437	
Atlantic City (U)	906	4644	4060
Newark	729	4553	4643
Trenton (U)	719	4645	4495
NEW MEXICO			
Albuquerque	551	3948	4030
Clayton	710	4501	4510
Raton	792	5406	5495
Roswell	463	3829	3211
Silver City	540	3475	
NEW YORK			
Albany	987	6255	6069
Binghamton	1016	6358	6459
Buffalo	952	6001	5815
New York (U)	719	4460	4423
New York (LaGuardia)	739	4335	4391
Rochester	945	5908	5905
Schenectady	951	6001	6180
Syracuse	977	5964	5666
NORTH CAROLINA			
Asheville (U)	453	3685	3677
Cape Hatteras (R)	326	2448	2196
Charlotte	383	3034	3004
Greensboro	444	3603	3519
Raleigh	393	3307	3126
Wilmington	230	2427	2212
Winston-Salem	419	3443	3440
NORTH DAKOTA			
Bismarck	892	6975	7905
Devils Lake (U)	1084	7994	8659
Fargo	936	7571	8148
Grand Forks	1004	7965	
Pembina	1111	8191	
Williston (U)	917	6781	7907
OHIO			
Akron	787	5462	5381
Cincinnati (U)	510	3977	4110
Cincinnati	568	4388	4631
Cincinnati Obs.	558	4332	4378
Cleveland	771	5546	5206
Columbus	601	4845	4960
Columbus (U)	618	4702	4694
Dayton	653	4962	4944
Mansfield	764	5408	
Sandusky (U)	732	5094	5088
Toledo	795	5553	5534
Youngstown	812	5577	5344
OKLAHOMA			
Oklahoma City	395	3255	3422
Tulsa	394	3251	3367
OREGON			
Astoria	590	3757	3957
Burns (U)	838	5589	5858
Eugene	556	3676	3961
Meacham	926	5931	6317
Medford	575	3735	3890
Pendleton	573	4166	4570
Portland (U)	509	3170	3527
Portland	530	3533	3901
Roseburg	531	3409	3777
Salem	570	3578	3826
Sexton Summit (R)	892	4716	4876
PENNSYLVANIA			
Allentown	801	5437	5196
Erie	848	5434	5535
Harrisburg	720	4962	4693
Philadelphia (U)	642	4100	4061
Philadelphia	672	4830	4360
Pittsburgh (U)	638	4573	4496
Pittsburgh	729	5303	5188
Reading (U)	702	4714	4515
Scranton	922	5930	5300
Williamsport	822	5678	5215
RHODE ISLAND			
Block Island	880	4902	4809
Providence	864	5332	5239
SOUTH CAROLINA			
Charleston (U)	143	1783	1726
Charleston	155	2066	1910
Columbia	238	2508	2352
Florence	237	2459	2424
Greenville	314	2832	2867
Spartanburg	327	2963	2866
SOUTH DAKOTA			
Huron	879	7108	6985
Pierre	827	6094	
Rapid City	787	5474	6415
Sioux Falls	906	6466	6934
TENNESSEE			
Bristol	441	3813	3779
Chattanooga	373	3307	3160
Knoxville	400	3397	3344
Memphis (U)	318	2895	2855
Memphis	311	3075	2974
Nashville	393	3459	3284
Oak Ridge (U)	400	3521	3743
TEXAS			
Abilene	241	2521	2544
Amarillo	507	3855	3948
Austin	116	1717	1663
Brownsville	16	713	617
Corpus Christi	39	1053	1005
Dallas	193	2204	2197
Del Rio (U)	67	1510	
El Paso	266	2723	2531
Ft. Worth	209	2314	2266
Galveston (U)	51	1225	1181
Galveston	58	1259	1205
Houston (U)	59	1285	1249
Houston	56	1267	1352
Laredo	25	1046	781
Lubbock	444	3439	3350
Midland	293	2659	2467
Port Arthur	81	1453	1478
San Angelo	215	2260	2045
San Antonio	82	1489	1545
Victoria	67	1284	1112
Waco	159	1985	1959
Wichita Falls	300	2757	2869
UTAH			
Milford	809	5165	5583
Salt Lake City	678	4809	5099
Wendover	701	4948	
VERMONT			
Burlington	1187	7256	6805
VIRGINIA			
Lynchburg	489	3911	3777
Norfolk	385	3285	3130
Richmond	461	3720	3618
Roanoke	465	3849	3782
WASHINGTON			
Olympia	629	4315	4482
Seattle (U)	525	3376	3689
Seattle	525	3692	3975
Seattle-Tacoma	607	3974	4336
Spokane	771	5441	5815
Stampede Pass (R)	1042	7085	7238
Tatoosh Island (R)	650	4242	4432
Walla Walla	546	4055	
Walla Walla (U)	511	3837	4301
Yakima	676	4975	5179
WEST VIRGINIA			
Charleston	522	4200	3989
Huntington (U)	480	3976	3732
Parkersburg (U)	531	4186	4271
WISCONSIN			
Green Bay	991	6668	7109
La Crosse	951	6235	6774
Madison	959	6302	6486
Milwaukee	918	6077	6124
WYOMING			
Casper	863	5860	6451
Cheyenne	1028	5847	6210
Lander	887	6391	7057
Sheridan	832	5759	6710

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

MARCH 1961

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
Alabama	5	4	0	16	6	0	0	1	3	0	0	5	2																
Alaska *																													
Arizona *																													
Arkansas	18	3	1	68	6	0	0	5	4	0	2	4	0	0	0	4	0												
California										0	0	5	0	0	0	3	0												
Colorado *																													
Connecticut *																													
Delaware *																													
Florida	3	2	0	0	4	0	0	D	D																				
Georgia	14	2	1	15	6	0	0	0	3	0	0	4	3																
Hawaii *																													
Idaho *																													
Illinois	9	2	1	126	7					2	21	6	0					0	1	5	0	0	0	5	0				
Indiana	10	1	1	8	6					0	2	6	0																
Iowa																		1	0	4									
Kansas	11	3		1	5		1					4			5	4													
Kentucky											2	5																	
Louisiana	4	4	0	1	5	0	0	5	C	0	0	5	0	1	2	0	0												
Maine										0	0	3	0					0	0	4	0								
Maryland *																													
Massachusetts										0	0	4	0					0	0	4	0					0	0	4	0
Michigan	1	1	0	0	5							4			1	4													
Minnesota *																													
Mississippi	3	2	0	10	4	0	0	5	4	0	1	5	0	0	1	3	0												
Missouri	10	3	1	31	6																							4	
Montana										0	1	4	0																
Nebraska *																													
Nevada										1	1																		
New Hampshire										0	0	3	0					0	0	4	0								
New Jersey														0	0	4	0												
New Mexico *																													
New York																3				6									
North Carolina *																													
North Dakota *																													
Ohio	1	1	0	0	4					0	0	5	0	0	0	4	0												
Oklahoma	10	3	0	4	6	0	0	5	3	0	0	5	0	0	0	4	0	0	0	4	0								
Oregon										0	2	5	3																
Pennsylvania *																													
Puerto Rico *																													
Rhode Island *																													
South Carolina *																													
South Dakota	1	1	0	0	3																								
Tennessee	1	1	0	0	5					3	1	5	0																
Texas	19	5	2	29	6	0	1	6	4	0	0	5	0					5	0	4	0								
Utah											2	6																	
Vermont																		0	0	4	0								
U.S.Virgin Is. *																													
Virginia *																													
Washington										1		4																	
West Virginia												4																	
Wisconsin																										0	0	5	0
Wyoming																		0	3	3	0								

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
D Damage occurred but not estimated.
Includes crop damage.
C Crop damage.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

MARCH 1961

Record to near record stages occurred in the Upper Mississippi Basin on the Shell Rock and Cedar Rivers in Iowa. Preliminary estimates of damage in the Cedar Basin are in excess of $150 million. Severe flooding occurred on the Kickapoo River in Wisconsin. Parts of two counties in western Wisconsin were declared flood disaster areas. Flooding reported elsewhere was mostly light to moderate.

ST. LAWRENCE DRAINAGE

Lake Erie.--Flood crests were experienced on three occasions during the second and third decades of March at Decatur, Ind., on the St. Marys River. Overflow was minor and no damage was reported. No damage resulted from the minor overflow of the St. Joseph River at Montpelier, Ohio, during the middle of the month. The Maumee River crested just under flood level at Ft. Wayne, Ind., on the 14th.

ATLANTIC SLOPE DRAINAGE

Minor flooding which began during the latter part of February on the Charles River continued until March 5, reaching 0.6 foot above flood stage at Charles River Village, Mass., on March 1. Overflow was confined to lowlands and no damage resulted.

On the 23d heavy rainfall, averaging about 2 inches in a 7-hour period, fell over the Assunpink and Raritan watersheds in New Jersey. Light overflow resulted on the 24th with only minor damage to low-lying roads. Over most of the Passaic watershed precipitation occurred as snow, or snow and rain mixed, and thus runoff was insufficient to cause flooding.

In North Carolina, flooding along the Tar, Neuse, and Cape Fear Rivers continued from February into the first decade of March. Rainfall, averaging about 1.5 to 2 inches on the 21st, resulted in the Dan and Roanoke Rivers rising to near bankfull stages on the 22d and 23d. It also caused light to moderate overflow along the Neuse from the 24th through the end of the month and along the Cape Fear from the 23d to the 28th. No damage was reported.

A flash flood occurred at Norwood, N. C., on the Rocky River on the 22d. The river rose from a stage of 4 feet on the 21st to a crest of 25.4 feet, 9.4 feet above flood stage, on the 22d, as a result of a 2-inch rainfall.

Flooding along the Pee Dee River continued from February until March 14 at Peedee, S. C. A rise brought the stage to within 7 feet of flood stage at Cheraw, S. C., on the 10th, and a second rise to a crest of 4.2 feet over flood stage on the 23d. The river exceeded flood stage again at Peedee, S. C., on the 24th, cresting 3.1 feet above flood stage on the 28th, and continued in flood into April. Minor overflow occurred along the Lynches River at Effingham, S. C., from the 2d through the 5th and the North Fork of the Edisto River did not return to its banks from the February rise until March 4. Minor overflow occurred on the main stem of the Edisto at Givhans, S. C., from the 3d through the 11th. No significant damage resulted from the overflow along these rivers.

The Saluda River crested just at flood level on the 9th at Pelzer, S. C., as did the Broad River at Blairs, S. C., on the 9th and again on the 22d. Lowland flooding along the Congaree River below Columbia, S. C., along the Wateree River below Camden, S. C., and along the upper Santee River resulted in some damage to pasturelands and logging interests during the first week or 10 days of the month.

Flooding in the middle and lower portions of the Savannah and Ogeechee Rivers was due to rains that fell during the last 10 days of February. Overflow was minor and no damage resulted. Releases from Clark Hill Reservoir following rains that averaged about 2 inches from the 7th to the 9th resulted in a moderate rise on the Savannah River.

Runoff from February precipitation accounted for the overflow in the Altamaha Basin in Georgia. Stages in the upper portions of the streams remained above flood level into the first week or 10 days of March. Flooding commenced in the lower portions of the rivers as the crests moved slowly downstream. The Ocmulgee River overflowed at Lumber City, Ga., from the 5th to the 12th, and the Oconee River was in flood from the 1st to the 10th at Mt. Vernon, Ga. The Altamaha River was above flood level from the 3d to the 15th in the vicinity of Charlotte, Ga., cresting 7.5 feet over flood stage at Charlotte on the 7th, but did not overflow downstream.

EAST GULF OF MEXICO DRAINAGE

The flood which began in the latter part of February in the Apalachicola Basin culminated during the first week of March as indicated in the February flood stage table. Recurring light to heavy rainfall retarded recessions, however, and in some cases caused small rises.

Rains of 2 to 5 inches fell over the central portions of Alabama during the afternoon of the 6th and morning of the 7th. Moderate rises resulted along most streams, but flood stage was not exceeded along those rivers that had returned to their banks after the flooding that began in February. The Alabama River at Montgomery, Ala., had fallen to 39.2 feet by 7 a.m. on the 8th and a secondary crest brought the stage back to 40.0 feet by 1 p.m. on the 8th. This was 5 feet above flood stage.

Rainfall early in March was sufficient to maintain the Pearl River above flood level throughout the month at Jackson, Miss., and from above Bogalusa, La., downstream. Also, the Bogue Chitto River exceeded flood stage by 3.2 feet on the 19th at Franklinton, La. In the Pascagoula system, flood stage was exceeded by 3 feet on the 20th at Beaumont, Miss., on the Leaf River, while the Pascagoula reached 2.8 feet above flood level at Merrill, Miss., on the 21st. Then, heavy rainfall beginning on the 27th and continuing, with only brief interruptions, through the 30th, produced abnormally heavy runoff to all rivers in the Pearl and Pascagoula basins. Crest stages were not as high as those which occurred during the February flood, but were critical, nevertheless. The Bogue Chitto River crested 4.2 feet above flood stage at Franklinton, La., on the 31st, but the other streams did not crest until in April.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--March snowfall was heavy over southeastern Minnesota and eastward over Wisconsin extending into Upper Michigan. Total March snowfall in much of this area equalled or exceeded the total accumulation for the preceding months of the snow season. Cold temperatures during December and January caused deep frost penetration. The melting of the February 18 snowfall was absorbed into the upper layer of soil and again frozen. These factors, coupled with the rapid warmup

which began on the 23d and continued through the 27th, caused the Zumbro, Whitewater, Root, Upper Iowa, Trempealeau, Black, and Kickapoo Rivers to swell rapidly on the 25th and 26th. Runoff-producing rains fell on the 26th and 27th, aggravating the snowmelt rise on the Upper Iowa, the Kickapoo, and the Wisconsin Rivers. Flooding was experienced along all these streams, except the Wisconsin River which crested just below flood level. Overflow was severe along some streams, particularly along the Kickapoo. The resulting rise on the Mississippi River in this region remained below flood stage. The crest at LaCrosse, Wis., was 11.4 feet on the 28th, 0.6 foot below flood stage, and the highest stage there since May 1954.

The overflow from the Kickapoo River was the most damaging, and particularly hard hit were the towns of Soldiers Grove, Gays Mills, LaFarge, Viola, and Readstown, all in Wisconsin. Four to 6 feet of water covered the main street of Soldiers Grove, and numerous families were evacuated as the town was isolated by flood waters. Practically all of Gays Mills was inundated and the inhabitants evacuated. Preliminary estimates place the urban and agricultural damage along the Kickapoo in excess of $1 million, and nearly a quarter million dollars damage to roads, bridges, etc. Property damage was also quite extensive along the upper Iowa River in Iowa and along the Root and Zumbro Rivers in Minnesota.

Moderate rises also occurred on the Blue Earth and LeSeur Rivers, which flow into the Minnesota River at Mankato, Minn. The subsequent rise on the Minnesota River approached flood stage at several points and some minor overflow did occur at Carver, Minn.

The ice had moved out of the upper Mississippi River by the end of the second decade of March.

Rapid snowmelt on the 25th and 26th, combined with 0.5-inch rainfall on the 26th, produced light flooding on the Turkey and Wapsipinicon Rivers in Northeastern Iowa. Light flooding occurred in the headwaters of the Pecatonica River in southern Wisconsin and northern Illinois and continued into April in the lower reaches of the Wapsipinicon, Pecatonica, and the Rock Rivers. Most of the flooding occurred over agricultural lands before planting time and very little damage resulted. A few persons were forced to evacuate in the town of Independence, Iowa, but no property damage was sustained.

Two periods of precipitation on frozen soil caused minor flooding during the first and second decades of the month in Iowa in the Skunk River basin, in the Middle and South Rivers (tributaries of the Des Moines), and in the lower portion of the Des Moines River. The first period began on the 5th, when rains ranging from more than 0.5 inch in central and northern Iowa to 1.5 inches in the southeast. This was followed on the 7th by heavy snow in northern Iowa (which ranged in depth from 10 to 15 inches with a water content of more than 1 inch), rain and snow in central Iowa, and rain in the southern sections. Amounts in the central sections averaged 0.5 to 0.75 inch but ranged up to 1.5 to 2 inches in the upper Cedar and lower Skunk Basin.

The second period of precipitation was on the 12th, when rainfall ranged from 0.5 inch in the north to 1.5 inches in the south. In addition, there were frequent periods of light rain and snow across the State during the remainder of the month.

The precipitation in the early part of March helped to saturate the topsoil in northern Iowa. Above-freezing daytime temperatures compacted the snow cover, but very little runoff occurred until the warm spell began on the 24th. During the weekend of the 25th and 26th, temperatures in the 60's melted all the snow cover, resulting in the general flooding in the Cedar, Iowa, and Des Moines River basins.

A rapid rise began on the 25th in the headwaters of the Cedar River on Shell Rock and Winnebago Rivers. A record-breaking crest was reached at Marble Rock, Iowa, on the Shell Rock River on the 28th when the stage reached 11.8 feet, exceeding the previous high of June 21, 1954, by 2.2 feet. Record high stages were also recorded along the Cedar River. The crest of 21.6 feet on the 27th at Charles City, Iowa, exceeded the previous high stage of June 21, 1954, by 2.7 feet, and the 21.9-foot crest at Waterloo, Iowa, on the 29th exceeded the previous record of March 16, 1929, by 1.9 feet. The 19.7-foot crest at Cedar Rapids, Iowa, on the 31st was the third ranking high stage of record. A new record might have been established there, also, had not the channel in the Cedar Rapids reach been dredged of about 2 feet of silt. This severe flooding caused extensive damage to towns and farmland. Preliminary estimates of damage in the Cedar Basin are in excess of $150 million, with the greatest losses in the Waterloo-Cedar Falls areas. More than 3,600 families and their homes were affected, 450 houses receiving major damage. Seventeen business houses reported major damage and 176 sustained minor losses. Farms with major damage numbered 102, and 24 received minor damage. There were no deaths as a result of the flooding, but 74 persons suffered minor injuries and 24 persons were hospitalized.

Flooding continued into April along the lower Des Moines. Overflow on the Des Moines River was relatively minor and no damages were reported, but low-lying farmlands did receive some damage.

Rainfall over the Meramec River basin in eastern Missouri averaged about 5 inches during March, with about 2 inches falling on the 5th and 6th and another half inch on the 7th and 8th. Light flooding resulted along the Meramec with the greatest overflow occurring at Pacific, Mo., on the 8th, when flood stage was exceeded by 4 feet. Only minor damage occurred.

Missouri Basin.--A warm period, from February 28 to March 2, melted most of the remaining snow and caused the first spring rise and ice breakup on the Floyd River and the Big Sioux below Sioux Falls, S. Dak. During the first week of March the Big Sioux, the Rock, and Floyd Rivers rose to 1 to 2 feet over bankfull; except briefly 3 to 4 feet over bankfull at Alton, Iowa, because of an ice jam below Alton. While this early March rise was in progress, a series of snowstorms dropped 6 to 12 inches of new snow in northwest Iowa, southern Minnesota, and east of a line from Pickstown to Sioux Falls in South Dakota. Sufficient warming developed between the 13th and 18th to melt all of the new March snowfall on the Floyd and Big Sioux watersheds and cause rises to develop for the second time. Stages near bankfull to as much as 2 feet over banks were recorded. Overflow from these March rises was limited. Because of the time of year, there was no crop damage.

Considerable snow accumulation was reported over the northern reaches of the Little Sioux River basin and relative mild weather the first 3 days of March resulted in rapid melting and runoff. However, colder weather reduced the flood threat and most streams remained below bankfull. Additional snowfall of 4 to 8 inches, falling from the 5th through the 7th, increased the depth of the snow cover. Rapid warming the middle of March resulted in considerable melting and rapid runoff, with some flooding and over-bankfull conditions along the Little Sioux from Spencer, Iowa, downstream to just below Correctionville, Iowa. Although the flood crest approached the flooding of 1953, the crest was rather short and flooding occurred mostly in lowlands with little resulting damage.

March 1961 was the wettest March on record over much of the Missouri River tributary drainage in northern Missouri and eastern Kansas. There were three periods of flooding along the Grand and a fourth period along the lower reach. The overflow of the 13th and 27th was the most extensive and water stayed on fields longer and greater damage resulted. Spring tillage will be delayed somewhat and a few secondary roads were blocked.

Monthly rainfall over the Marais des Cygnes was the greatest on record for March. Precipitation totals averaged as large or larger than the accumulative totals for the preceding 4 months. Heavy flooding on the upper Marais des Cygnes channel near the end of March reached 6 feet above flood stage at Quenemo, Kans., and from 3 to 4 feet above the natural banks in the vicinity of Ottawa, Kans. Downstream crests were about a foot above flood stage at Osawatomie and La Cygne, Kans. The last flood of similar magnitude on the upper Marais des Cygnes was in May 1957. Light to moderate overflows were recorded on Stranger Creek and the Wakarusa River, tributaries of the lower Kansas River. Losses were reported as light. Because of the lateness of the season spring crops had generally not been planted and the flooding mainly served to further delay farm operations in the bottom lands.

Ohio Basin. --Rather extensive light to moderate flooding developed in March over the middle and lower portions of the Ohio River drainage. For some districts, this was the first overflow of consequence since February 1959. Flooding was confined mostly to acreage normally devoted to agriculture, but owing to the season, the land was not under cultivation and flood losses were minor. Local flash flooding was experienced, however, in the Elk, Duck, and Tennessee River basins in Tennessee.

General rains over the Scioto River watershed, occurring from the 4th through 9th and again on the 19th through 24th, produced minor flooding in Ohio agriculture lands. No losses were sustained because crops had not been planted. Bottom land was inundated in extreme lower reaches of the Little Miami River. Although about 50 persons were evacuated as a precautionary measure, no flooding of homes was reported. Ohio River tributaries in Kentucky experienced some overflow, but for the most part this was minor. Rather widespread flooding occurred over much of the White and Wabash River drainage in Indiana and Illinois during the month, but there was no extreme flooding requiring evacuations. Flood damage to crops was at a minimum because of the time of year. Damage otherwise was not great, although numerous state and other secondary roads were closed for considerable periods. Weather Bureau warnings were effective and permitted removal of livestock from bottom lands. Warnings were also used in planning alternate transportation routes.

During March flooding developed on the lower Cumberland River from Eddyville, Ky., to the mouth. Flood stage was reached on March 9 at Eddyville and a crest of 55.4 or 5.4 feet over flood stage was recorded on the 13th. The river remained above flood stage until March 18. Heavy rains, totaling 3 to 5 inches or more, fell over Tennessee on the 7th and 8th and caused flash flooding in some areas with general flooding on the Elk and Duck Rivers and places along the Tennessee River. South Chickamauga Creek exceeded flood stage by nearly 5 feet on the 10th at Chickamauga, Tenn. The Elk crested 6 feet over flood stage at Fayetteville, Tenn., on the 9th, but damage produced by the overflow was minor. Over in the Duck River drainage, flood peaks were 6 to 8 feet over flood stage at Columbia and Shelbyville, Tenn. The crest of 727.3 feet (above sea level) at Shelbyville was within 0.7 foot of the February 1, 1951, flood peak. Several business places were affected by the high water at Columbia and Shelbyville. First Creek at Knoxville, Tenn., rose to 1 foot over flood stage on the Mineral Springs gage on the 8th. A few families were evacuated for a short period of time. In Blount County, heavy rains sent Pistol Creek out of its banks, flooding numerous streets in Maryville and Alcoa. Several families were forced from their homes.

The lower Tennessee River was above flood stage the entire month at the Gilbertsville, Ky., gage site. A crest of 16.6 feet over flood stage was recorded at this point on the 10th. Overflow was noted elsewhere in portions of the mid- and lower Tennessee Basin but was not as prolonged as the Gilbertsville overflow.

The rise on the upper Ohio River that began in February crested above flood stage in the vicinity of Point Pleasant, W. Va., and from Dam 29 to Dam 30, Greenup, Ky, on March 1. As this rise moved downstream, minor overflow developed at Dam 33, Maysville, Ky., and also from Dam 36 past Cincinnati, Ohio, to Dam 39 near Markland, Ind. At Cincinnati a few basements were flooded in the downtown riverfront area, necessitating removal of goods, material, and equipment; the crest being 1.2 feet above the official flood stage of 52 feet. As this rise was moving downstream, moderate to heavy rainfall occurred over the entire lower reach of the Ohio River from the 4th to the 6th. The resultant rises produced general flooding from Dam 41 at Louisville, Ky., downstream and crests were reached in the Louisville district on the 7th and 8th. The magnitude of flooding ranged from 3 to 4 feet at Louisville, and 5 to 7 feet in the lower portion of the district at Dams 44 and 45. Moderate flooding extended downstream to the mouth. Flood stage was exceeded by 1.5 feet at Evansville, Ind., and up to 13 to 15 feet in the lower portion of the Evansville District at Dams 49 and 50. The flooding in the extreme lower Ohio over the Cairo, Ill., district produced some levee damage at Paducah, Ky. There was a considerable amount of farmland flooded. The principal losses were agricultural crops, consisting mainly of winter wheat, barley, and alfalfa. Fences and roads in rural areas received some damage.

White Basin. --There were three periods in March in which heavy rains over the White River drainage resulted

in light lowland overflow. Locally heavy rainfall from the 5th to the 7th produced flooding along the White below Bull Shoals and Norfolk Dams at Batesville, Ark., and at Black Rock, Ark., along the Black, a tributary of the White. General moderate to heavy rainfall on the 12th and 13th caused the Little Red to go above flood stage at Geers Ferry Dam on the 13th, cresting at 27.05 feet or 3.05 feet above flood stage. The lower portion of the Little Red crested slightly over flood stage at Judsonia, Ark., on the 14th. Scattered flooding occurred again along the lower White from midmonth through the end of the month.

Arkansas Basin.--Light lowland flooding developed along the Neosho River in southeastern Kansas toward the end of March. There were no reports of any significant damage.

Red Basin.--Light overflows were experienced during the month along the Sulphur, Little, and Cypress Rivers in northeastern Texas and southwestern Arkansas and were continuing at the end of the month. Loss of the use of grazing lands was the principal loss caused by the flooding. In the Ouachita drainage the Caddo River was above flood stage on the 27th and then intermittently through the remainder of the month. The Ouachita went above flood stage at Arkadelphia and Camden, Ark., and continued into April. High water caused the closing of some secondary highways along the Ouachita, but damage was negligible.

Lower Mississippi Basin.--Minor lowland flooding developed along the St. Francis River in Missouri on the 8th and continued past midmonth. Along the lower reach near St. Francis, Ark., the river was out of banks from the 12th through the 28th. Overflow ranged from 2 to 4 feet and damage was confined to relatively small areas in winter pasture. Heavy rains fell over the lower Mississippi River tributaries from the 6th to the 8th and intermittently from the 13th through the 21st, also again from the 27th through the 31st. These heavy rains caused flooding which had begun in February to continue briefly on the Coldwater River and extended flooding on the Tallahatchie, Big Sunflower, Big Black, and a few days flooding on the Bogue Phalia. The lower Yazoo rose above flood stage on the 4th and remained in flood from near Yazoo City, Miss., to its mouth for the remainder of the month. Most damages were to farm- and pasturelands, and they may be heavy because of the length of the flooding period and also the season of the year. There will be some damages to farm buildings and homes, and oil drilling was suspended in a few areas. One housing project built in lowland near Vicksburg, Miss., was flooded and over 40 families left their homes.

The main stem of the lower Mississippi from New Madrid, Mo., downstream to Memphis, Tenn., was above flood stage in March until the end of the month. Overflow began at New Madrid on the 10th and at Memphis on the 16th. This flooding was relatively minor as far as damage was concerned. Primary damage was due to loss of ferry business and pastures, and to plowed-land being flooded.

WEST GULF OF MEXICO DRAINAGE

Lowland flooding developed along the Calcasieu and Sabine Rivers in Louisiana and Texas about the 19th and lasted into April in some sections. A little minor overflow developed during early March along the lower Sabine at Deweyville, Tex. Flooding was confined to the lowlands near the rivers and caused little damage. Some rural roads were flooded and a few homes were affected. Some livestock were moved to higher ground.

The Trinity River remained above flood stage at Liberty, Tex., until the 4th.

PACIFIC SLOPE DRAINAGE

Sacramento Basin.--Brief moderate rain on the 15th and 16th caused some overflow at Tisdale Wier, Calif., on the Sacramento River, into Sutter Bypass.

Columbia Basin.--Frequent periods of precipitation over western Oregon during the first two-thirds of the month produced flooding along several Willamette tributaries in Oregon. There was no serious flooding in any of the basins, although undoubtedly much grazing land was inundated during much of the month.

FLOOD STAGE DATA

(All dates in March unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
	Ft.			Ft.	
ST. LAWRENCE DRAINAGE					
Lake Erie					
St. Marys Decatur, Ind.	13	14	16	14.9	15
		20	20	13.4	20
		22	25	15.1	24
St. Joseph: Montpelier, Ohio	10	15	17	11.6	16
ATLANTIC SLOPE DRAINAGE					
Charles: Charles River Village, Mass.	4	1	5	4.6	1
Millstone Blackwells Mills, N. J.	8	23	25	9.1	24
Raritan: Manville, N. J.	12	23	24	13.55	24
Bound Brook, N. J.	8	23	24	9.4	24
Tar: Tarboro, N. C.	19	Feb. 26	3	21.1	Feb. 28
Greenville, N. C.	13	Feb. 25	5	15.5	1
Neuse: Neuse, N. C.	14	24	27	14.9	26
Smithfield, N. C.	13	Feb. 22	3	18.6	Feb. 26
		23	29	16.0	26
Goldsboro, N. C.	14	Feb. 24	10	21.8	2
		11	14	14.65	12
		25	1/	16.1	30
Kinston, N. C.	14	Feb. 27	14	18.1	6
		30	1/	14.8	Apr. 2
Cape Fear: Fayetteville, N. C.	35	23	23	35.2	23
Lock No. 2, Elizabethtown, N. C.	20	Feb. 23	3	29.9	Feb. 27
		23	28	28.0	25
Rocky: Norwood, N. C.	16	21	23	25.4	22
Lynches: Effingham, S. C.	14	2	5	15.8	3
Pee Dee: Cheraw, S. C.	30	23	24	34.2	23
Peedee, S. C.	19	Feb. 24	14	24.0	3
				19.75	12
		24	1/	22.05	28
Saluda: Pelzer, S. C.	6	9	9	6.0	9
Broad: Blair, S. C.	14	9	9	14.0	9
		22	22	14.0	22
Santee: Pineville, S. C.	20	Feb. 28			
North Fork Edisto: Orangeburg, S. C.	8	Feb. 25	3	8.9	2
Edisto: Givhans Ferry, S. C.	10	3	11	10.9	8
Savannah: Millhaven, nr, Ga.	15	1	7	16.1	3-4
		13	17	16.7	15
Clyo, Ga.	11	Feb. 26	24	14.7	7-8
				14.5	19
Ogeechee: Midville, Ga.	[illegible]	Feb. 28	3	8.5	1
Dover, Ga.	7	2	8	9.5	5
Ocmulgee: Hawkinsville, Ga.	25	Feb. 28	4	29.9	2
Abbeville, Ga.	12	Feb. 26	10	17.7	4
Lumber City, Ga.	15	5	12	19.0	8
Oconee: Milledgeville, Ga.	20	Feb. 23	1	38.5	Feb. 25
		8	8	20.7	8
Dublin, Ga.	21	Feb. 27	5	28.3	1
Mount Vernon, Ga.	16	1	10	21.8	2
Altamaha: Charlotte, Ga.	15	3	15	22.5	7
EAST GULF OF MEXICO DRAINAGE					
Chattahoochee: Eufaula, Ala.	40	Feb. 25	2	54.1	Feb. 28
Fort Gaines, Ala.	38	Feb. 26	2	49.15	Feb. 28
Columbia, Ala.	42	Feb. 27	3	47.7	1
Flint: Montezuma, Ga.	20	Feb. 27	3	23.9	Feb. 28
Albany, Ga.	20	Feb. 26	7	29.5	3
Newton, Ga.	24	2	7	27.8	4
Bainbridge, Ga.	25	4	8	26.85	6
Apalachicola: Jim Woodruff Dam, Fla.	66	Feb. 25	5	70.7	3
Blountstown, Fla.	15	Feb. 22	16	23.7	3,4
Choctawhatchee: Caryville, Fla.	12	Feb. 26	1	12.6	Feb. 27
Conecuh: Brewton, Ala.	17	Feb. 25	4	17.6	Feb. 27
				18.9	2
Oostanaula: Resaca, Ga.	22	Feb. 22	1	29.2	Feb. 27

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
	Ft.			Ft.	
EAST GULF OF MEXICO DRAINAGE (Cont'd.)					
Coosa: Gadsden, Ala.	20	Feb. 21	6	30.6	Feb. 26
		10	11	20.45	10
Childersburg, Ala.	20	Feb. 22	2	30.45	Feb. 23
Wetumpka, Ala.	45	Feb. 22	3	50.7	Feb. 23
				55.5	Feb. 25
Cahaba: Centreville, Ala.	23	31	1	27.5	31
Marion Junction, Ala.	36	Feb. 22	1	43.0	Feb. 24
Alabama: Montgomery, Ala.	35	Feb. 21	11	58.1	Feb. 26
				40.0	8
Selma, Ala.	45	Feb. 23	12	58.35	1
Millers Ferry, Ala.	40	Feb. 21	20	60.0	3
Claiborne, Ala.	40	Feb. 22	22	55.2	7
Noxubee: Macon, Miss.	20	Feb. 20	1	29.8	Feb. 22
Tombigbee: Gainesville, Ala.	36	Feb. 22	9	50.9	Feb. 27
Demopolis Lock & Dam, Ala.	48	Feb. 22	15	71.7	Feb. 28
Jackson Lock & Dam, Ala.	43	Feb. 19	1	64.2	4
Chickasawhay: Shubuta, Miss.	30	Feb. 22	3	45.0	Feb. 24
		31	1		
Waynesboro, Miss.	35	Feb. 23	2	47.7	Feb. 26
Leaf: Hattiesburg, Miss.	22	30	1	26.6	Apr. 1
Beaumont, Miss.	20	Feb. 19	4	32.8	Feb. 25
		19	21	23.0	20
		30	1		
Pascagoula: Merrill, Miss.	22	Feb. 20	8	30.6	27
		20	24	22.8	21
		31	1		
Bogue Chitto: Franklinton, La.	11	19	20	14.2	19
		29	1/	15.2	31
Pearl: Edinburg, Miss.	20	Feb. 22	2	26.8	Feb. 25
Goshen Springs, Miss.	18	No record		26.1	Feb. 26-27
Jackson, Miss.	18	Feb. 20	1/	35.0	1
Monticello, Miss.	19	Feb. 21	14	25.7	Feb. 25
		18	1/	28.5	Apr. 1
Columbia, Miss.	17	Feb. 22	15	22.8	Feb. 24
		19	26	19.1	21
		29	1/		
Bogalusa, La.	15	Feb. 18	1/	21.7	Feb. 23
				20.1	10
Pearl River, La.	12	Feb. 20	1	16.2	21
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Minnesota: Carver, Minn.	18	31	Apr. 4	18.75	Apr. 2
South Fork Zumbro: Rochester, Minn.	12	25	26	15.4	26
Zumbro: Zumbro Falls, Minn.	18	25	27	22.6	26
Theilman, Minn.	38	24	28	41.1	27
Trempealeau: Dodge, Wisc.	7	25	29	9.2	26
Black: Galesville, Wisc.	12	27	30	13.4	29
South Branch Root: Lanesboro, Minn.	12	25	28	13.4	26
				12.8	27
Root: Houston, Minn.	15	26	28	17.75	27
Hokah, Minn.	47	25	29	50.2	27
Upper Iowa: Decorah, Iowa	12	27	28	13.1	27
Dorchester, Iowa	14	25	29	19.5	26
				19.7	28
Kickapoo: LaFarge, Wisc.	12	25	28	12.7	26
Steuben, Wisc.	10	26	30	12.3	28
Turkey: Garber, Iowa	11	5	7	15.3	6
		24	31	23.0	26
Wapsipinicon Independence, Iowa	12	28	31	16.1	29
DeWitt, Iowa	10	Apr. --	Apr. 8	11.35	Apr. 5
East Branch Pecatonica: Blanchardville, Wisc.	11	6	7	12.0	6
		25	26	12.7	26
Pecatonica: Martintown, Wisc.	11	24	31	15.1	28

FLOOD STAGE DATA

(All dates in March unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From—	Above flood stages -dates To—	Crest* Stage	Crest* Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM (Cont'd.)					
Upper Mississippi Basin (Cont'd.)					
Pecatonica (Cont'd.)					
Shirland, Ill.	E10	7	21	11.7	17
		24	Apr. 4	12.35	29
Rock Joslin, Ill.	10	15	18	10.4	17
		31	Apr. 1	10.2	31
Shell Rock: Marble Rock, Iowa	9	26	31	11.8	28
Winnebago: Mason City, Iowa	7	26	29	14.8	27
Cedar: Charles City, Iowa	9	25	29	21.6	27
Waterloo, Iowa	15	27	31	21.9	29
Cedar Rapids, Iowa	13	30	1/	19.7	31
Iowa: Steamboat, Iowa	10	28	31	12.5	29
Marshalltown, Iowa	13	6	8	13.3	7
		14	16	13.3	15
		28	1/	14.8	31
Wapello, Iowa	10	10	17	10.9	12
North Skunk Sigourney, Iowa	16	7	10	18.4	9
		13	16	16.4	15
Skunk: Oskaloosa, Iowa	15	8	9	15.3	8
		13	17	16.2	14
Boone: Webster City, Iowa	10	26	28	10.0	28
Raccoon: Jefferson, Iowa	10	24	1/	13.2	28
Middle: Indianola, Iowa	15	13	13	16.2	13
South: Ackworth, Iowa	15	13	13	E19.8	13
Des Moines: Humbolt, Iowa	8	26	1/	11.5	29
Fort Dodge, Iowa	10	27	31	12.8	28
Boone, Iowa	12	28	31	15.6	29
Des Moines, Iowa (Scott Street)	13	29	1/	15.0	31
Tracy, Iowa	14	7	7	14.3	7
		14	15	16.7	14
		28	1/		
Eddyville, Iowa	15	6	8	16.8	7
		14	16	18.5	15
		27	1/		
Ottumwa, Iowa	9	7	8	9.3	8
		14	15	11.1	15
		28	1/		
Meramec: Sullivan, Mo.	11	6	7	13.0	7
Pacific, Mo.	11	7	10	15.0	8
Valley Park, Mo.	16	8	9	16.7	8
Mississippi: Muscatine, Iowa	16	Apr. 3	Apr. 5	16.5	Apr. 4
Keithsburg, Ill.	12	31	Apr. 10	15.1	Apr. 4
Missouri Basin					
Rock: Rock Valley, Iowa	11	1	4	13.3	2
Big Sioux: Hawarden, Iowa	15	2	4	15.0	2
		2	4	16.1	3
Akron, Iowa	16	2	6	17.1	3
				17.0	4
Floyd: James, Iowa	16	Feb. 28	5	18.1	2
		16	20	18.0	18
Alton, Iowa	12	2	4	15.7	3
		17	19	13.1	18
Little Sioux: Spencer, Iowa	10	24	30	14.1	26
Peterson, Iowa	16			20.4	27
Cherokee, Iowa	17	23	1/	22.8	28
Correctionville, Iowa	19	27	1/	22.34	29
Platte: Agency, Mo.	20	13	15	23.0	14
		28	29	21.7	28
Wakarusa: Lawrence, Kans.	23	27	28	27.4	27
Stranger Creek: Tonganoxie, Kans.	22	15	15	22.3	15
		27	29	24.2	27
Grand: Gallatin, Mo.	21	14	14	21.3	14
		28	28	21.2	28
Pattonsburg, Mo.	25	13	14	26.8	14
Chillicothe, Mo.	24	7	7	25.0	7
		13	15	28.65	14
		27	29	27.75	28

River and station	Flood stage	Above flood stages -dates From—	Above flood stages -dates To—	Crest* Stage	Crest* Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM (Cont'd.)					
Missouri Basin (Cont'd.)					
Grand (Cont'd.)					
Sumner, Mo.	26	7	10	29.6	8
		13	17	32.5	15
		22	24	29.1	23
		27	31	32.1	29
Brunswick, Mo.	12	14	18	14.4	15
		28	Apr.1	15.1	30
Chariton: Novinger, Mo.	20	13	13	20.7	13
Prairie Hill, Mo.	15	13	13	16.5	13
		27	27	15.6	27
Blackwater: Blue Lick, Mo.	25	29	31	25.9	31
110 Mile Creek: Quenemo, Kans.				29.7	27
Marais des Cygnes: Quenemo, Kans.	28	27	29	34.0	28
Ottawa, Kans.	21	27	29	24.9	29
Osawatomie, Kans.	28	14	14	28.6	14
		28	30	29.2	30
LaCygne, Kans.	25	14	16	27.3	15
		29	31	26.4	31
Ohio Basin					
Paint Creek: Bourneville, Ohio	10	5	5	10.2	5
Scioto: LaRue, Ohio	11	24	24	11.1	24
Circleville, Ohio	14	7	7	15.55	7
Piketon, Ohio	16	6	11	19.7	9
Rolling Fork: Boston, Ky.	40	6	9	42.8	7-8
Brashears Creek: Taylorsville, Ky.	20	5	6	26.0	6
Salt: Shepherdsville, Ky.	34	7	7	34.1	7
Green: Lock 6, Brownsville, Ky.	28	1	3	28.8	2
		6	10	31.8	8
Lock 4, Woodbury, Ky.	33	Feb. 28	13	41.2	10
Lock 2, Calhoun, Ky.	23	1	25	30.5	14
Muscatatuk: Austin, Ind.	T16	1	10	20.3	6-7
		14	15	19.5	15
		22	24	18.0	22
East Fork: Seymour, Ind.	14	6	9	16.0	7
		14	17	16.3	14
Bedford, Ind.	20	8	13	24.1	10
		17	19	21.5	15
Williams, Ind.	10	9	12	11.5	11
White: Anderson, Ind.	10	6	7	10.4	6
		13	15	11.3	14
		22	22	10.4	22
Centerton, Ind.	T603	14	15	604.0	14
Spencer, Ind.	14	6	9	16.0	7
		13	18	19.0	15
		20	25	16.05	22
Elliston, Ind.	18	7	10	20.75	8
		14	26	23.4	16
Newberry, Ind.	18	17	17	18.0	17
Edwardsport, Ind.	15	7	28	20.4	18
Petersburg, Ind.	16	7	30	22.2	20
Hazleton, Ind.	16	8	31	22.8	21
Skillet Fork: Wilcox, Ill.	16	6	9	20.1	8
		19	19	19.6	19
Little Wabash: Wayne City, Ill.	15	6	10	18.7	7
Wabash: Bluffton, Ind.	10	16	16	10.3	16
		24	24	10.0	24
Wabash, Ind.	12	14	16	14.4	14
		22	25	14.7	23
Lafayette, Ind.	11	14	18	16.7	16
		21	26	15.6	23
Covington, Ind.	16	15	28	19.7	17
Montezuma, Ind.	14	13	28	18.0	19
Terre Haute, Ind.	14	14	29	15.9	23,26
Mt. Carmel, Ill.	17	13	1/	20.9	22
New Harmony, Ind.	15	14	31	16.4	24
Saline: Harrisburg, Ill.	13		1		
		6	26	18.9	14

FLOOD STAGE DATA

(All dates in March unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From—	To—	Stage	Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM (Cont'd.)					
Ohio Basin (Cont'd.)					
Cumberland: Eddyville, Ky.	50	9	18	55.4	13
South Chickamauga Creek: Chickamauga, Tenn.				4.6	10
Elk: Fayetteville, Tenn.	8	7		14.0	9
Duck: Shelbyville, Tenn.	719	8	9	727.3	8
Columbia, Tenn.	32	8	11	37.8	10
Tennessee: Whitesburg, Ala.	560	8		568.4	10
Florence, Ala.	419	8		422.3	8
Savannah, Tenn.	380	10		381.1	12
Gilbertsville, Ky.	320	Feb. 23	31	336.6	10
Ohio: Pt. Pleasant, W. Va.	40	Feb. 27	2	41.1	1
Dam 29, Ashland, Ky.	51	Feb. 28	3	52.5	1
Dam 30, Greenup, Ky.	52	Feb. 27	4	55.1	1
Dam 33, Maysville, Ky.	50	2	2	50.0	2
Dam 36, Brent, Ky.	52	6	9	52.3	6
Cincinnati, Ohio	52	6	9	53.2	7
Dam 37, Fernbank, Ohio	50	2	11	53.3	7
Dam 38, Grant, Ky.	51	5	10	53.4	7
Dam 39, Markland, Ind.	48	4 5	4 11	48.1 50.5	3 7
Madison, Ind.	46	6	9	46.5	7
Dam 41, Louisville, Ky. Upper	28	5	12	31.7	7
Lower	55	6	11	58.2	7
Dam 43, Evans Landing, Ind.	57	6	11	60.3	8
Dam 44, Leavenworth, Ind.	53	2	14	60.3	8
Dam 45, Addison, Ky.	47	3	15	52.4	8
Tell City, Ind.	38	1	17	45.2	9
Dam 46, Owensboro, Ky.	41	5	15	44.0	9
Dam 47, Newburgh, Ind.	38	Feb. 28	21	45.8	10
Evansville, Ind.	42	6	16	43.5	10
Dam 48, Cypress, Ind.	38	2	22	45.6	11
Mt. Vernon, Ind.	35	2	26	43.5	13
Dam 49, Uniontown, Ky.	37	4	28	45.6	14
Shawneetown, Ill.	33	1	1/	46.2	14
Dam 50, Fords Ferry, Ky.	34	Feb. 28	1/	49.4	14
Dam 51, Golconda, Ill.	40	7	26	46.6	16
Paducah, Ky.	39	8	27	45.7	11
Dam 52, Brookport, Ill.	37	8	29	47.5	11
Dam 53, Grand Chain, Ill.	42	3	30	51.5	16
Cairo, Ill.	40	6	Apr. 5	49.8	18
White Basin					
Black: Black Rock, Ark.	14	7	1	17.4 19.6	8 13
Little Red: Greers Ferry Dam, Ark.	24	13	13	27.05	13
Judsonia, Ark	30	14	14	30.3	14
White: Batesville, Ark.	16	8	8	17.1	8
Georgetown, Ark.	21	16 29	16 1	21.0	16
Clarendon, Ark.	26	15	1/		
St. Charles, Ark.	25	19	1/		
Arkansas Basin					
Cottonwood: Emporia, Kans.	20	28	29	22.3	28
Neosho: Emporia, Kans.	22	27	27	23.7	27
Neosho Rapids, Kans.	22	28	29	23.4	28
Burlington, Kans.	27	27 29	27 30	27.6 27.7	27 29
LeRoy, Kans.	23	28	28	23.0	28

River and station	Flood stage	Above flood stages -dates		Crest*	
		From—	To—	Stage	Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM (Cont'd.)					
Red Basin					
Caddo: Glenwood, Ark.	10	27 29 31	27 29 Apr.1	15.7 12.4 11.25	27 29 31
Little Missouri: Boughton, Ark.	20	29	29	20.6	28
Ouachita: Arkadelphia, Ark.	17	31	Apr. 1	22.0	31
Camden, Ark.	26	30	1/	36.1	Apr. 4
Little: Whiteclifts, Ark.	25	31	1/		
Sulphur: Naples, Tex.	22	30	1/		
Cypress: Jefferson, Tex.	18	22 31	23 1/	18.1	22
Lower Mississippi Basin					
St. Francis: Fisk, Mo.	20	8	18	24.2	11
St. Francis, Ark.	18	12	28	20.5	16
Coldwater: Sarah, Miss.	18	6 31	9 1/	21.7 21.0	7 31
Tallahatchie: Swan Lake, Miss.	26	Feb. 22 31	21 1/	28.4 28.4	Feb. 26 Apr. 3
Sunflower: Sunflower, Miss.	25	Feb. 21	4	27.2	Feb. 25
Anguilla, Miss.	45	Feb. 23 31	13 1/	46.1 46.2	Mar. 1 Apr. 3
Yazoo: Yazoo City, Miss.	29	4	1/		
Big Black: Pickens, Miss.	16	Feb. 21 7 14 30	3 11 24 1/	18.6 17.8 18.0 18.7	Feb. 25 8 20 Apr. 2
Bovina, Miss.	28	Feb. 21	1/	34.6 33.9	Feb. 28 7
Mississippi: New Madrid, Mo.	34	10	29	39.0	19
Caruthersville, Mo.	32	9	31	37.9	19-21
Memphis, Tenn.	34	16	30	36.1	22-23
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	10 18 30	10 25 1/	10.5 16.0	10 19
Oakdale, La.	12	20	22	13.5	21
Kinder, La.	16	20	25	18.0	21
Old Town Bay, La.	4	20	25	5.6	21
Sabine: Mineola, Tex.	14	19 28	21 1/	15.2 15.9	20 30
Logansport, La.	25	31	1/		
Bon Wier, Tex.	17	19	27	20.2	21
Deweyville, Tex.	14	1 21	9 1/	14.7 15.0	6 23
Trinity: Liberty, Tex.	24		4		
PACIFIC SLOPE DRAINAGE					
Sacramento Basin					
Tisdale Weir, Calif.	45.5	16 21	20 23	46.9 45.8	19 22
Columbia Basin					
South Yamhill: Whiteson, Oreg.	38	14	15	38.4	15
Pudding: Aurora, Oreg.	15	14	18	16.7	16
Tualatin Dilley, Oreg.	12	6 13	7 16	E12.2 12.6	14
Farmington, Oreg.	29	13	20	31.6	16

1/ Continued at end of month
* Provisional
E Estimated
T Tentative

RAWINSONDE DATA

Average monthly values

MARCH 1961

Standard pressure surface (mb.)	ALBANY, N. Y. (1005 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ALBUQUERQUE, N. MEX. (834 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	AMARILLO, TEXAS (888 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	86	- 2.5	76	283	3.3	31	1,619	3.4	52	39	0.6	31	1,095	3.1	68	274	3.7
1,000--	31	126			296	2.9	31	122					31	113				
950----	31	535	- 2.9	64	312	6.4	31	545					31	537				
900----	31	962	- 3.6	64	315	10.1	31	993					31	981				
850----	31	1,413	4.6	61	303	12.8	31	1,466					31	1,447	6.4	48	279	10.7
800----	31	1,890	- 5.3	62	302	16.7	31	1,961	3.9	44	278	6.8	31	1,944	4.7	47	284	14.0
750----	31	2,395	6.7	56	296	21.0	31	2,476	.8	46	277	13.4	31	2,466	2.3	45	270	17.9
700----	31	2,934	- 8.4	52	295	23.3	31	3,034	- 2.8	48	280	16.9	31	3,023	- .7	40	270	18.3
650----	31	3,504	-11.2	45	292	26.6	31	3,611	- 6.6	47	279	19.8	31	3,606	- 4.4	38	270	20.2
600----	31	4,117	-14.5	43	290	28.8	31	4,238	-11.0	50	273	23.9	31	4,238	- 8.9	39	262	24.9
550----	31	4,772	-18.6	38	287	32.4	31	4,896	-15.1	47	268	27.0	31	4,900	-13.7	40	260	26.6
500----	31	5,476	-23.3	36	282	32.8	31	5,617	-19.9	40	265	35.0	31	5,625	-18.5		262	29.5
450----	31	6,238	-28.9		282	36.3	31	6,383	-25.8	40	260	40.2	31	6,393	-23.9		260	35.6
400----	31	7,072	-35.0		284	39.4	31	7,234	-32.1	40	261	38.9	31	7,254	-30.6		260	40.8
350----	31	7,992	-40.7		285	42.7	31	8,163	-39.1		263	38.1	31	8,188	-38.1		264	39.1
300----	31	9,029	-46.4		282	48.2	31	9,203	-46.4		262	37.5	31	9,231	-46.0		262	44.1
250----	31	10,227	-51.1		282	56.9	31	10,394	-53.3		265	42.7	31	10,423	-53.5		258	50.5
200----	31	11,670	-53.0		281	49.9	31	11,817	-56.0		268	41.6	31	11,847	-55.9		260	52.3
175----	31	12,534	-51.5		281	47.6	31	12,666	-55.6		266	39.4	30	12,702	-54.5		260	49.0
150----	31	13,533	-52.4		279	44.5	31	13,649	-56.3		267	36.7	29	13,682	-56.4		260	44.5
125----	31	14,709	-54.0		281	39.4	31	14,799	-59.3		266	32.4	29	14,834	-58.4		262	37.9
100----	31	16,133	-56.3		281	36.7	30	16,189	-61.5		261	26.0	28	16,228	-60.6		257	29.0
80-----	31	17,546	-57.4		282	30.3	29	17,570	-62.1		256	17.3	25	17,606	-61.6		251	20.0
70-----	31	18,397	-57.5		282	21.4	29	18,391	-62.3		255	11.1	24	18,435	-62.0		250	14.4
60-----	31	19,363	-57.6		281	13.4	28	19,345	-61.7		253	5.6	20	19,388	-61.7		253	8.5
50-----	30	20,515	-57.3		267	5.2	26	20,479	-61.5		279	2.5	19	20,516	-61.1		264	7.0
40-----	30	21,928	-56.4		58	1.4	25	21,865	-60.4		75	1.7	15	21,900	-60.3		86	3.3
30-----	29	23,756	-55.3		68	7.2	23	23,663	-58.7		79	8.7	14	23,697	-58.8		91	9.1
25-----	29	24,922	54.2		73	10.3	21	24,813	-57.8		81	8.2	14	24,845	-57.3		92	10.7
20-----	28	26,360	-52.8		77	12.4	20	26,224	-56.1		80	9.5	13	26,261	-55.7		85	10.1
15-----	20	28,230	-50.4		79	19.6	12	28,078	-53.2				10	28,096	-53.1			
10-----	7	30,902	-44.6															

Standard pressure surface (mb.)	ANCHORAGE, ALASKA (1001 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ANNETTE, ALASKA (1002 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	30	-10.5	65	329	3.9	31	37	3.6	78	120	6.4
1,000--	30	32			338	2.9	31	57			122	8.0
950----	30	429	- 8.4	54	13	8.9	31	467	1.0	77	146	13.8
900----	30	848	- 9.5	54	19	8.5	31	903	- 2.0	78	161	18.3
850----	30	1,288	-11.4	56	39	6.4	31	1,355	- 5.0	79	168	19.0
800----	30	1,752	-13.2	55	89	5.1	31	1,830	- 7.9	76	176	17.7
750----	30	2,242	-15.5	55	126	8.9	31	2,327	-10.8	72	188	19.2
700----	30	2,759	-18.2	53	144	7.8	31	2,857	-13.7	66	196	19.8
650----	30	3,306	-21.5	50	161	8.4	31	3,411	-17.4	61	190	18.7
600----	30	3,894	-25.2	48	178	8.9	31	4,012	-21.2	57	188	21.2
550----	30	4,515	-29.3	44	183	9.7	31	4,643	-25.6	56	203	19.4
500----	30	5,196	-33.6		184	12.4	31	5,333	-30.4	52	212	18.5
450----	30	5,924	-38.6		188	13.2	31	6,068	-35.7	52	214	20.8
400----	30	6,727	-44.1		196	13.2	31	6,886	-41.1		219	23.3
350----	30	7,610	-49.7		200	16.1	31	7,782	-46.9		216	25.1
300----	30	8,611	-52.9		204	19.0	30	8,795	-52.6		221	23.5
250----	30	9,793	-49.8		214	20.2	30	9,970	-52.7		242	26.6
200----	30	11,267	-46.3		221	20.0	29	11,424	-49.0		255	25.6
175----	30	12,156	-45.7		228	19.8	29	12,302	-48.1		256	23.1
150----	30	13,185	-45.1		224	17.3	26	13,313	-47.4		258	22.7
125----	30	14,403	-45.3		227	18.8	26	14,515	-48.5		261	19.8
100----	30	15,892	-45.8		226	17.3	25	15,970	-49.8		267	15.5
80-----	29	17,372	-46.8		217	14.4	25	17,426	-51.0		269	12.0
70-----	29	18,258	-47.4		218	13.6	25	18,291	-51.5		268	10.7
60-----	29	19,273	-48.1		211	10.1	24	19,296	-52.3		270	7.2
50-----	30	20,473	-48.6		207	9.1	23	20,475	-52.5		284	2.7
40-----	28	21,939	-48.8		194	6.2	23	21,918	-52.1		59	3.9
30-----	28	23,829	-48.6		158	7.0	22	23,781	-51.3		81	6.6
25-----	27	25,030	-48.0		128	8.0	21	24,965	-50.7		80	11.9
20-----	26	26,505	-47.0		110	11.9	17	26,413	-50.0		86	16.1
15-----	12	28,401	-46.7				11	28,303	-47.4			
10-----												

Standard pressure surface (mb.)	ATHENS, GA. (988 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BARROW, ALASKA (1023 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BARTER IS., ALASKA (1020 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	246	7.2	89	302	0.8	31	8	-30.3	54	74	10.1	30	15	-30.3	55	77	7.8
1,000--	29	147					31	168	-27.0	56	86	18.8	30	158	-28.4	58	90	17.5
950----	29	569	10.1	65	278	3.7	31	541	-24.6	56	89	25.5	30	531	-23.7	62	102	29.1
900----	29	1,022	8.7	59	254	7.6	31	935	-23.3	53	91	27.0	30	926	-22.2	57	103	28.6
850----	29	1,494	7.7	51	252	15.7	31	1,354	-22.0	49	91	23.7	30	1,347	-20.1	53	108	24.9
800----	29	1,993	6.0	43	261	21.0	31	1,800	-22.2	41	91	21.0	30	1,797	-20.1	51	113	21.8
750----	29	2,517	3.6	38	264	23.9	31	2,273	-23.2	40	93	18.5	30	2,273	-21.0	51	115	16.1
700----	29	3,077	.6		262	26.4	31	2,777	-25.0	45	97	18.3	30	2,782	-22.9	54	121	11.5
650----	29	3,664	- 3.0	33	263	29.5	31	3,310	-27.5	45	106	14.8	30	3,318	-25.8	55	134	6.8
600----	29	4,298	- 7.1	34	263	35.2	31	3,886	-30.8	45	117	12.4	30	3,898	-29.2	53	164	3.9
550----	29	4,962	-11.6	32	263	35.4	31	4,493	-34.7	44	130	11.1	30	4,508	-33.3	51	208	4.5
500----	29	5,695	-16.7		266	40.2	31	5,159	-39.0		142	10.9	30	5,177	-37.9		227	6.6
450----	29	6,471	-22.0		266	45.5	31	5,868	-43.9		156	10.5	30	5,890	-42.9		241	8.9
400----	29	7,335	-28.4		265	53.0	31	6,658	-49.1		171	11.5	30	6,681	-48.1		247	11.7
350----	29	8,280	-35.1		264	59.3	31	7,524	-53.4		188	12.6	30	7,552	-52.3		247	15.3
300----	29	9,338	-42.9		264	66.1	31	8,509	-55.9		199	13.4	30	8,542	-55.3		247	18.1
250----	29	10,545	-51.4		265	73.4	31	9,676	-52.7		210	15.7	30	9,713	-51.4		248	19.0
200----	29	11,974	-56.7		264	78.5	31	11,131	-49.1		215	19.6	30	11,177	-47.6		244	21.0
175----	29	12,820	-57.0		264	79.1	31	12,010	-47.8		219	22.9	29	12,054	-46.9		247	22.7
150----	29	13,796	-57.8		265	71.1	31	13,028	-47.3		218	24.5	29	13,077	-46.1		244	23.1
125----	29	14,939	-60.7		265	57.9	31	14,237	-46.5		221	26.2	28	14,285	-45.8		243	26.0
100----	29	16,317	-64.0		265	44.1	30	15,715	-45.6		223	29.5	28	15,772	-45.3		241	25.8
80-----	29	17,676	-65.9		268	33.8	30	17,203	-45.2		222	29.5	28	17,261	-45.4		243	24.1
70-----	29	18,488	-65.1		272	22.3	30	18,096	-45.4		223	29.0	28	18,148	-45.8		240	24.3
60-----	28	19,427	-65.1		269	15.0	30	19,121	-45.4		224	27.0	27	19,172	-45.9		243	21.2
50-----	28	20,545	-63.1		284	4.9	30	20,337	-45.5		224	23.7	27	20,385	-46.1		242	17.5
40-----	26	21,922	-60.4		39	2.5	28	21,827	-45.7		219	20.2	27	21,868	-46.2		236	15.5
30-----	24	23,724	-58.0		53	6.4	27	23,750	-45.6		217	18.5	26	23,784	-45.5		228	14.0
25-----	23	24,873	-56.9		65	8.2	26	24,966	-45.0		214	16.3	24	25,001	-45.0		228	13.6
20-----	18	26,298	-54.3		85	5.2	23	26,448	-43.4		207	15.9	16	26,508	-43.2		205	7.0
15-----	8	28,153	-50.9				16	28,375	-40.0		224	19.6	7	28,436	-42.3			
10-----																		

Standard pressure surface (mb.)	BETHEL, ALASKA (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BISMARCK, N. DAK. (954 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	-17.7	67	360	4.7	31	505	- 1.8	75	29	1.0
1,000--	30	62			343	6.6	31	125				
950----	30	453	-12.5	66	37	5.2	31	535			54	1.4
900----	30	865	-13.0	65	14	2.5	31	966	- 2.2	71	286	4.5
850----	30	1,301	-13.7	61	335	3.1	31	1,420	- 2.5	61	306	7.4
800----	30	1,760	-15.4	61	328	3.9	31	1,900	- 4.2	52	307	8.7
750----	30	2,245	-17.8	59	308	4.1	31	2,402	- 6.8	49	303	11.7
700----	30	2,759	-20.8	57	304	4.3	31	2,943	- 9.7	47	293	13.8
650----	30	3,301	-24.2	56	306	3.7	31	3,505	-13.0	39	292	15.9
600----	30	3,882	-27.9	53	297	4.5	31	4,118	-16.7	38	290	19.2
550----	30	4,499	-32.1	49	292	4.7	31	4,761	-20.7	39	286	24.5
500----	30	5,169	-36.7	56	260	5.2	31	5,466	-25.1	39	280	26.6
450----	30	5,890	-41.4		250	7.4	31	6,214	-30.6		279	27.8
400----	30	6,684	-46.1		227	9.9	31	7,050	-37.2		275	30.5
350----	30	7,561	-51.2		214	12.2	31	7,959	-44.3		274	34.6
300----	30	8,555	-53.8		222	15.3	31	8,975	-51.6		268	36.1
250----	30	9,733	-50.3		226	17.9	31	10,147	-55.1		263	39.4
200----	30	11,202	-46.6		218	18.3	31	11,578	-52.7		268	35.8
175----	30	12,090	-45.7		220	19.2	31	12,444	-51.2		269	31.1
150----	30	13,117	-45.4		218	21.0	31	13,447	-51.5		269	28.8
125----	30	14,334	-45.3		218	21.2	30	14,631	-53.1		273	25.1
100----	29	15,821	-45.9		212	22.2	30	16,068	-53.8		276	18.7
80-----	29	17,305	-46.2		210	19.4	29	17,500	-55.4		284	12.2
70-----	28	18,198	-46.7		209	19.6	28	18,350	-56.0		300	7.8
60-----	28	19,215	-47.3		210	15.7	28	19,330	-56.4		311	3.3
50-----	27	20,426	-47.9		193	13.2	27	20,489	-56.2		49	2.9
40-----	27	21,897	-48.2		134	10.9	26	21,912	-55.7		83	6.6
30-----	26	23,791	-48.2		167	9.9	24	23,750	-54.8		81	10.5
25-----	25	24,991	-47.6		151	9.3	23	24,919	-54.4		85	15.5
20-----	22	26,470	-47.0		134	12.2	22	26,351	-53.5		87	17.7
15-----	18	28,379	-45.2		129	13.4	17	28,213	-51.1		80	22.5
10-----	7	31,113	-42.8									

Standard pressure surface (mb.)	BOISE, IDAHO (914 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BROWNSVILLE, TEX. (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BUFFALO, N. Y. (989 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	868	3.6	71	125	3.7	31	7	18.5	89	132	4.9	31	218	- 0.8	79	243	2.7
1,000--	31	127					31	106	18.6	84	130	7.0	31	132				
950----	31	550					31	544	17.4	76	160	13.8	31	539	- 1.2	73	244	6.0
900----	31	990	4.3	63	111	3.3	31	1,009	16.1	60	177	12.4	31	972	- 2.1	65	251	9.1
850----	31	1,454	2.4	59	253	3.3	31	1,495	15.8	41	183	11.5	31	1,425	- 3.1	63	260	12.4
800----	31	1,942	- .9	62	269	7.6	31	2,008	13.6	34	212	12.0	31	1,905	- 4.4	57	272	17.5
750----	31	2,451	- 4.6	64	271	11.1	31	2,547	10.3	32	223	13.2	31	2,409	- 5.9	55	276	20.8
700----	31	2,994	- 8.2	66	269	14.4	31	3,120	6.8	30	237	14.8	31	2,950	- 8.5	56	276	23.5
650----	31	3,561	-12.0	61	262	17.1	31	3,723	2.4	30	242	19.6	31	3,518	-11.5	54	273	25.5
600----	31	4,174	-15.9	57	260	19.6	31	4,366	- 2.6	34	245	21.8	31	4,132	-14.5	50	275	29.3
550----	31	4,820	-19.9	53	267	23.9	31	5,041	- 7.8	32	248	29.0	31	4,782	-18.2	43	279	33.6
500----	31	5,528	-24.2	50	270	24.7	31	5,785	-12.9		251	26.2	31	5,493	-22.6	42	280	37.7
450----	31	6,281	-30.0	46	274	26.2	31	6,575	-18.6		248	31.7	31	6,251	-28.1	44	281	41.0
400----	31	7,119	-36.2	43	278	28.1	31	7,448	-25.2		248	39.8	31	7,093	-34.4	44	277	46.4
350----	31	8,032	-43.1		282	32.1	31	8,403	-32.3		247	49.9	31	8,015	-40.6		277	48.4
300----	31	9,055	-50.1		282	35.6	31	9,473	-40.3		250	62.8	31	9,050	-47.2		276	56.9
250----	31	10,233	-54.4		281	38.5	31	10,692	-49.1		249	73.6	31	10,244	-51.8		275	61.2
200----	31	11,661	-54.0		283	33.4	31	12,127	-57.6		246	76.0	30	11,680	-53.1		272	62.6
175----	31	12,522	-52.9		287	30.1	30	12,968	-59.3		246	72.5	29	12,536	-51.7		272	56.9
150----	31	13,518	-52.9		286	26.2	30	13,930	-61.3		246	65.9	29	13,537	-52.1		270	45.9
125----	31	14,691	-54.4		285	22.7	30	15,053	-64.5		244	55.8	28	14,716	-54.0		271	37.9
100----	31	16,116	-55.8		285	14.4	30	16,400	-69.5		245	41.6	25	16,132	-55.7		274	31.1
80-----	31	17,532	-57.3		288	10.5	30	17,719	-72.4		240	25.8	23	17,549	-56.7		273	22.7
70-----	31	18,375	-57.9		288	7.0	30	18,315	-71.0		239	18.7	18	18,383	-57.1		281	15.2
60-----	31	19,347	-57.8		306	4.1	30	19,425	-67.8		245	8.9	17	19,361	-57.4		289	11.1
50-----	30	20,498	-57.4		11	2.1	30	20,531	-64.5		253	1.6	15	20,518	-57.2		301	8.7
40-----	30	21,910	-56.8		85	5.4	30	21,902	-62.3		346	2.1	13	21,936	-55.9		331	2.1
30-----	26	23,742	56.3		79	12.0	27	23,695	-57.9		20	1.9	11	23,777	-54.6		94	6.4
25-----	24	24,902	-55.5		86	15.3	27	24,850	-55.7		159	1.7	11	24,947	-53.4		93	11.3
20-----	20	26,326	-54.3		84	18.4	26	26,281	-53.2		297	2.1	11	26,386	-52.4		99	15.9
15-----	18	28,178	-52.3		89	21.6	21	28,143	-48.5		263	8.4	7	28,253	-50.1			
10-----	5	30,842	-47.4															

Standard pressure surface (mb.)	BURRWOOD, LA. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CAPE HATTERAS, N. C. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	16.9	91	162	2.3	31	4	10.5	83	322	2.7
1,000--	31	130	17.9	79	169	4.1	31	128	11.7	74	290	4.9
950----	31	569	16.6	69	189	10.5	31	554	10.5	65	284	9.1
900----	31	1,028	14.7	57	208	12.8	31	1,006	8.3	62	272	13.6
850----	31	1,511	13.0	44	225	14.6	31	1,477	6.1	56	270	19.2
800----	31	2,018	11.0	35	240	16.5	31	1,973	4.3	50	273	22.5
750----	31	2,558	8.3	31	249	17.7	31	2,495	2.0	46	273	26.6
700----	31	3,120	4.7	32	255	21.8	31	3,051	- .3	41	272	32.1
650----	31	3,719	.9	28	257	25.1	31	3,636	- 3.6	43	271	37.5
600----	31	4,358	- 3.5		259	32.4	31	4,269	- 7.3	40	271	41.2
550----	31	5,035	- 8.1		261	30.7	31	4,936	-11.5	37	272	42.6
500----	31	5,773	-13.2		258	34.6	31	5,668	-16.3		271	47.6
450----	31	6,565	-18.6		255	40.4	31	6,449	-21.9		271	51.7
400----	31	7,436	-24.9	33	254	43.7	31	7,311	-28.1		274	56.0
350----	31	8,393	-31.9		255	48.0	31	8,256	-34.9		276	62.6
300----	31	9,464	-39.9		257	54.0	30	9,317	-42.7		271	69.6
250----	31	10,686	-48.9		255	69.6	30	10,526	-50.7		274	76.2
200----	31	12,124	-56.4		252	78.9	30	11,958	-56.5		275	78.9
175----	30	12,967	-58.6		254	73.1	30	12,806	-56.1		276	71.9
150----	31	13,932	-60.1		254	66.8	30	13,784	-57.3		275	67.0
125----	30	15,061	-63.8		253	60.6	30	14,930	-60.2		275	57.9
100----	28	16,411	-68.3		255	47.4	29	16,311	-63.6		278	45.7
80-----	28	17,743	-70.0		256	32.3	29	17,676	-64.8		277	31.9
70-----	28	18,543	-69.5		256	20.8	28	18,488	-65.1		279	22.2
60-----	27	19,464	-67.5		259	8.9	28	19,427	-64.1		291	14.6
50-----	27	20,570	-64.7		298	3.1	28	20,549	-62.0		313	9.1
40-----	26	21,944	-61.7		358	1.0	24	21,935	-59.7		344	6.4
30-----	25	23,742	-58.3		38	.8	18	23,750	-57.2		23	5.2
25-----	24	24,892	-56.3		13	.8	14	24,913	-55.9		59	6.8
20-----	21	26,316	-53.5		312	1.0	11	26,346	-54.1			
15-----	16	28,189	-49.5		301	3.5	5	28,229	-52.2			
10-----												

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	CARIBOU, ME. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CHARLESTON, S. C. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	COLD BAY, ALASKA (1002 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	COLUMBIA, MO. (984 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DAYTON, OHIO (979 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	191	- 9.6	74	313	7.0	31	13	11.1	89	325	1.4	31	27	- 4.5	83	22	3.3	31	238	4.1	84	134	0.6	31	297	3.4	74	158	1.6
1,000--	31	116					31	141	13.5	78	264	3.5	31	43			354	9.1	31	103					31	123				
950----	31	513	- 8.5	66	337	8.5	31	568	13.4	66	250	10.1	31	447	- 6.7	78	345	3.7	31	518	3.7	77	190	2.9	31	541	3.5	71	215	4.9
900----	31	933	- 9.0	62	350	8.4	31	1,028	11.5	62	250	15.9	31	865	- 9.1	73	325	7.6	31	960	3.2	70	241	7.8	31	980	2.8	68	253	12.4
850----	31	1,375	- 9.6	63	340	10.5	31	1,505	9.3	53	253	18.7	31	1,306	-11.6	68	330	8.2	31	1,424	2.7	63	264	14.2	31	1,442	1.7	62	259	16.9
800----	31	1,843	-10.0	60	330	12.0	31	2,006	7.2	45	260	19.2	31	1,768	-13.8	62	326	6.6	31	1,913	.9	63	264	16.1	31	1,930	.4	59	266	18.8
750----	31	2,341	-10.7	57	325	13.6	31	2,531	4.6	38	259	22.9	31	2,256	-16.2	52	317	7.8	31	2,430	- 1.3	58	269	17.7	31	2,445	- 1.6	54	266	24.5
700----	31	2,869	-12.8	52	321	14.2	31	3,094	1.3	35	264	25.3	31	2,773	-19.1	44	314	5.2	31	2,978	- 4.1	57	269	20.2	31	2,994	- 4.2	52	267	25.8
650----	31	3,431	-15.3	51	310	18.3	31	3,681	- 2.1	35	268	29.9	31	3,515	-22.6	38	303	6.4	31	3,556	- 7.7	54	264	23.7	31	3,570	- 7.7	51	266	27.8
600----	31	4,034	-18.4	47	302	20.2	31	4,320	- 5.8	36	268	34.0	31	3,903	-26.7	38	290	6.6	31	4,178	-11.2	46	263	30.1	31	4,194	-11.3	46	266	30.3
550----	31	4,677	-21.7	44	303	25.1	31	4,986	- 9.9		266	36.1	31	4,522	-30.7		276	6.6	31	4,836	-15.5	38	262	33.0	31	4,854	-15.5	44	268	34.4
500----	31	5,376	-25.7	42	295	26.6	31	5,726	-14.9		266	39.2	31	5,196	-35.1		255	7.0	31	5,553	-20.3	37	258	35.2	31	5,571	-20.3	38	269	38.7
450----	31	6,125	-31.1	41	295	29.7	31	6,507	-20.5		270	42.4	31	5,921	-39.9		250	9.9	31	6,319	-25.8		256	38.3	31	6,336	-25.6	38	268	42.6
400----	31	6,957	-37.0		293	31.9	31	7,378	-27.0	34	269	49.4	31	6,720	-45.1		245	12.6	31	7,169	-32.1	33	253	42.4	31	7,189	-31.6		269	45.9
350----	31	7,869	-43.1		293	36.1	30	8,329	-34.0		269	52.7	31	7,603	-49.8		247	15.3	31	8,098	-38.6		259	44.3	31	8,120	-38.7		266	52.5
300----	31	8,895	-48.6		287	37.7	29	9,389	-42.2		270	57.9	31	8,604	-52.5		237	18.1	31	9,141	-45.5		257	52.3	31	9,164	-45.7		261	60.4
250----	31	10,086	-51.4		276	41.4	28	10,605	-50.4		272	67.8	31	9,788	-49.5		250	22.0	31	10,338	-52.3		254	60.2	31	10,361	-52.3		261	66.1
200----	31	11,540	-49.8		281	39.8	26	12,054	-56.8		268	78.3	31	11,262	-46.6		239	24.3	31	11,771	-54.3		258	64.3	31	11,791	-55.6		264	69.0
175----	31	12,416	-49.4		279	35.0	23	12,895	-58.0		270	71.5	31	12,149	-46.1		232	22.9	31	12,627	-53.7		261	56.7	31	12,646	-54.2		264	61.2
150----	31	13,427	-49.4		277	33.4	20	13,878	-58.4		273	66.5	31	13,175	-45.9		237	22.3	31	13,616	-54.8		262	53.2	31	13,635	-54.4		266	52.5
125----	31	14,618	-50.8		279	30.5	18	15,030	-61.9		271	58.3	31	14,388	-46.3		235	22.5	31	14,778	-56.6		262	43.3	31	14,798	-56.6		263	47.0
100----	31	16,065	-53.0		280	24.5	17	16,392	-66.0		268	47.6	31	15,869	-46.9		228	20.6	31	16,184	-59.1		261	33.6	31	16,205	-59.3		266	38.5
80-----	31	17,499	-54.3		281	17.7	17	17,743	-67.4		274	30.7	30	17,345	-48.1		217	16.1	31	17,580	-60.2		263	24.9	31	17,600	-60.0		276	24.3
70-----	31	18,355	-54.4		289	11.7	17	18,548	-67.6		280	24.9	30	18,228	-48.9		215	14.2	30	18,420	-60.6		264	17.5	31	18,434	-60.2		276	21.0
60-----	31	19,342	-55.0		292	6.8	16	19,480	-67.2		289	15.9	30	19,235	-49.4		212	12.0	28	19,372	-60.5		269	10.5	31	19,396	-60.2		271	15.0
50-----	31	20,508	-54.6		5	1.7	16	20,588	-64.2		310	9.7	30	20,430	-49.9		198	9.1	26	20,507	-60.4		304	4.9	29	20,535	-60.1		284	8.5
40-----	30	21,942	-54.3		61	5.2	13	21,974	-61.0		11	6.6	30	21,887	-50.4		177	8.5	20	21,903	-59.5		31	6.6	27	21,930	-58.4		13	3.3
30-----	25	23,789	-53.1		92	14.2	13	23,775	-58.2		60	8.7	28	23,772	-50.6		145	8.5	19	23,710	-57.5		67	11.1	25	23,746	-56.8		50	6.4
25-----	25	24,966	-52.5		93	19.4	12	24,929	-56.0		58	8.5	27	24,961	-50.0		134	9.7	16	24,866	-56.1		73	14.6	25	24,906	-55.4		72	11.1
20-----	22	26,407	-51.7		95	22.5	9	26,353	-55.0				25	26,426	-49.0		122	11.3	13	26,286	-54.7		77	19.6	21	26,332	-53.9		75	12.6
15-----	19	28,276	-49.9		91	25.3							15	28,342	-47.1				7	28,127	-53.0				16	28,193	-51.9		74	11.7
10-----	8	30,897	-46.9																						8	30,843	-48.3			

Standard pressure surface (mb.)	DENVER, COLO. (833 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DODGE CITY, KANS. (921 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	EL PASO, TEXAS (880 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ELY, NEV. (805 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FAIRBANKS, ALASKA (994 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,611	- 0.6	73	250	3.1	31	792	1.5	83	346	4.9	31	1,197	8.6	42	265	5.1	31	1,908	- 3.2	72	193	3.5	31	135	-20.2	57	15	4.5
1,000--	31	129					31	124					31	115					31	151					31	88				
950----	31	545					31	541					31	550					31	565					31	474	-16.1	45	69	4.7
900----	31	987					31	981	3.2	69	336	6.6	31	1,008					31	1,007					31	880	-16.0	49	106	4.7
850----	31	1,450					31	1,444	3.5	56	323	6.4	31	1,480	9.5	35	269	7.8	31	1,470					31	1,310	-16.0	51	124	5.6
800----	31	1,938	.7	56	276	6.0	31	1,936	2.6	53	317	12.0	31	1,980	6.5	37	269	14.0	31	1,954			195	4.7	31	1,767	-16.9	51	132	6.2
750----	31	2,452	- 1.6	53	293	9.5	31	2,453	.2	51	300	15.2	31	2,505	3.2	37	263	20.2	31	2,466	- 2.1	58	243	3.1	31	2,248	-17.5	50	151	7.0
700----	31	3,000	- 5.2	54	283	11.5	31	3,005	- 2.9	48	286	18.1	31	3,062	- .4	35	262	22.0	31	3,015	- 5.6	59	275	8.7	31	2,765	-19.7	49	177	7.2
650----	31	3,575	- 8.5	54	289	13.4	31	3,582	- 6.7	47	277	18.8	31	3,648	- 4.0		262	24.1	31	3,588	- 8.9	56	276	14.2	31	3,308	-23.0	48	187	9.1
600----	31	4,196	-12.3	52	292	18.1	31	4,209	-10.9	44	260	25.1	31	4,278	- 8.3		259	25.8	31	4,209	-12.8	54	281	15.9	31	3,894	-26.7	43	189	10.3
550----	31	4,852	-16.7	48	292	21.4	31	4,867	-15.5	41	267	26.2	31	4,942	-13.0		259	30.5	31	4,862	-17.2	52	276	16.9	31	4,510	-30.8	40	196	12.0
500----	31	5,566	-21.7	44	280	22.2	31	5,585	-20.5	38	268	26.6	31	5,666	-18.2		260	31.7	30	5,570	-22.2	50	275	20.2	31	5,188	-35.3	41	205	12.8
450----	31	6,327	-27.6	42	277	23.5	31	6,348	-26.3	37	266	30.1	31	6,437	-24.2		260	33.8	30	6,330	27.8	45	284	21.0	31	5,908	-39.9		210	15.7
400----	31	7,170	-34.1	42	271	28.0	31	7,196	-32.9	38	257	33.4	31	7,292	-30.7		260	39.1	30	7,173	-34.1	43	288	24.9	31	6,711	-45.3		211	16.7
350----	31	8,090	-41.4		272	32.8	31	8,122	-40.0		260	41.8	31	8,227	-37.9		259	42.6	30	8,095	-41.4		283	26.8	31	7,591	-51.2		212	17.3
300----	30	9,119	-48.9		264	34.6	31	9,159	-47.6		259	43.9	31	9,273	-45.1		259	45.3	30	9,125	-49.0		284	27.6	30	8,590	-54.5		220	20.2
250----	30	10,300	-54.4		264	39.2	31	10,345	-53.9		259	52.8	31	10,470	-53.1		261	46.8	30	10,308	-54.3		278	25.8	30	9,764	-51.2		224	18.7
200----	30	11,726	-54.5		269	38.9	29	11,768	-55.6		262	51.9	31	11,892	-57.0		258	52.3	30	11,736	-54.6		276	31.3	30	11,230	-47.4		219	20.4
175----	30	12,582	-54.0		265	36.7	28	12,622	-54.3		258	45.9	31	12,737	-57.4		260	53.4	30	12,593	-54.4		276	25.5	30	12,115	-46.3		222	19.8
150----	29	13,572	-54.1		266	33.8	28	13,610	-54.9		256	42.6	30	13,710	-58.7		262	51.7	30	13,580	-54.7		279	26.4	30	13,140	-46.0		223	19.0
125----	28	14,739	-56.1		265	26.8	28	14,771	-56.8		259	36.7	30	14,851	-60.9		261	44.9	30	14,745	-56.0		280	22.0	30	14,356	-45.3		224	18.1
100----	28	16,150	-58.0		261	22.3	27	16,177	-59.4		261	25.3	30	16,226	-64.2		256	33.0	30	16,157	-58.8		271	17.7	29	15,837	-45.9		223	18.7
80-----	28	17,552	-59.5		256	16.3	27	17,568	-61.1		256	20.0	30	17,587	-65.2		250	23.5	30	17,551	-59.8		274	10.9	29	17,321	-46.2		226	17.9
70-----	28	18,393	-59.9		257	13.2	27	18,410	-60.8		248	15.3	29	18,404	-64.5		257	18.3	30	18,387	-59.6		284	6.2	29	18,205	-46.8		228	15.5
60-----	28	19,349	-59.9		249	8.9	27	19,358	-60.4		253	12.2	29	19,345	-63.4		257	10.5	30	19,348	-59.8		307	1.0	28	19,224	-47.2		226	15.2
50-----	28	20,489	-59.8		246	5.2	27	20,495	-60.1		247	5.6	28	20,470	-62.5		254	5.4	30	20,488	-59.4		73	2.5	26	20,418	-47.6		223	13.0
40-----	28	21,884	-59.5		245	.8	23	21,893	-59.1		48	5.6	28	21,845	-62.0		66	3.1	30	21,886	-58.6		82	5.8	23	21,890	-47.8		215	10.3
30-----	26	23,686	-58.4		61	4.5	20	23,705	-57.6		79	9.9	25	23,630	-43.8		82	7.0	29	23,698	-57.7		72	9.5	22	23,787	-47.6		207	9.9
25-----	26	24,834	-57.8		70	7.4	17	24,865	-56.2		68	14.4	24	24,772	-58.5		73	4.7	29	24,850	-56.9		84	13.6	18	24,984	-47.0		181	6.8
20-----	25	26,247	-56.6		75	9.7	11	26,293	-54.7				21	26,177	-56.6		78	7.4	27	26,266	-55.3		85	14.6	16	26,465	-45.7		132	9.9
15-----	22	28,079	-55.0		80	13.6	9	28,143	-51.5				10	28,038	-52.8				15	28,112	-52.8		85	19.0	11	28,379	-43.4			
10-----	17	30,685	-51.4		84	13.8																								
7------	8	33,049	-48.5																											

Standard pressure surface (mb.)	FLINT, MICH. (987 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FORT WORTH, TEXAS (993 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GLASGOW, MONT. (930 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GRAND JUNCTION, COLO. (848 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREAT FALLS, MONT. (882 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	234	- 1.0	82	66	0.6	31	180	10.9	74	222	1.9	30	696	- 1.1	80	77	1.7	31	1,474	1.9	68	116	4.1	31	1,123	- 0.8	67	214	6.2
1,000--	31	126					31	117					30	116					31	125					31	109				
950----	31	534	- 1.2	72	342	.6	31	548	11.5	63	218	8.2	30	530					31	548					31	524				
900----	31	966	- 2.4	70	269	2.3	31	998	10.2	61	232	12.4	30	962	.1	69	275	3.9	31	989					31	965				
850----	31	1,420	- 2.7	61	283	7.8	31	1,473	9.0	53	252	15.0	30	1,420	- .7	61	293	10.7	31	1,458			115	6.2	31	1,423	.6	54	232	14.8
800----	31	1,900	- 3.4	55	276	12.8	31	1,974	7.3	41	258	17.3	30	1,902	- 3.3	57	292	12.4	31	1,949	1.7	55	183	2.9	31	1,908	- 2.5	58	253	14.8
750----	31	2,409	- 4.7	50	274	15.5	31	2,503	4.5	34	262	20.4	30	2,409	- 6.5	57	291	13.6	31	2,463	- 1.7	57	237	5.2	31	2,416	- 5.8	60	263	13.0
700----	31	2,951	- 7.2	48	277	17.9	31	3,061	1.0	34	264	24.5	30	2,946	-10.1	57	288	14.8	31	3,012	- 5.4	60	261	9.1	31	2,956	- 8.8	53	272	14.6
650----	31	3,524	-10.1	47	275	22.0	31	3,652	- 3.4	35	264	27.6	30	3,510	-13.6	55	284	16.3	31	3,585	- 9.3	63	269	13.6	31	3,522	-12.4	52	271	16.9
600----	31	4,139	-13.6	49	274	25.8	31	4,279	- 7.9	34	262	30.7	30	4,118	-17.4	50	286	18.5	31	4,205	-13.0	59	276	15.9	31	4,135	-16.6	51	274	16.5
550----	31	4,793	-17.5	48	274	29.3	31	4,948	-12.3		258	34.0	30	4,759	-21.8	49	286	20.8	31	4,866	-17.0	52	283	19.8	31	4,777	-21.0	45	272	19.0
500----	31	5,504	-22.4	47	273	34.6	31	5,672	-17.4		253	37.3	30	5,460	-26.4	43	289	22.2	31	5,573	21.8	49	282	23.7	31	5,482	-26.3	43	275	20.8
450----	31	6,262	-27.9	44	274	37.3	31	6,449	-23.3		251	39.4	30	6,203	-32.5		285	25.3	31	6,335	-27.4	47	276	25.5	31	6,229	-31.9		274	23.3
400----	31	7,105	-34.0	40	275	42.0	31	7,303	-29.8		252	45.5	30	7,032	-38.5		284	26.8	31	7,178	-34.0	48	274	27.4	31	7,060	-38.2		274	25.3
350----	31	8,028	-40.7		271	45.5	31	8,242	-36.4		252	50.7	30	7,938	-45.0		283	30.7	31	8,098	-41.7		273	30.9	31	7,966	-44.9		276	28.8
300----	31	9,061	-47.6		270	54.0	31	9,294	-44.1		252	56.7	30	8,952	-51.8		281	32.3	31	9,125	-49.3		268	33.6	31	8,982	-51.3		273	31.1
250----	31	10,250	-53.0		268	55.6	31	10,496	-51.9		254	58.9	30	10,122	-55.7		277	34.4	31	10,304	-54.3		273	36.5	31	10,155	-55.2		273	32.3
200----	31	11,684	-54.5		270	55.4	31	11,924	-56.2		252	66.3	30	11,554	-51.6		278	30.5	31	11,732	-54.2		277	34.6	31	11,583	-52.7		273	29.1
175----	31	12,542	-53.2		272	49.5	31	12,773	-56.0		253	63.0	30	12,423	-50.7		276	27.4	30	12,590	-54.2		270	29.8	31	12,448	-51.1		270	27.4
150----	31	13,537	-53.0		271	42.0	31	13,750	-57.8		252	58.9	30	13,426	-51.2		277	24.5	30	13,579	-54.5		268	29.1	31	13,451	-51.4		271	23.1
125----	31	14,709	-54.5		271	36.9	31	14,892	-60.9		254	53.2	30	14,609	-52.3		277	21.4	30	14,741	-56.4		271	25.5	31	14,634	-52.2		277	18.8
100----	30	16,134	-56.7		270	30.7	31	16,270	-63.7		252	42.6	30	16,048	-53.5		277	16.9	30	16,149	-59.2		263	21.2	31	16,072	-54.2		274	15.0
80-----	30	17,545	-57.6		277	20.0	31	17,632	-65.6		250	29.1	30	17,478	-55.1		289	11.7	30	17,544	-60.1		267	13.6	31	17,500	-54.8		280	9.5
70-----	30	18,389	-58.1		281	15.9	31	18,454	-64.7		250	22.2	30	18,332	-55.5		292	7.2	30	18,383	-60.0		265	8.2	31	18,356	-55.8		287	5.8
60-----	29	19,359	-58.4		286	11.9	31	19,389	-63.9		252	12.8	30	19,313	-55.6		295	3.7	30	19,338	-60.2		262	4.1	31	19,332	-55.9		296	3.1
50-----	29	20,506	-58.2		309	7.8	31	20,508	-63.0		263	6.0	30	20,474	-55.6		31	2.1	29	20,475	-59.8			.0	31	20,493	-55.6		17	3.1
40-----	29	21,916	-56.8		44	3.5	31	21,886	-61.1		353	1.4	29	21,897	-55.3		66	6.6	29	21,871	-59.1		89	4.9	31	21,916	-55.1		64	7.2
30-----	26	23,745	-55.7		57	9.1	28	23,678	-59.3		60	6.0	28	23,739	-54.0		81	13.8	29	23,676	-58.3		87	8.0	29	23,753	-54.5		78	12.4
25-----	25	24,906	-54.8		75	15.5	28	24,824	-57.9		73	8.4	25	24,908	-53.7		84	16.9	26	24,827	-57.2		77	11.7	28	24,922	-54.1		84	16.3
20-----	24	26,340	-53.5		79	20.0	27	26,240	-55.3		70	9.3	24	26,347	-52.7		88	17.7	23	26,242	-55.7		85	15.7	27	26,359	-53.0		82	18.7
15-----	22	28,196	-51.3		77	19.4	23	28,081	-52.0		65	9.3	14	28,220	-50.5				9	28,081	-53.4				19	28,231	-50.9		83	22.3
10-----	11	30,872	-46.6				6	30,690	-47.5																					

See reference note at end of table

RAWINSONDE DATA

Average monthly values

MARCH 1961

Standard pressure surface (mb.)	GREEN BAY, WIS. (989 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREENSBORO, N. C. (985 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	210	- 1.8	82	353	3.5	31	273	6.5	81	308	2.1
1,000--		122					31	147				
950----	31	532	- 2.2	73	16	3.7	31	569	7.7	66	278	8.0
900----	31	960	- 3.0	61	21	3.1	31	1,016	6.9	63	268	14.2
850----	31	1,412	- 4.0	55	325	3.3	31	1,484	5.4	63	269	17.7
800----	31	1,890	- 5.0	56	301	6.8	31	1,978	3.4	55	263	17.7
750----	31	2,395	- 6.5	52	284	9.9	31	2,502	1.1	50	265	24.1
700----	31	2,933	- 8.6	47	283	12.4	31	3,053	- 1.3	43	269	28.8
650----	31	3,503	-11.5	46	279	16.7	31	3,640	- 4.5	39	269	33.0
600----	31	4,115	-14.8	45	278	21.1	31	4,267	- 8.3	36	267	37.1
550----	31	4,766	-18.5	44	276	27.6	31	4,933	-12.7	34	267	41.0
500----	31	5,474	-23.0	41	273	30.7	31	5,658	-17.8	40	269	44.7
450----	31	6,235	-28.5	42	277	35.2	31	6,434	-23.4	42	268	49.0
400----	31	7,071	-34.9	41	271	37.3	31	7,290	-29.5	40	269	55.2
350----	31	7,989	-41.9		269	44.1	31	8,230	-36.2		267	60.2
300----	31	9,016	-49.5		266	50.7	31	9,283	-43.8		266	70.3
250----	31	10,195	-54.4		260	53.2	31	10,486	-51.6		268	79.1
200----	31	11,624	-54.1		268	48.2	31	11,913	-56.5		270	77.5
175----	31	12,485	-52.3		271	41.8	31	12,760	-56.8		269	74.2
150----	31	13,483	-52.4		275	37.9	30	13,729	-57.1		271	63.3
125----	31	14,657	-54.0		275	33.6	30	14,876	-59.8		269	55.8
100----	31	16,084	-55.9		278	26.6	30	16,259	-63.0		269	48.2
80----	31	17,498	-57.1		284	22.3	30	17,626	-64.6		272	35.6
70----	31	18,344	-57.3		281	16.7	29	18,446	-64.8		277	27.4
60----	31	19,317	-57.1		294	10.3	28	19,385	-64.0		290	18.1
50----	31	20,470	-57.1		333	4.7	28	20,506	-62.5		313	8.5
40----	31	21,882	-56.5		49	8.7	26	21,894	-60.2		36	5.2
30----	30	23,711	-55.3		70	14.0	22	23,693	-57.9		64	7.4
25----	27	24,878	-54.2		79	18.1	22	24,845	-56.8		71	11.9
20----	24	26,316	-52.7		79	22.2	22	26,265	-54.7		76	15.0
15----	15	28,199	-49.4		83	28.6	21	28,126	-51.2		84	12.6
10----							7	30,812	-44.8			

Standard pressure surface (mb.)	HILO, HAWAII (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	INTERNAT. FALLS, MINN. (971 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	JACKASS FLATS, NEV. (888 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	11	18.8	86	236	5.8	31	360	- 4.9	76	212	1.0	31	1,100	5.0	42	27	3.7
1,000--	31	155	20.7	78	217	4.9	31	124					31	117				
950----	31	597	18.0	82	119	6.8	31	531	- 3.8	72	213	2.1	31	543				
900----	31	1,058	14.8	84	110	6.6	31	957	- 4.1	68	245	5.8	31	992				
850----	31	1,542	11.9	80	92	5.1	31	1,407	- 4.6	62	289	6.6	31	1,461	7.9	33	139	1.6
800----	31	2,049	10.0	64	94	5.6	31	1,883	- 6.4	55	299	9.9	31	1,958	4.4	34	211	1.7
750----	31	2,588	8.9		92	6.8	31	2,384	- 8.5	51	294	11.3	31	2,474	1.1	36	248	2.7
700----	31	3,152	6.7		100	5.4	31	2,918	-11.1	49	286	13.0	31	3,032	- 2.5	38	275	7.0
650----	31	3,758	3.7		107	5.2	31	3,481	-14.2	42	284	16.1	31	3,608	- 6.2	40	275	8.9
600----	31	4,406	- .0		119	1.4	31	4,087	-17.5	44	279	19.8	31	4,237	-10.5	38	286	17.3
550----	31	5,093	- 4.5		211	.8	31	4,729	-21.3	45	283	22.0	31	4,894	-15.1	38	281	21.6
500----	31	5,841	- 9.4		245	5.6	31	5,432	-25.7	44	282	23.3	31	5,616	-20.0	33	286	26.6
450----	31	6,648	-14.9		259	8.2	31	6,179	-31.4	42	277	27.0	31	6,381	-25.7	32	287	30.9
400----	31	7,531	-21.4		268	11.5	31	7,012	-37.6		276	29.3	31	7,233	-32.1	34	290	33.4
350----	31	8,503	-28.2		265	16.3	31	7,920	-44.0		268	34.8	31	8,162	-39.1		290	36.5
300----	31	9,590	-35.8		261	26.8	31	8,939	-50.4		262	41.6	31	9,203	-46.4		292	40.4
250----	31	10,836	-44.4		265	39.2	31	10,118	-53.8		266	42.9	31	10,395	-53.4		285	41.6
200----	31	12,300	-53.7		272	37.1	31	11,553	-52.1		269	37.1	31	11,817	-57.0		284	44.1
175----	31	13,148	-59.1		283	29.9	31	12,421	-50.6		272	33.2	31	12,664	-56.2		279	40.8
150----	31	14,102	-64.5		294	28.6	31	13,427	-50.3		274	28.4	30	13,644	-56.4		276	36.9
125----	31	15,200	-70.2		305	21.6	31	14,612	-51.4		276	26.0	30	14,797	-58.3		274	28.6
100----	31	16,507	-75.7		305	11.3	31	16,056	-53.0		275	20.4	30	16,194	-60.5		277	20.6
80----	29	17,791	-76.7		319	6.6	31	17,490	-54.1		286	16.1	30	17,580	-61.4		286	16.5
70----	29	18,560	-74.5		341	4.9	31	18,343	-54.3		290	12.8	30	18,401	-61.5		287	11.5
60----	28	19,468	-68.3		40	1.2	30	19,335	-54.6		290	8.4	29	19,363	-61.1		292	5.1
50----	27	20,572	-64.0			.0	29	20,504	-54.8		343	3.5	28	20,495	-60.5		43	1.9
40----	27	21,947	-61.9		18	1.0	29	21,933	-54.2		58	5.1	28	21,888	-59.6		72	4.5
30----	26	23,745	-58.3		68	4.1	25	23,774	-53.4		71	8.5	26	23,689	-58.9		80	8.4
25----	25	24,906	-54.9		5	1.7	22	24,948	-52.7		80	12.0	26	24,836	-58.2		80	10.3
20----	25	26,343	-51.9		285	10.7	19	26,398	-51.1		80	15.7	24	26,239	-57.4		77	12.0
15----	18	28,225	-48.6				15	28,278	-49.6		83	23.1	17	28,067	-55.7		80	10.5

Standard pressure surface (mb.)	JACKSON, MISS. (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	JACKSONVILLE, FLA. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	101	11.9	87	184	1.2	31	6	14.0	91	227	2.5
1,000--	31	122			147	2.5	31	149	16.0	78	220	5.1
950----	31	553	12.1	73	212	8.4	31	582	15.0	66	232	9.3
900----	31	1,005	10.6	64	237	14.6	31	1,042	12.9	56	235	11.9
850----	31	1,481	9.5	54	249	17.1	31	1,521	10.9	51	242	13.8
800----	31	1,982	7.0	54	256	18.7	31	2,025	8.8	47	255	15.2
750----	31	2,511	4.4	51	250	21.6	31	2,553	6.3	39	261	17.9
700----	31	3,070	1.7	42	251	25.1	31	3,120	3.7	29	262	22.0
650----	31	3,662	- 1.9	39	255	29.9	31	3,712	- .2	32	268	25.1
600----	31	4,294	- 6.2	40	255	32.6	31	4,354	- 4.3	29	268	31.1
550----	31	4,966	-10.5		257	36.5	31	5,025	- 8.8		270	32.8
500----	31	5,697	-15.4		256	39.4	31	5,767	-13.5	34	269	36.1
450----	31	6,478	-20.9		252	44.9	31	6,550	-19.1		270	40.6
400----	31	7,345	-27.3		249	50.9	31	7,427	-25.8		269	45.9
350----	31	8,295	-34.2		246	52.8	31	8,381	-33.0		266	52.8
300----	31	9,357	-42.2		248	58.9	31	9,448	-40.7		265	61.2
250----	31	10,568	-50.6		249	66.6	31	10,667	-49.1		265	71.3
200----	31	11,999	-57.1		247	72.3	31	12,103	-56.9		263	80.8
175----	31	12,842	-58.0		250	73.8	31	12,946	-58.2		265	81.6
150----	31	13,815	-58.1		252	66.6	31	13,914	-59.9		267	69.9
125----	31	14,956	-61.1		254	60.2	31	15,045	-63.3		268	57.5
100----	30	16,328	-65.8		253	49.4	30	16,403	-67.9		266	46.8
80----	29	17,680	-66.6		252	33.8	30	17,739	-69.7		265	27.6
70----	28	18,499	-66.3		254	27.2	28	18,533	-68.9		269	19.4
60----	28	19,426	-64.7		257	16.1	28	19,458	-67.9		279	11.7
50----	27	20,540	-63.5		272	6.2	28	20,563	-64.9		311	6.0
40----	26	21,917	-60.8		318	2.3	28	21,937	-61.1		345	4.1
30----	25	23,717	-58.8		52	4.7	27	23,736	-58.2		41	6.0
25----	22	24,866	-56.8		85	5.1	24	24,889	-56.3		71	8.9
20----	18	26,293	-54.3		64	7.8	16	26,310	-54.0		62	2.9
15----	16	28,145	-50.7				7	28,168	-51.0			
10----	7	30,795	-44.7									

Standard pressure surface (mb.)	JOHNSTON IS., PACIFIC AREA (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	KING SALMON, ALASKA (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	KOTZEBUE, ALASKA (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	24.9	76	74	13.6	31	15	-14.3	63	43	3.7	30	5	-23.0	70	69	4.3
1,000--	31	130	23.9	76	79	15.5	31	44			30	4.5	30	105	-21.2	57	75	5.8
950----	31	572	20.5	78	85	19.4	31	436	-10.9	60	16	8.4	30	486	-19.5	55	94	11.1
900----	31	1,044	17.2	77	86	19.2	31	852	-11.9	61	357	8.2	30	887	-19.3	57	106	8.4
850----	31	1,531	14.4	71	84	17.1	31	1,289	-12.9	59	343	7.8	30	1,312	-19.2	58	108	6.0
800----	31	2,042	12.5	54	82	14.4	31	1,751	-14.2	59	343	6.0	30	1,763	-19.9	60	116	3.9
750----	31	2,575	10.3	38	81	12.0	31	2,238	-16.6	56	328	5.8	30	2,241	-21.2	61	132	2.9
700----	31	3,155	7.4	30	76	9.9	31	2,754	-19.6	51	330	5.4	30	2,747	-24.2	58	145	3.1
650----	31	3,757	4.1	27	72	9.5	31	3,297	-22.7	46	307	5.1	30	3,281	-27.0	52	193	3.3
600----	31	4,409	.9		66	8.9	31	3,885	-26.2	45	269	4.1	30	3,858	-30.9	45	216	3.3
550----	31	5,097	- 2.5		47	8.2	31	4,506	-30.2	46	242	5.1	30	4,467	-34.9		214	5.6
500----	31	5,856	- 6.8		16	8.0	31	5,182	-34.7	49	229	5.6	30	5,130	-39.1		213	8.0
450----	31	6,665	-11.6		357	11.5	31	5,909	-39.7		217	8.0	30	5,847	-43.3		214	10.9
400----	31	7,568	-17.3		349	13.0	31	6,709	-44.9		200	10.9	30	6,633	-47.5		216	14.2
350----	31	8,556	-23.8		330	14.8	31	7,592	-49.9		202	13.0	30	7,508	-51.6		215	16.7
300----	31	9,664	-32.1		310	18.5	31	8,591	-52.6		212	16.9	30	8,501	-54.1		214	17.7
250----	31	10,928	-41.1		307	26.0	31	9,775	-49.8		222	19.0	30	9,676	-51.5		208	19.0
200----	31	12,412	-51.8		296	29.7	31	11,250	-46.2		229	20.4	30	11,138	-48.0		211	20.4
175----	31	13,266	-58.1		296	30.9	31	12,139	-45.3		227	21.4	29	12,021	-47.1		208	22.3
150----	31	14,221	-64.7		299	29.9	30	13,172	-45.3		225	21.6	29	13,044	-46.3		207	24.7
125----	29	15,313	-72.4		300	22.0	29	14,384	-45.2		222	21.0	28	14,262	-45.6		207	27.2
100----	27	16,603	-79.4		315	14.2	25	15,871	-46.5		223	19.8	26	15,746	-45.5		201	27.4
80----	18	17,853	-81.1		12	6.0	22	17,355	-47.7		212	15.7	23	17,235	-45.5		204	25.6
70----	15	18,605	-77.4		73	10.5	18	18,226	-48.4		211	15.0	23	18,125	-45.6		203	23.9
60----	14	19,506	-71.1		96	12.2	16	19,236	-48.8		207	11.9	23	19,151	-45.8		200	22.9
50----	14	20,603	-64.9		96	9.7	15	20,423	-48.7		186	10.1	23	20,363	-46.4		197	20.8
40----	13	21,976	-61.9		107	11.7	14	21,899	-48.3		168	8.5	23	21,842	-46.8		197	20.2
30----	13	23,774	-56.9		67	4.1	11	23,788	-49.0		152	10.7	17	23,737	-46.5		181	14.2
25----	11	24,942	-54.3		309	3.5	9	24,985	-48.6				15	24,958	-46.3		184	12.6
20----	10	26,383	-48.7		301	8.0	7	26,473	-47.9				13	26,428	-45.1		171	11.5
15----	5	28,250	-46.3										7	28,387	-39.8			
10----																		

Standard pressure surface (mb.)	LAKE CHARLES, LA. (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LANDER, WYO. (824 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	14.3	90	157	2.3	31	1,696	- 2.0	62	257	2.7
1,000--	31	123	15.7	79	173	2.3	31	127				
950----	31	558	14.8	70	217	9.3	31	543				
900----	31	1,016	13.1	59	232	10.7	31	982				
850----	31	1,496	11.2	53	246	14.4	31	1,445				
800----	31	2,001	9.2	49	246	19.0	31	1,930	- .7	46	306	2.1
750----	31	2,534	6.4	43	253	21.4	31	2,441	- 3.6	45	312	4.7
700----	31	3,097	3.2	37	260	23.5	31	2,986	- 7.0	43	299	9.1
650----	31	3,692	- .6	34	257	28.4	31	3,552	-10.8	43	295	14.0
600----	31	4,330	- 4.7		256	33.4	31	4,172	-14.3	40	295	16.5
550----	31	5,003	- 9.4		257	34.6	31	4,821	-18.5	37	298	16.7
500----	31	5,739	-14.7		259	38.9	31	5,532	-23.5		284	20.2
450----	31	6,530	-19.9		257	45.9	31	6,286	-29.1	35	282	23.1
400----	31	7,394	-26.4		256	48.6	31	7,127	-35.7		281	25.5
350----	31	8,346	-33.6		257	52.8	31	8,041	-43.2		274	26.0
300----	31	9,409	-41.9		256	59.5	31	9,061	-50.8		276	29.3
250----	31	10,622	-50.0		256	70.9	31	10,234	-55.1		277	33.4
200----	31	12,055	-56.6		253	76.2	31	11,661	-54.4		272	29.7
175----	31	12,898	-57.9		250	71.5	31	12,521	-52.7		272	31.7
150----	31	13,867	-59.5		251	69.2	30	13,515	-52.8		275	27.0
125----	31	15,000	-62.7		253	62.6	30	14,688	-54.8		272	22.5
100----	31	16,362	-66.5		252	47.6	30	16,109	-56.4		274	15.7
80----	31	17,705	-68.2		253	31.3	30	17,521	-57.7		270	9.3
70----	31	18,545	-67.8		253	22.3	30	18,366	-58.1		261	5.2
60----	31	19,436	-66.6		257	14.2	30	19,333	-58.1		256	4.1
50----	31	20,547	-64.0		298	4.7	30	20,481	-58.0		145	1.4
40----	29	21,922	-61.5		10	2.5	30	21,889	-57.6		83	7.0
30----	29	23,717	-58.6		41	4.9	25	23,709	-56.7		81	11.7
25----	27	24,866	-57.1		52	5.6	22	24,870	-55.5		73	16.9
20----	26	26,283	-54.7		58	5.1	16	26,303	-54.2		76	20.4
15----	22	28,151	-50.3		6	1.6	7	28,178	-52.1			
10----	7	30,818	-43.8									

Standard pressure surface (mb.)	LAS VEGAS, NEV. (936 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LIHUE, HAWAII (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LITTLE ROCK, ARK. (1005 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	660	8.6	44	245	4.7	31	36	20.9	83	31	3.9	31	79	9.4	82	291	1.7
1,000--	31	104					31	156	21.2	81	46	7.2	31	119			297	1.9
950----	31	531					31	600	17.8	82	72	9.9	31	542	8.6	70	253	7.0
900----	31	984	10.9	32	277	4.1	31	1,060	14.6	81	83	9.7	31	992	8.0	66	251	13.8
850----	31	1,458	8.3	33	295	5.2	31	1,542	11.8	76	85	8.4	31	1,464	6.7	62	254	19.4
800----	31	1,956	4.9	35	292	5.8	31	2,047	9.2	62	90	6.4	31	1,961	4.9	57	256	21.2
750----	31	2,474	1.3	37	272	7.2	31	2,585	8.0	38	89	5.2	31	2,486	2.5	52	259	26.6
700----	31	3,032	- 2.2	37	270	9.7	31	3,149	6.7		109	2.5	31	3,040	- .6	45	258	28.4
650----	31	3,608	- 6.1	37	275	11.5	31	3,749	3.3		168	1.6	31	3,625	- 4.4	41	259	30.7
600----	31	4,238	-10.3	38	287	16.1	31	4,399	- 1.0		218	2.7	31	4,255	- 8.7	39	257	35.9
550----	31	4,897	-14.8	37	286	21.2	31	5,082	- 5.5		281	3.7	31	4,920	-13.1	35	256	43.9
500----	31	5,618	-19.7	38	286	25.6	31	5,829	-10.3		290	6.6	31	5,644	-17.4		260	39.2
450----	31	6,384	-25.3	34	290	32.4	31	6,630	-15.5		282	9.9	31	6,418	-22.7		259	42.4
400----	31	7,237	-32.0	33	298	35.6	31	7,513	-21.7		291	14.0	31	7,279	-29.3		258	49.9
350----	31	8,165	-39.3		292	40.0	31	8,483	-28.6		300	16.9	31	8,220	-36.0		254	56.5
300----	31	9,205	-46.3		291	44.7	31	9,569	-36.2		311	20.6	31	9,274	-43.9		252	56.2
250----	31	10,396	-53.6		287	47.0	31	10,811	-44.7		306	30.9	31	10,477	-51.6		259	60.8
200----	31	11,818	-56.0		287	47.6	31	12,275	-53.3		300	39.1	31	11,905	-56.6		258	62.8
175----	31	12,668	-55.7		285	42.9	31	13,125	-58.3		297	39.4	31	12,752	-56.6		260	64.1
150----	31	13,651	-57.0		281	37.9	31	14,082	-63.8		292	38.9	31	13,729	-57.0		263	58.7
125----	30	14,801	-58.5		279	31.1	31	15,184	-69.7		293	34.4	31	14,876	-59.8		261	46.0
100----	30	16,195	-60.9		277	24.1	30	16,493	-74.8		297	23.3	30	16,263	-63.1		263	35.0
80----	30	17,576	-61.9		281	14.8	29	17,783	-76.3		298	10.3	28	17,627	-64.5		259	25.8
70----	30	18,402	-61.9		269	9.3	28	18,555	-74.1		289	4.9	28	18,448	-63.9		268	22.2
60----	30	19,357	-61.0		264	4.5	28	19,461	-69.4		306	2.5	28	19,388	-63.4		286	12.6
50----	30	20,491	-60.4		241	1.2	27	20,563	-65.4		49	1.9	28	20,510	-62.7		338	4.1
40----	30	21,885	-59.3		85	2.1	27	21,931	-62.3		103	1.6	27	21,892	-60.5		26	2.9
30----	29	23,691	-58.3		84	9.1	26	23,724	-58.7		41	.8	22	23,694	-58.2		81	6.2
25----	26	24,838	-57.2		86	10.7	25	24,877	-56.0		345	2.1	22	24,845	-56.9		47	4.5
20----	24	26,256	-55.4		80	12.2	22	26,307	-53.5		285	4.5	17	26,246	-54.8		79	11.5
15----	12	28,096	-52.7		76	9.9	15	28,181	-50.0				12	28,095	-51.4			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	McGRATH, ALASKA (998 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	MEDFORD, OREG. (968 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	MIAMI, FLA. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	103	-21.3	61	338	0.6	31	401	4.4	81	196	0.8	31	4	20.1	76	112	1.9
1,000--	31	84					31	136					31	148	20.0	75	126	4.7
950---	31	475	-17.0	49	45	7.0	31	557	4.9	77	213	1.7	31	589	17.5	72	141	6.2
900----	31	874	-16.6	52	67	8.4	31	997	3.6	73	192	6.0	31	1,030	14.8	70	177	5.2
850----	31	1,305	-16.0	53	67	4.9	31	1,459	.5	72	208	10.3	31	1,532	12.3	59	193	3.5
800----	31	1,762	-16.3	52	58	1.9	31	1,941	- 2.5	70	232	15.5	31	2,040	10.6	40	273	4.5
750--	31	2,248	-17.8	50	256	1.6	31	2,452	- 5.0	68	245	21.4	31	2,578	8.8		271	5.8
700----	31	2,761	-20.5	44	261	3.3	31	2,994	- 7.8	65	253	24.5	31	3,145	6.2		274	8.4
650----	31	3,305	-23.9	44	234	5.2	31	3,561	-10.9	67	260	25.6	31	3,746	2.7		274	12.8
600----	31	3,887	-27.5	44	227	6.2	31	4,180	-14.6	63	262	27.6	31	4,392	- 1.2		269	16.3
550----	31	4,508	-31.5	43	221	7.0	31	4,828	-18.5	53	269	30.3	31	5,072	- 5.7		267	20.8
500----	31	5,178	-35.7	45	223	8.4	31	5,540	-23.1	51	271	32.3	31	5,822	-10.6		267	25.3
450--	31	5,902	-40.3		209	9.1	31	6,294	-28.7	19	274	34.2	31	6,620	-16.2		266	30.7
400----	31	6,700	-45.1		216	12.8	31	7,137	-34.9	44	275	33.4	31	7,502	-22.2	31	266	37.3
350----	31	7,582	-50.4		212	15.2	31	8,057	-41.2		269	30.3	31	8,468	-29.7		267	43.1
300--	31	8,579	-53.7		210	17.1	31	9,091	-47.8		275	38.7	31	9,548	-38.0		269	51.9
250--	31	9,758	-50.6		215	19.0	31	10,277	-53.8		279	46.2	31	10,779	-47.4		268	65.7
200----	31	11,229	-46.5		219	19.4	31	11,706	-54.2		276	35.9	31	12,221	-57.1		266	71.5
175----	31	12,118	-45.7		217	20.4	31	12,564	-53.9		271	34.4	31	13,060	-59.8		268	67.4
150----	31	13,146	-45.4		219	21.8	30	13,554	-53.6		273	29.7	31	14,017	-62.9		268	61.6
125----	31	14,364	-45.1		217	21.2	30	14,723	-55.2		275	23.3	31	15,129	-66.7		269	52.1
100----	31	15,855	-45.3		219	20.4	30	16,144	-56.9		281	18.8	31	16,462	-72.1		269	38.5
80-----	31	17,342	-46.0		218	18.1	29	17,555	-58.1		280	10.5	31	17,764	-74.8		268	23.1
70-----	31	18,235	-46.7		217	16.9	29	18,394	-58.7		287	8.5	31	18,544	-74.0		274	11.1
60-----	31	19,250	-47.1		212	14.8	29	19,363	-58.8		316	4.5	30	19,446	-71.0		280	4.7
50-----	31	20,456	-47.6		203	12.6	29	20,508	-58.3		45	5.8	29	20,541	-66.3		336	2.7
40-----	30	21,928	-48.2		196	11.1	29	21,915	-57.3		86	8.7	28	21,904	-62.2		336	3.9
30-----	28	23,827	-47.8		175	8.0	29	23,737	-56.5		86	12.8	28	23,700	-58.0		350	3.3
25-----	28	25,032	-46.9		119	8.9	29	24,895	-55.7		86	21.8	28	24,854	-56.0		10	3.1
20-----	23	26,524	-45.2		148	11.3	26	26,324	-54.1		82	19.8	26	26,283	-53.0		287	3.5
15-----	10	28,471	-41.9				18	28,174	-51.6		80	22.2	19	28,155	-48.0			

Standard pressure surface (mb)	MIDLAND, TEXAS (913 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	MONTGOMERY, ALA. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	871	6.1	69	238	2.7	31	61	10.5	89	266	0.6
1,000--	31	116					31	140	11.8	80	239	1.4
950---	31	540					31	571	12.2	69	243	8.0
900----	31	991	8.9	55	248	2.7	31	1,023	11.1	57	252	14.2
850----	31	1,465	9.5	41	271	12.0	31	1,499	9.8	50	253	19.6
800----	31	1,967	8.0	39	271	17.1	31	2,001	7.7	51	255	24.3
750--	31	2,494	4.9	36	270	19.6	31	2,531	4.9	45	254	28.6
700----	31	3,055	1.3	35	262	22.3	31	3,091	1.7	44	256	31.7
650----	31	3,641	- 2.4	33	257	27.0	31	3,680	- 2.1	44	258	32.4
600----	31	4,278	- 6.8	31	258	30.7	31	4,316	- 6.0	43	259	32.1
550----	31	4,942	-11.6		260	33.6	31	4,986	-10.4	40	258	39.2
500----	31	5,674	-17.2		263	34.2	31	5,719	-15.1	37	259	44.3
450----	31	6,447	-23.1		263	36.5	31	6,502	-20.1	36	258	51.9
400----	31	7,307	-29.9		262	39.6	31	7,370	-26.9	39	258	56.7
350----	31	8,245	-37.0		260	43.9	31	8,320	-33.9	38	258	60.2
300--	31	9,295	-44.1		255	50.9	31	9,383	-41.9		259	68.1
250--	31	10,397	-51.8		254	56.3	31	10,593	-50.6		256	80.8
200----	31	11,924	-56.7		251	59.1	31	12,027	-56.3		258	83.9
175----	31	12,771	-56.6		253	59.7	30	12,874	-57.7		257	86.7
150----	31	13,747	-58.0		254	57.1	30	13,845	-58.3		258	81.0
125----	31	14,889	-60.7		255	49.0	30	14,983	-62.1		259	65.7
100----	31	16,269	-63.4		251	37.1	30	16,349	-66.1		260	54.0
80-----	29	17,637	-64.9		248	27.2	30	17,698	-67.6		262	33.8
70-----	28	18,458	-64.8		251	17.7	29	18,508	-67.0		264	20.6
60-----	27	19,397	-63.9		248	10.5	27	19,431	-65.5		264	8.9
50-----	24	20,517	-62.7		262	4.7	26	20,545	-63.8		349	2.5
40-----	23	21,893	-61.1		50	.6	26	21,922	-60.9		63	6.8
30-----	20	23,693	-58.5		57	2.5	26	23,721	-58.3		68	11.5
25-----	21	24,841	-56.6		76	3.9	21	24,870	-56.4		78	15.0
20-----	11	26,252	-55.4				22	26,294	-54.6		78	13.0
15-----	7	28,079	-51.0				18	28,149	-51.1		86	10.5

Standard pressure surface (mb)	NANTUCKET, MASS. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	NASHVILLE, TENN. (994 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	N. Y. INT. AP, IDLEWILD (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	14	1.0	79	336	4.7	31	177	8.2	80	210	2.7	31	5	1.6	67	330	7.8
1,000--	31	116	1.2	70	340	6.4	31	126					31	133	1.3	63	333	8.0
950----	31	524	.3	66	325	8.5	31	547	7.8	72	229	11.1	31	547	.3	60	332	8.5
900----	31	960	- .8	64	305	12.0	31	995	6.7	66	237	15.5	31	978	- .5	58	306	12.8
850----	31	1,416	- 1.7	58	294	15.2	31	1,463	5.0	61	242	18.8	31	1,434	- 1.3	55	297	16.9
800----	31	1,897	- 3.1	52	294	20.4	31	1,957	3.2	55	240	21.0	31	1,916	- 2.6	52	295	22.0
750----	31	2,406	- 4.9	52	289	23.7	31	2,477	1.2	54	253	24.5	31	2,429	- 4.2	50	292	26.8
700----	31	2,948	- 7.0	51	286	27.0	31	3,031	- 1.7	53	255	27.6	31	2,969	- 6.7	50	288	30.1
650----	31	3,521	- 9.6	46	282	33.2	31	3,611	- 4.9	46	250	34.0	31	3,541	-10.0	43	283	32.8
600----	31	4,137	-13.1	40	284	39.6	31	4,242	- 8.7	43	250	36.9	31	4,158	-13.5		283	37.7
550----	31	4,793	-17.1	36	286	38.3	31	4,904	-13.1	40	254	37.7	31	4,809	-17.7	38	281	40.4
500----	31	5,504	-21.9	36	283	41.0	31	5,631	-18.2	38	255	40.8	31	5,522	-22.3	38	280	44.9
450----	31	6,266	-27.3	34	280	44.1	31	6,403	-23.7	38	252	49.5	31	6,284	-27.7		281	49.4
400----	31	7,110	-33.2	34	277	45.5	31	7,262	-29.8	39	253	54.2	30	7,120	-33.2		281	55.2
350----	31	8,035	-39.6		281	49.4	31	8,199	-36.8		256	59.1	30	8,045	-39.7		281	63.3
300----	31	9,076	-45.8		277	46.6	31	9,249	-44.3		258	56.7	30	9,084	-46.0		280	67.2
250----	31	10,275	-51.1		278	47.0	31	10,450	-51.6		256	63.7	30	10,283	-50.9		280	74.0
200----	31	11,718	-53.2		277	46.6	31	11,877	-56.3		259	65.9	29	11,729	-53.7		280	72.9
175----	31	12,580	-52.6		274	42.7	30	12,723	-56.5		264	63.3	29	12,587	-53.7		279	63.7
150----	31	13,575	-53.2		279	36.1	30	13,702	57.1		265	56.2	29	13,579	-53.8		280	55.8
125----	30	14,742	-55.4		284	27.6	29	14,846	-60.0		266	44.9	29	14,745	-55.8		279	45.7
100----	30	16,159	-57.2		276	22.7	28	16,232	-62.5		265	36.3	29	16,158	-58.0		281	34.2
80-----	30	17,565	-58.5		273	17.3	26	17,597	-64.0		273	27.0	29	17,562	-59.4		284	27.0
70-----	30	18,410	-58.9		276	12.8	26	18,418	-63.7		273	20.2	29	18,399	-59.5		284	21.4
60-----	30	19,370	-58.7		280	8.5	25	19,357	-63.6		275	14.6	29	19,360	-59.0		288	14.4
50-----	30	20,516	-58.0		313	3.9	23	20,481	-62.3		304	7.4	28	20,507	-58.7		298	7.4
40-----	29	21,925	-57.0		65	7.8	23	21,863	-60.6		2	2.7	28	21,912	-57.5		15	2.1
30-----	28	23,752	-55.5		81	12.8	23	23,664	-58.2		60	8.0	27	23,737	-56.1		77	9.5
25-----	25	24,919	-54.7		85	16.3	22	24,816	-56.9		62	12.0	27	24,899	-55.1		85	12.4
20-----	21	26,352	-53.1		93	20.2	20	26,231	-54.9		71	14.2	25	26,328	-53.6		87	13.2
15-----	19	28,215	-50.5		89	21.0	16	28,077	-51.3				20	28,198	-50.9		86	18.3
10-----	9	30,863	-45.7															

Standard pressure surface (mb)	NOME, ALASKA (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	NORFOLK, VA. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	27	7	-19.8	62	16	4.9	31	9	8.2	78	333	1.9
1,000--	27	91	-17.6	54	11	5.2	31	139	8.6	71	304	3.3
950----	27	481	-17.0	62	66	4.3	31	561	7.5	64	291	9.1
900----	27	882	-17.1	65	58	3.5	31	1,008	6.0	59	288	12.8
850----	27	1,311	-16.6	61	333	1.7	31	1,475	4.4	54	275	17.1
800----	27	1,766	-17.9	55	315	3.5	31	1,967	2.4	52	273	20.6
750----	27	2,254	-20.2	53	293	4.5	31	2,485	.4	48	275	27.2
700----	27	2,756	-23.1	50	299	6.6	31	3,038	- 2.5	48	275	31.3
650----	27	3,293	-26.4	46	291	9.3	31	3,617	- 6.0	40	274	36.1
600----	27	3,870	-30.2	43	287	12.0	31	4,246	- 9.8	40	271	42.7
550----	27	4,480	-34.1		281	13.8	31	4,908	-13.5	37	270	47.2
500----	27	5,146	-38.3		273	14.2	31	5,630	18.2	37	272	52.1
450----	27	5,866	-42.9		264	15.7	31	6,402	-23.5		272	57.1
400----	27	6,652	-47.7		256	17.5	31	7,261	-29.6	39	272	62.4
350----	27	7,525	-51.9		248	19.2	31	8,200	-36.6		272	69.9
300----	27	8,517	-54.6		241	18.8	31	9,251	-44.0		274	74.8
250----	27	9,689	-51.6		235	18.3	31	10,454	-51.7		276	79.9
200----	27	11,153	-47.7		227	19.8	31	11,884	-56.5		274	79.7
175----	27	12,036	-46.9		220	22.2	31	12,733	-55.6		278	71.5
150----	27	13,060	-45.8		222	23.3	31	13,714	-56.9		274	61.2
125----	27	14,275	-45.4		220	23.5	31	14,865	-58.8		273	56.3
100----	27	15,766	-45.2		218	26.4	31	16,256	-61.9		278	42.7
80-----	27	17,256	-45.2		218	24.7	31	17,630	-63.0		279	28.8
70-----	27	18,157	-45.6		217	24.1	31	18,453	-63.0		280	22.5
60-----	27	19,172	-46.3		216	22.2	30	19,402	-62.7		296	11.5
50-----	27	20,383	-46.6		213	18.7	30	20,529	-61.3		323	4.7
40-----	26	21,868	-47.2		206	17.5	29	21,921	-59.0		58	7.2
30-----	25	23,764	-46.6		201	15.2	23	23,730	-57.2		54	9.1
25-----	25	24,975	-46.1		191	12.2	19	24,884	-56.0		79	15.7
20-----	25	26,462	-45.1		173	11.3	15	26,306	-54.4		78	16.9
15-----	16	28,379	-42.8		171	8.7	11	28,160	-51.8			

Standard pressure surface (mb)	NORTH PLATTE, NEBR. (914 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	OAKLAND, CALIF. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	OKLAHOMA CITY, OKLA. (967 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	848	- 0.9	83	353	3.3	31	6	8.8	83	215	1.0	31	392	6.6	72	290	0.6
1,000--	31	120					31	151	9.2	77	266	3.5	31	112				
950----	31	529					31	572	7.1	70	291	8.5	31	536	7.3	67	230	1.9
900----	31	969	.4	77	348	4.1	31	1,018	5.4	61	299	10.1	31	980	7.0	65	243	10.3
850----	31	1,428	.4	67	312	6.2	31	1,484	3.4	51	290	9.1	31	1,450	6.6	56	257	14.8
800----	31	1,914	- 1.1	63	303	10.9	31	1,974	1.4	50	299	13.0	31	1,947	4.6	49	258	18.1
750----	31	2,424	- 2.9	58	290	12.0	31	2,487	.6	44	293	17.7	31	2,472	2.1	43	267	20.8
700----	31	2,971	- 6.0	57	297	12.8	31	3,041	- 3.7	45	291	20.6	31	3,021	- 1.3	40	270	23.9
650----	31	3,540	- 9.3	56	285	14.0	31	3,617	- 7.0	44	295	23.5	31	3,611	- 5.1	34	265	26.0
600----	31	4,163	-13.1	53	274	16.1	31	4,242	-11.5	46	293	26.4	31	4,235	- 9.5	36	266	28.2
550----	31	4,815	-17.0	51	277	19.6	31	4,901	-15.7	44	295	30.7	31	4,901	-14.4	34	264	30.1
500----	31	5,531	-22.0	51	272	19.8	31	5,619	-19.9	41	295	37.9	31	5,616	-19.7		259	33.4
450----	31	6,290	-27.8	51	270	21.6	31	6,385	-25.2	39	296	41.6	31	6,391	-25.2		259	37.9
400----	31	7,134	-34.4	49	262	25.1	31	7,239	-31.2	34	296	46.6	31	7,235	-31.4		261	41.2
350----	31	8,053	-41.8		265	27.4	31	8,172	-37.8		298	50.5	31	8,167	-38.3		260	45.7
300----	31	9,080	-49.4		261	34.0	31	9,216	-46.2		299	53.2	31	9,211	-45.4		258	52.7
250----	31	10,258	-54.9		260	33.4	31	10,407	-54.0		300	58.3	31	10,407	-52.7		255	59.5
200----	31	11,683	-54.1		259	31.7	31	11,824	-57.5		290	49.9	31	11,835	-55.6		257	61.8
175----	31	12,542	-53.1		260	31.5	31	12,670	-56.4		291	45.1	30	12,689	-55.5		255	58.7
150----	31	13,533	-53.7		262	24.9	31	13,651	-56.2		288	39.4	30	13,670	-56.4		254	54.0
125----	31	14,700	-55.4		265	28.0	30	14,809	-58.5		290	33.0	30	14,821	-59.1		255	44.1
100----	31	16,116	-57.1		267	19.2	27	16,206	-60.9		293	27.2	30	16,211	-61.8		252	33.8
80-----	30	17,525	-58.7		263	14.4	27	17,592	-61.5		294	17.3	29	17,587	-62.7		251	25.5
70-----	30	18,363	-59.1		265	10.1	27	18,428	-61.5		297	10.9	27	18,419	-62.7		252	19.4
60-----	29	19,328	-58.8		252	5.2	27	19,380	-60.9		322	8.9	26	19,359	-62.3		256	11.1
50-----	29	20,472	-59.1		288	2.7	27	20,516	-60.4		16	3.7	26	20,484	-61.9		277	3.7
40-----	29	21,874	-58.5		46	3.5	25	21,912	-58.8		74	6.0	25	21,868	-60.2		48	.8
30-----	28	23,688	-57.1		82	9.5	22	23,727	-57.2		78	9.7	21	23,665	-58.0		78	7.2
25-----	27	24,844	-55.9		81	15.5	20	24,884	-56.3		85	11.7	18	24,812	-56.6		85	9.7
20-----	23	26,275	-54.2		88	16.3	18	26,303	-54.7		87	14.0	12	26,228	-54.6			
15-----	16	28,129	-51.9		79	21.1	6	28,173	-52.6									
10-----	7	30,782	-47.0															

Standard pressure surface (mb)	OMAHA, NEBR. (965 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	PEORIA, ILL. (989 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	403	0.3	84	18	3.1	31	201	1.8	84	13	1.7
1,000--	31	114					31	112				
950----	31	526	.5	74	20	3.9	31	524	2.4	72	351	1.4
900----	31	961	.7	60	353	7.0	31	965	1.9	65	260	5.4
850----	31	1,420	.1	57	340	6.6	31	1,426	1.4	59	262	10.3
800----	31	1,905	- 1.1	54	317	8.2	31	1,914	- .1	55	265	12.6
750----	31	2,414	- 3.4	53	304	9.5	31	2,425	- 2.6	53	261	15.2
700----	31	2,962	- 5.9	53	296	10.1	31	2,974	- 5.3	51	264	17.1
650----	31	3,534	- 9.4	54	283	11.5	31	3,546	- 8.4	49	261	20.4
600----	31	4,155	-12.7	53	281	15.9	31	4,170	-11.8	43	258	24.7
550----	31	4,810	-16.8	49	275	19.2	31	4,825	-15.9	39	257	26.4
500----	31	5,525	-21.8	45	274	21.6	31	5,544	-20.7	38	253	25.1
450----	31	6,285	-27.8	45	272	24.7	31	6,305	-26.3		254	34.2
400----	31	7,130	-34.4	42	268	26.8	31	7,157	-32.5	38	251	40.6
350----	31	8,050	-41.6		266	30.1	31	8,085	-39.3		244	42.0
300----	31	9,079	-49.1		266	36.5	31	9,124	-46.9		243	47.0
250----	31	10,261	-54.4		261	45.1	31	10,314	-53.2		249	57.7
200----	31	11,690	-54.7		261	43.3	31	11,744	-54.0		251	58.7
175----	30	12,545	-52.8		263	43.3	31	12,603	-53.2		258	52.5
150----	30	13,540	-53.6		265	38.5	31	13,596	-53.8		258	49.0
125----	30	14,708	-55.7		264	33.8	31	14,762	-55.9		258	42.6
100----	30	16,122	-57.8		263	26.0	31	16,175	-58.0		260	35.4
80-----	30	17,524	-58.8		266	18.5	31	17,576	-59.3		262	24.7
70-----	30	18,361	-58.9		270	14.4	30	18,414	-59.5		260	18.1
60-----	29	19,326	-59.6		265	9.9	30	19,378	-59.5		267	11.9
50-----	29	20,466	-59.3		268	4.3	30	20,519	-59.3		297	3.7
40-----	28	21,868	-58.3		27	1.9	30	21,921	-58.3		40	5.8
30-----	26	23,682	-57.1		72	6.8	30	23,739	-56.6		62	10.5
25-----	24	24,838	-56.1		76	8.7	29	24,896	-55.5		70	13.8
20-----	22	26,263	-54.3		84	11.7	27	26,326	-53.6		81	19.4
15-----	12	28,133	-51.3		82	11.6	17	28,184	-51.1		72	20.0
10-----							7	30,853	-45.9			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

MARCH 1961

Standard pressure surface (mb)	PITTSBURGH, PA. (975 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	POINT ARGUELLO, CALIF. (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	PORTLAND, ME. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	353	2.1	79		0.0	31	113	8.9	85	327	6.2	31	20	- 4.7	81	338	3.1
1,000--	31	133					31	146			330	6.6	31	119			352	5.4
950----	31	551	2.4	68	222	3.9	31	574	9.1	68	339	16.3	31	526	- 3.4	59	357	8.0
900----	31	986	.9	72	254	14.2	31	1,019	7.7	61	339	16.3	31	951	- 4.8	60	333	9.1
850----	31	1,445	- .1	68	270	20.2	31	1,488	6.0	48	333	18.1	31	1,400	- 5.8	56	328	11.9
800----	31	1,930	- 1.7	62	270	21.8	31	1,983	4.4	42	328	21.4	31	1,875	- 6.3	53	320	11.9
750 --	31	2,440	- 3.9	60	270	25.3	30	2,503	2.1	37	314	24.9	31	2,379	- 7.5	51	302	16.7
700----	31	2,985	- 6.1	56	270	29.9	30	3,061	- .7	34	306	25.5	31	2,914	- 9.2	51	290	21.2
650 - -	31	3,560	- 9.2	50	272	30.1	30	3,645	- 4.1	32	300	26.2	31	3,480	-12.0	50	289	26.2
600----	31	4,179	-12.6	46	273	32.6	30	4,276	- 8.1	33	303	32.8	31	4,093	-15.4	47	287	30.1
550----	31	4,833	-16.7	45	273	34.0	30	4,942	-12.2		301	36.1	31	4,739	-19.3	42	285	35.2
500----	31	5,549	-21.6	41	276	37.5	30	5,670	-17.2		299	35.8	31	5,448	-23.9	36	284	38.9
450----	31	6,309	-27.1	39	282	38.1	30	6,443	-23.0		297	38.3	31	6,204	-29.1	34	283	41.6
400----	31	7,157	-33.1		279	41.0	30	7,302	-30.0		300	40.4	31	7,042	-35.4	34	283	46.0
350----	31	8,084	-39.1		275	47.8	30	8,239	-37.6		299	45.1	31	7,961	-41.1		283	49.2
300----	30	9,117	-46.1		275	58.3	30	9,284	-46.0		297	50.1	31	8,995	-47.1		282	55.2
250----	30	10,315	-51.7		272	60.6	30	10,476	-53.6		299	53.0	31	10,190	-51.4		283	59.5
200----	30	11,751	-54.8		270	55.4	30	11,892	-58.3		294	55.2	31	11,640	-51.2		280	54.8
175----	29	12,602	-53.5		270	55.8	30	12,733	-57.9		290	47.4	31	12,509	-50.7		279	48.0
150----	29	13,592	-54.4		266	49.9	30	13,703	-58.8		287	43.9	31	13,511	-51.9		280	40.2
125----	29	14,756	-56.2		274	41.8	30	14,844	-60.3		286	38.7	31	14,688	-53.5		279	34.0
100----	29	16,166	-58.5		272	33.2	30	16,228	-62.3		290	30.7	31	16,118	-55.4		279	28.0
80----	28	17,567	-59.2		276	19.4	30	17,601	-63.3		290	19.0	30	17,534	-56.6		280	16.3
70----	28	18,405	-59.6		280	15.3	30	18,427	-62.8		295	14.4	30	18,385	-56.9		287	13.8
60----	28	19,369	-60.0		294	10.9	30	19,372	-62.1		292	10.7	30	19,357	-57.1		304	9.1
50----	27	20,511	-59.4		22	4.5	29	20,498	-61.4		302	6.4	30	20,512	-56.7		339	4.7
40----	27	21,916	-57.6		65	7.8	28	21,884	-59.7		22	1.7	28	21,928	-56.0		49	4.3
30----	27	23,738	-56.3		71	15.3	27	23,687	-57.9		88	6.8	26	23,765	-54.9		77	9.7
25----	26	24,900	-55.2		78	19.6	27	24,838	-57.0		92	6.8	25	24,930	-54.1		76	10.7
20----	25	26,332	-53.5		84	21.0	26	26,256	-55.8		83	7.8	20	26,362	-52.8		85	17.9
15----	18	28,192	-50.5				26	28,097	-52.9		70	10.5	12	28,242	-50.7			
10----	5	30,863	-44.5				22	30,754	-46.3		95	3.5						
7----							13	33,163	-39.9		11	6.2						
5----							6	35,358	-40.8									

Standard pressure surface (mb)	RAPID CITY, S. DAK. (900 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ST. CLOUD, MINN. (977 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	966	0.0	74	348	1.4	31	316	- 2.2	81	328	1.4
1,000--	31	116					31	126				
950----	31	528					31	536	- 2.2	75	334	1.4
900----	31	968			350	3.5	31	964	- 2.2	65	306	3.3
850----	31	1,428	.3	62	298	6.6	31	1,418	- 2.9	59	317	6.6
800----	31	1,914	- 1.6	58	307	9.1	31	1,897	- 4.3	49	320	8.0
750 --	31	2,423	- 4.1	56	303	9.7	31	2,403	- 6.4	48	313	8.7
700----	31	2,967	- 7.6	57	301	10.9	31	2,942	- 8.9	47	300	12.6
650 - -	31	3,536	-11.2	57	299	11.5	31	3,508	-11.8	45	295	16.3
600----	31	4,151	-14.9	59	278	14.2	31	4,122	-15.2	47	289	20.6
550----	31	4,802	-19.1	58	273	18.5	31	4,770	-19.2	50	283	21.6
500----	31	5,507	-24.0	54	270	20.2	31	5,477	-24.2	48	279	24.5
450----	31	6,264	-29.8	52	266	22.9	31	6,228	-29.9	45	275	27.0
400----	31	7,097	-36.3	51	263	24.7	31	7,066	-36.1	46	271	29.3
350----	31	8,009	-43.4		263	27.6	31	7,980	-42.9		266	34.4
300----	31	9,029	-50.7		262	29.9	31	9,004	-50.0		262	35.2
250----	31	10,203	-54.9		264	32.1	31	10,182	-54.8		256	39.2
200----	31	11,631	-53.4		266	30.9	31	11,613	-53.6		265	37.5
175----	31	12,492	-52.4		269	30.7	31	12,476	-51.6		270	33.6
150----	31	13,489	-52.7		268	26.6	31	13,477	-51.8		270	30.9
125----	31	14,662	-54.0		265	23.1	31	14,655	-53.3		270	26.4
100----	31	16,089	-55.5		269	17.7	31	16,088	-55.3		270	21.2
80----	31	17,506	-57.2		268	13.0	31	17,508	-56.1		277	16.1
70----	31	18,352	-57.4		270	8.5	31	18,358	-56.7		280	12.0
60----	31	19,326	-57.5		281	3.7	31	19,332	-56.6		286	7.4
50----	31	20,478	-57.5		97	.6	31	20,485	-56.8		331	5.4
40----	31	21,889	-57.1		66	4.5	31	21,903	-55.9		57	5.6
30----	29	23,713	-56.1		81	11.7	30	23,734	-55.3		73	10.9
25----	28	24,877	-55.2		81	18.1	30	24,899	-54.3		76	15.0
20----	25	26,305	-54.0		85	21.8	26	26,332	-53.0		85	19.4
15----	10	28,168	-50.3				16	28,197	-50.2		83	23.9

Standard pressure surface (mb)	ST. PAUL IS., ALASKA (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SALEM, OREG. (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SALT LAKE CITY, UTAH (869 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	- 7.3	87	11	9.3	31	61	5.4	94	180	6.4	31	1,288	2.5	76	167	3.9
1,000--	31	64			18	8.7	31	116			183	8.5	31	134				
950----	31	460	- 9.4	77	24	10.3	31	532	4.9	82	201	13.4	31	554				
900----	31	879	-10.1	74	26	7.0	31	974	2.2	81	217	15.0	31	998				
850----	31	1,318	-12.1	70	22	6.0	31	1,434	- .5	79	224	17.7	31	1,465	3.2	60	161	4.1
800----	31	1,780	-14.5	61	351	6.8	31	1,916	- 3.4	78	231	19.6	31	1,955	.6	57	200	1.7
750----	31	2,263	-17.5	55	350	6.8	31	2,421	- 6.4	74	238	20.0	31	2,471	- 3.0	58	260	4.1
700----	31	2,780	-20.4	49	340	8.2	31	2,961	- 9.6	67	240	21.0	31	3,014	- 6.7	60	278	8.4
650----	31	3,318	-23.9	47	336	7.8	31	3,525	-13.2	65	242	22.2	31	3,588	-10.2	59	280	13.0
600----	31	3,906	-27.7	44	318	7.4	31	4,136	-16.3	59	247	22.5	31	4,203	-13.8	51	279	16.1
550----	31	4,515	-31.8	44	302	8.9	31	4,781	-20.0	54	254	24.5	31	4,856	-18.2	51	277	17.5
500----	31	5,194	-36.3	46	294	9.9	31	5,486	-24.8	51	258	26.4	31	5,566	-23.0	49	278	21.8
450----	31	5,908	-41.2		287	10.9	31	6,238	-30.2	47	258	29.0	31	6,324	-28.6	46	280	23.1
400----	31	6,710	-46.5		284	13.4	31	7,073	-35.5	45	265	31.9	31	7,165	-35.1	40	282	23.9
350----	31	7,587	-51.4		272	14.2	31	7,989	-42.1		267	32.1	31	8,083	-42.1		279	26.0
300----	31	8,578	-55.3		250	14.2	31	9,017	-48.9		273	36.3	31	9,110	-49.5		280	29.9
250----	31	9,744	-53.0		247	16.7	31	10,200	-53.5		278	39.4	31	10,290	-54.5		279	32.8
200----	30	11,205	-48.3		243	21.4	31	11,636	-54.0		277	34.2	31	11,718	-54.0		277	33.6
175----	29	12,085	-47.2		236	22.3	31	12,498	-51.9		273	31.3	31	12,577	-53.2		273	30.3
150----	29	13,107	-43.2		229	23.7	31	13,497	-52.1		278	29.3	31	13,571	-53.4		273	29.5
125----	29	14,319	-45.9		229	23.9	31	14,670	-54.1		278	23.3	31	14,739	-55.6		273	22.5
100----	29	15,805	-46.1		224	24.7	31	16,098	-54.9		283	18.1	31	16,156	-57.2		269	18.3
80----	27	17,275	-46.5		219	23.7	31	17,519	-56.5		282	9.5	31	17,561	-58.6		271	10.7
70----	26	18,158	-46.9		213	21.6	31	18,365	-57.3		295	7.8	31	18,408	-59.3		276	7.0
60----	25	19,182	-47.8		210	19.8	30	19,339	-57.8		320	3.7	30	19,368	-58.5		283	3.5
50----	23	20,392	-48.5		204	17.7	29	20,491	-56.9		22	2.7	30	20,514	-58.2		75	.8
40----	23	21,858	-49.1		193	15.0	28	21,906	-56.5		67	5.[illegible]	29	21,917	-57.8		92	5.1
30----	22	23,751	-49.2		168	13.0	27	23,734	-55.6		83	12.2	26	23,731	-57.0		87	8.4
25----	21	24,945	-49.2		153	13.4	24	24,895	-54.7		84	16.7	23	24,885	-56.0		81	12.6
20----	18	26,405	-49.1		132	15.5	22	26,328	-53.7		84	20.4	20	26,307	-54.7		85	17.5
15----	13	28,290	-46.8				16	28,191	-50.8		87	22.7	13	28,174	-51.8			
10----																		

Standard pressure surface (mb)	SAN ANTONIO, TEX. (985 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAN DIEGO, CALIF. (1001 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	243	13.6	82	50	0.6	31	124	10.2	88	184	0.8
1,000--	31	114					31	128			87	1.2
950----	31	548	14.5	70	168	2.9	31	552	10.1	69	248	3.3
900----	31	1,004	12.9	66	185	8.4	31	1,005	8.7	59	296	5.6
850----	31	1,484	11.9	50	217	12.2	31	1,477	7.4	45	295	11.3
800----	30	1,990	9.9	39	239	13.2	31	1,974	5.1	38	300	15.7
750----	30	2,520	7.6	34	242	17.3	31	2,498	2.8	32	300	19.4
700----	29	3,089	4.1	30	255	19.8	31	3,054	.2	30	296	21.4
650----	29	3,680	- .1	27	254	23.9	31	3,640	- 3.0	27	294	24.7
600----	29	4,323	- 4.9		257	28.6	31	4,274	- 6.9	25	293	29.0
550----	29	4,992	-10.0		251	31.1	31	4,938	-11.4		290	30.9
500----	29	5,729	-15.4		245	33.2	31	5,672	-16.7	27	291	34.2
450----	29	6,508	-21.4		245	39.2	31	6,444	-22.6		290	36.5
400----	29	7,376	-27.7		247	47.2	31	7,308	-29.5		292	38.5
350----	28	8,327	-34.2		252	54.6	31	8,247	-37.0		292	41.6
300----	28	9,386	-42.4		256	61.2	31	9,296	-45.1		292	44.7
250----	28	10,598	-50.0		257	72.9	31	10,493	-53.1		295	48.6
200----	28	12,034	-56.5		253	65.3	31	11,912	-58.4		287	46.6
175----	28	12,881	-57.2		253	62.4	31	12,751	-59.0		280	47.6
150----	28	13,852	-58.9		255	61.0	31	13,719	-58.9		277	50.1
125----	28	14,989	-62.0		254	50.3	31	14,860	-60.6		277	37.7
100----	28	16,357	-66.1		253	41.2	31	16,241	-63.2		279	26.0
80----	28	17,703	-67.8		252	28.8	31	17,608	-64.1		273	18.3
70----	28	18,507	-67.3		248	21.2	31	18,432	-63.5		271	14.2
60----	27	19,440	-65.8		240	15.9	31	19,373	-62.7		278	8.9
50----	27	20,551	-63.4		243	4.3	31	20,500	-61.1		278	4.3
40----	24	21,921	-61.4		61	1.7	30	21,888	-60.2		49	.8
30----	23	23,717	-58.3		50	5.1	29	23,686	-54.7		69	3.5
25----	21	24,874	-56.8		55	5.1	28	24,837	-57.5		79	4.3
20----	18	26,290	-54.4		47	7.6	26	26,252	-55.7		81	5.2
15----	18	28,152	-49.8		103	2.7	18	28,103	-52.3		85	4.5
10----	14	30,847	-43.7									

Standard pressure surface (mb)	SAN JUAN, P. R. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SANTA MONICA, CALIF. (1011 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAULT STE. MARIE, MICH. (988 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	22.2	85	117	3.1	31	38	11.8	74	23	3.5	31	221	- 5.2	76	47	3.1
1,000--	31	141	22.2	77	96	6.4	31	129	12.0	70	30	3.5	31	129				
950----	31	588	19.6	78	88	11.7	31	558	10.5	61	11	3.9	31	531	- 5.4	71	88	3.7
900----	31	1,050	16.5	77	86	12.0	31	1,007	9.2	48	313	5.6	31	956	- 5.3	66	274	1.4
850----	31	1,535	13.4	75	84	12.6	31	1,479	7.2	43	300	8.0	31	1,405	- 5.6	58	314	6.2
800----	31	2,044	11.3	64	77	10.5	31	1,976	4.9	36	308	11.3	31	1,880	- 6.7	55	311	9.3
750----	31	2,585	10.0	47	75	8.0	31	2,498	2.2	33	305	15.2	31	2,381	- 7.8	51	302	12.2
700----	31	3,154	8.1	35	61	5.8	31	3,054	- .6	30	297	20.0	31	2,918	-10.2	50	290	16.1
650----	31	3,758	4.8		32	4.7	31	3,639	- 3.9		296	23.9	31	3,479	-13.3	51	287	19.0
600----	31	4,410	1.2		356	3.1	31	4,271	- 7.8	28	294	29.7	31	4,092	-16.4	48	287	21.8
550----	31	5,095	- 2.7		305	3.9	31	4,936	-12.4	30	291	31.9	31	4,737	-20.2	45	284	25.1
500----	31	5,854	- 7.3		282	7.2	31	5,664	-17.2		286	33.6	31	5,442	-25.0	43	281	28.0
450----	31	6,661	-12.8		292	12.4	31	6,439	-23.0		291	37.1	31	6,191	-30.1	41	282	31.7
400----	31	7,555	-18.8		292	19.4	31	7,298	-29.8		290	38.5	31	7,029	-36.2	43	279	35.0
350----	31	8,535	-26.4		297	25.3	31	8,235	-37.4		294	43.7	31	7,944	-42.4		280	41.6
300----	31	9,630	-35.0		295	29.0	31	9,281	-45.4		296	45.1	31	8,970	-49.2		274	46.6
250----	31	10,876	-44.8		294	37.7	31	10,476	-53.2		293	46.8	31	10,151	-54.2		272	48.6
200----	31	12,334	-55.3		284	45.9	31	11,892	-58.5		288	46.0	30	11,578	-52.4		276	47.8
175----	31	13,176	-60.8		279	41.8	31	12,731	-58.4		283	46.0	30	12,444	-51.3		276	42.0
150----	31	14,123	-66.1		288	39.6	31	13,702	-58.2		287	41.4	28	13,442	-50.9		278	36.9
125----	31	15,215	-71.0		286	27.4	31	14,844	-60.2		287	36.5	27	14,622	-52.3		277	32.6
100----	30	16,521	-76.4		307	15.7	31	16,227	-63.0		285	27.4	23	16,066	-53.9		285	24.7
80----	30	17,793	-79.6		340	9.3	30	17,599	-63.[illegible]		287	16.3	22	17,494	-55.0		286	17.3
70----	30	18,564	-76.6		16	9.7	30	18,420	-63.5		287	12.6	22	18,341	-55.4		291	13.0
60----	30	19,455	-70.9		40	7.6	30	19,366	-62.6		285	8.9	22	19,329	-55.7		301	8.5
50----	30	20,555	-63.6		53	3.7	30	20,492	-61.6		294	4.1	21	20,489	-55.3		332	6.0
40----	29	21,937	-60.6		41	4.7	30	21,878	-60.2		5	1.7	21	21,914	-54.8		50	7.2
30----	28	23,742	-56.9		66	4.3	29	23,679	-58.4		75	4.3	20	23,757	-53.5		68	11.5
25----	28	24,905	-53.6		273	1.4	28	24,826	-57.3		81	5.4	20	24,931	-53.1		82	14.6
20----	27	26,354	-49.1		258	7.8	26	26,240	-55.8		73	6.4	20	26,372	-52.2		87	19.4
15----	19	28,273	-44.8				25	28,080	-53.3		72	5.4	17	28,242	-50.0		86	26.4
10----							11	30,710	-48.0				6	30,935	-45.3			

Standard pressure surface (mb)	SEATTLE, WASH. (998 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SHEMYA, ALASKA (1005 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	125	5.3	82	169	5.4	31	37	- 1.2	83	36	9.9
1,000--	31	105			178	5.1	31	80			36	8.0
950----	31	521	4.3	75	196	14.0	31	480	- 4.7	79	58	15.2
900----	31	963	1.7	76	213	16.7	31	908	- 8.1	81	64	13.6
850----	31	1,422	- 1.3	79	216	17.1	31	1,350	-11.3	80	75	11.5
800----	31	1,902	- 4.5	77	231	17.3	31	1,812	-14.0	68	77	8.5
750----	31	2,406	- 7.5	72	225	19.0	31	2,295	-16.5	55	64	7.0
700----	31	2,943	-10.5	69	228	20.0	31	2,816	-19.4	47	57	5.[illegible]
650----	31	3,507	-13.7	66	231	22.0	31	3,356	-22.5	43	17	3.7
600----	31	4,114	-17.6	66	235	22.9	31	3,947	-26.3	43	23	4.3
550----	31	4,755	-21.8	59	240	23.5	31	4,562	-30.3	42	336	4.3
500----	31	5,457	-26.3	55	246	24.5	31	5,243	-35.0	43	318	6.0
450----	31	6,205	-31.6	53	254	26.8	31	5,962	-40.4		311	6.2
400----	31	7,035	-37.3		261	28.6	31	6,764	-46.0		301	9.1
350----	31	7,946	-43.5		264	34.8	31	7,641	-51.7		288	11.9
300----	31	8,969	-49.7		267	38.1	31	8,629	-56.2		280	15.5
250----	31	10,149	-53.7		271	38.1	31	9,784	-56.4		266	24.5
200----	31	11,590	-51.9		271	31.1	30	11,211	-51.2		256	29.7
175----	31	12,460	-50.0		270	29.3	30	12,082	-50.0		257	31.7
150----	31	13,467	-50.8		272	25.8	30	13,090	-49.5		249	31.5
125----	31	14,651	-52.5		275	21.4	28	14,289	-48.7		251	33.0
100----	30	16,092	-53.3		278	16.3	26	15,756	-47.9		247	31.1
80----	30	17,525	-54.7		290	9.7	25	17,220	-47.6		236	26.6
70----	30	18,378	-55.7		289	7.8	23	18,092	-47.4		237	25.8
60----	28	19,357	-55.7		323	4.1	23	19,116	-47.4		232	22.5
50----	28	20,518	-55.1		43	3.7	23	20,319	-48.3		226	21.4
40----	27	21,942	-54.9		71	7.0	21	21,781	-48.2		225	15.0
30----	24	23,787	-53.9		77	12.8	20	23,676	-49.3		200	11.3
25----	18	24,957	-53.7		81	18.1	20	24,870	-49.4		180	8.9
20----	17	26,395	-52.8				19	26,331	-49.0		160	10.1
15----							19	28,226	-47.2		143	10.1
10----							7	30,962	-43.2			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	SHREVEPORT, LA. (1005 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SPOKANE, WASH. (928 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	76	12.4	86	204	2.1	31	722	1.4	84	186	5.1
1,000--	31	122			178	2.5	31	111				
950----	31	549	12.2	67	223	8.9	31	528				
900----	31	1,005	10.5	62	240	12.4	31	965	2.3	74	208	10.7
850----	31	1,481	9.1	53	248	16.7	31	1,426	.5	67	229	13.4
800----	31	1,981	6.6	49	251	21.0	31	1,910	- 2.8	67	238	13.4
750----	31	2,502	3.9	41	263	22.5	31	2,418	- 6.3	65	244	12.4
700----	31	3,067	.7	38	262	25.8	31	2,955	- 9.9	63	247	15.5
650----	31	3,654	- 2.5	35	259	29.7	31	3,520	-13.2	57	248	18.5
600----	31	4,290	- 6.7	34	256	34.4	31	4,128	-17.1	55	251	20.2
550----	31	4,958	-11.4	35	256	35.9	31	4,770	-21.2	53	258	22.2
500----	31	5,689	-16.5		254	39.6	31	5,474	-26.0	50	265	23.1
450----	31	6,464	-22.1		253	43.7	31	6,222	-31.0	48	252	24.7
400----	31	7,330	-28.4		252	46.8	31	7,054	-37.2	49	257	26.8
350----	31	8,274	-35.4		253	50.5	31	7,963	-44.1		263	30.7
300----	31	9,329	-43.6		249	55.0	31	8,981	-50.7		267	30.7
250----	31	10,535	-51.2		249	61.4	31	10,157	-54.5		274	33.8
200----	31	11,963	-57.4		248	67.6	31	11,592	-51.9		275	29.9
175----	31	12,809	-57.1		252	63.9	31	12,461	-50.3		281	24.1
150----	30	13,782	-58.5		250	62.2	31	13,467	-50.6		274	21.0
125----	30	14,922	-61.2		253	55.0	31	14,651	-52.1		278	19.0
100----	30	16,295	-64.4		248	43.5	31	16,092	-53.1		276	15.0
80-----	29	17,649	-66.3		251	31.3	31	17,525	-54.5		281	8.9
70-----	29	18,464	-65.7		252	22.5	31	18,381	-55.2		295	7.0
60-----	29	19,397	-64.6		252	11.9	31	19,361	-55.6		333	4.3
50-----	29	20,514	-63.0		263	2.9	30	20,524	-55.2		50	3.9
40-----	28	21,894	-60.8		327	1.6	29	21,949	-54.7		65	6.4
30-----	27	23,690	-58.6		60	2.1	26	23,792	-54.0		67	12.6
25-----	27	24,840	-57.2		70	2.9	20	24,960	-53.2		84	16.9
20-----	26	26,257	-55.0		50	2.9	17	26,405	-52.0		84	23.5
15-----	23	28,115	-51.1		67	3.1	8	28,306	-48.9			
10-----	8	30,808	-43.2									

Standard pressure surface (mb.)	TAMPA, FLA (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TATOOSH IS., WASH. (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	16.8	85	95	2.5	31	31	6.3	86	159	6.0
1,000--	31	151	17.7	77	135	5.2	31	84			195	6.6
950----	31	589	16.3	64	184	8.4	31	496	3.4	80	187	11.5
900----	31	1,049	14.0	59	207	7.0	31	939	.7	79	202	12.4
850----	31	1,531	12.5	46	231	6.4	31	1,396	- 2.2	79	200	14.2
800----	31	2,038	10.9	36	256	8.4	31	1,875	- 5.0	73	206	17.1
750----	31	2,571	8.6		265	16.1	31	2,378	- 7.8	66	218	18.1
700----	31	3,142	5.4	27	270	10.9	31	2,915	-10.6	60	221	19.4
650----	31	3,741	1.7		269	11.8	31	3,476	-14.0	56	223	22.7
600----	31	4,385	- 2.3		270	20.6	31	4,086	-17.6	47	231	21.7
550----	31	5,062	- 7.0		269	22.2	31	4,726	-21.6	45	242	25.2
500----	31	5,808	-12.1		268	27.6	31	5,429	-26.0	43	248	25.5
450----	31	6,599	-17.6		265	32.4	31	6,172	-31.4	41	247	26.8
400----	31	7,480	-23.8		265	37.3	31	7,008	-37.5	41	252	27.6
350----	31	8,442	-31.2		263	44.3	31	7,918	-43.6		252	32.6
300----	31	9,517	-39.1		264	54.0	31	8,941	-49.7		261	36.3
250----	30	10,743	-48.1		265	64.1	31	10,125	-53.5		270	37.1
200----	30	12,185	-56.9		264	68.8	31	11,564	-54.1		270	33.2
175----	30	13,027	-59.0		265	69.4	31	12,437	-49.8		272	29.7
150----	30	13,989	-61.1		265	61.4	31	13,445	-50.4		276	26.2
125----	29	15,111	-64.9		267	50.4	30	14,636	-51.8		278	20.6
100----	29	16,458	-69.8		266	46.0	30	16,079	-53.0		276	14.8
80-----	29	17,779	-71.9		263	33.2	30	17,511	-54.5		293	12.0
70-----	28	18,577	-70.9		269	22.0	30	18,364	-55.3		303	6.2
60-----	27	19,488	-68.8		285	9.9	30	19,349	-55.5		316	2.9
50-----	27	20,586	-65.5		308	6.2	29	20,511	-55.5		35	3.3
40-----	26	21,954	-61.8		338	6.0	29	21,952	-55.0		76	7.2
30-----	24	23,753	-58.2		11	5.4	26	23,778	-53.7		86	13.8
25-----	24	24,906	-56.4		36	4.7	22	24,953	-52.9		83	16.7
20-----	24	26,331	-53.7		319	2.1	19	26,390	-52.2		83	18.5
15-----	15	28,203	-49.9		281	10.9	8	28,237	-50.3			
10-----												

Standard pressure surface (mb.)	TOPEKA, KANS. (981 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TUCSON, ARIZ. (923 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	269	2.5	85	25	2.3	31	781	8.9	44	151	4.7
1,000--	31	111					31	112				
950----	31	529	2.2	76	45	1.7	31	540				
900----	31	964	2.1	67	263	1.9	31	996	12.5	36	188	4.7
850----	31	1,426	2.1	61	276	5.4	31	1,473	10.0	37	229	6.0
800----	31	1,915	.7	62	276	13.6	31	1,974	6.4	40	242	9.5
750----	31	2,428	- 1.5	59	279	14.8	31	2,497	3.1	41	247	13.4
700----	31	2,979	- 4.1	55	278	18.3	31	3,055	- .3	38	253	16.1
650----	31	3,555	- 7.1	52	269	21.1	31	3,638	- 3.9	32	258	19.0
600----	31	4,178	-11.4	48	269	23.3	31	4,271	- 7.6		264	24.7
550----	31	4,836	-16.0	45	270	26.4	31	4,934	-12.2		266	29.7
500----	31	5,551	-21.1	40	269	30.1	31	5,664	-17.6		270	33.2
450----	31	6,314	-26.7	35	267	31.7	31	6,434	-23.4		269	34.8
400----	31	7,160	-33.1		266	34.6	31	7,294	-30.1		279	38.1
350----	31	8,086	-39.7		265	41.0	31	8,231	-37.3		280	41.0
300----	31	9,125	-46.8		262	45.5	31	9,279	-44.8		281	43.7
250----	31	10,317	-52.8		258	49.4	31	10,477	-52.5		274	52.7
200----	31	11,753	-54.7		262	54.3	31	11,903	-56.4		271	49.2
175----	31	12,613	-53.3		266	45.7	30	12,747	-57.0		267	47.0
150----	31	13,605	-54.2		264	40.5	30	13,721	-58.2		267	44.5
125----	31	14,768	-56.9		263	33.8	30	14,862	-60.8		269	39.8
100----	31	16,176	-58.7		267	27.4	29	16,243	-63.2		264	33.6
80-----	31	17,572	-60.4		265	16.3	29	17,611	-64.2		258	21.6
70-----	30	18,411	-60.3		269	12.8	29	18,434	-63.3		254	14.6
60-----	30	19,366	-60.5		273	8.4	29	19,377	-63.1		248	8.0
50-----	29	20,505	-60.4		293	2.9	29	20,503	-61.6		247	3.9
40-----	28	21,897	-59.2		42	3.9	28	21,889	-60.3		55	1.7
30-----	27	23,705	-57.6		69	8.9	27	23,687	-58.6		80	5.4
25-----	24	24,859	-56.6		73	11.3	26	24,837	-57.2		76	7.6
20-----	19	26,285	-54.7		80	15.7	23	26,255	-55.6		80	8.4
15-----	16	28,136	-51.6		76	20.6	15	28,114	-51.0		334	3.3
10-----							6	30,830	-45.4			

Standard pressure surface (mb.)	WASHINGTON, D. C. (1006 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	WINNEMUCCA, NEV. (867 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	84	1.9	82	14	2.9	31	1,310	6.7	73	236	2.1
1,000--	31	134			37	1.9	31	145				
950----	31	555	3.8	60	303	6.0	31	562				
900----	31	990	2.4	62	286	12.4	31	1,005				
850----	31	1,451	1.5	59	285	18.5	31	1,469	3.0	58	234	3.7
800----	31	1,939	.2	57	285	22.0	31	1,958	.4	54	245	7.8
750----	31	2,454	- 2.1	52	281	23.3	31	2,467	- 3.4	57	258	10.5
700----	31	3,000	- 4.6	52	276	28.6	31	3,015	- 7.1	58	262	13.6
650----	31	3,577	- 7.3	44	273	32.8	31	3,585	-10.6	60	271	16.3
600----	31	4,201	-11.4	42	271	36.3	31	4,201	-14.1	56	275	20.6
550----	31	4,858	-15.7	41	271	39.6	31	4,852	-18.2	51	276	23.7
500----	31	5,576	-20.4	39	273	44.5	31	5,561	-22.9	46	282	26.2
450----	31	6,341	-25.6		276	49.2	31	6,316	-28.0	43	288	25.1
400----	31	7,193	-31.7		275	54.0	31	7,160	-34.5	41	291	27.8
350----	31	8,125	-37.9		276	63.3	31	8,079	-41.8		288	33.6
300----	31	9,171	-44.8		275	70.5	31	9,105	-49.3		281	41.8
250----	31	10,371	-51.6		273	78.3	31	10,285	-54.1		282	36.3
200----	31	11,804	-55.0		271	71.7	31	11,710	-54.7		289	34.8
175----	30	12,660	-54.9		273	64.9	31	12,584	-54.5		288	31.9
150----	30	13,646	-54.8		270	57.1	31	13,551	-54.6		286	29.6
125----	30	14,805	-57.5		271	50.5	31	14,713	-56.2		280	27.4
100----	29	16,204	-60.2		274	40.2	31	16,124	-57.9		270	19.8
80-----	30	17,592	-60.8		275	28.4	31	17,527	-59.0		290	9.1
70-----	29	18,426	-61.4		278	19.2	31	18,368	-59.4		286	4.7
60-----	29	19,379	-61.1		284	13.4	31	19,328	-59.3		274	1.1
50-----	28	20,510	-60.2		313	6.4	31	20,471	-58.6		63	2.5
40-----	28	21,907	-58.6		351	3.3	30	21,874	-58.0		72	6.4
30-----	27	23,721	-57.0		68	8.7	27	23,690	-57.1		91	13.6
25-----	22	24,879	-55.9		77	13.4	26	24,846	-56.1		90	17.7
20-----	15	26,306	-54.3		80	15.7	22	26,271	-54.7		85	17.7
15-----	14	28,166	-51.3		83	20.0	10	28,110	-52.3			
10-----	6	30,830	-45.4									

Standard pressure surface (mb.)	YAKUTAT, ALASKA (1002 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	12	- 1.6	88	87	5.8
1,000--	30	23			84	5.6
950----	30	435	- 1.0	74	115	12.6
900----	30	864	- 3.8	75	135	14.0
850----	30	1,314	- 6.8	76	149	15.2
800----	30	1,785	- 9.9	74	158	13.0
750----	30	2,283	-12.7	66	157	11.5
700----	30	2,801	-15.9	61	175	14.4
650----	30	3,357	-19.4	59	186	13.8
600----	30	3,951	-23.0	54	191	16.1
550----	30	4,579	-27.1	52	202	15.9
500----	30	5,263	-31.6	49	204	16.9
450----	30	5,996	-36.9		206	17.7
400----	30	6,809	-42.9		214	19.4
350----	30	7,697	-48.9		216	22.2
300----	30	8,699	-53.2		219	23.1
250----	30	9,877	-50.8		220	21.8
200----	30	11,346	-46.5		235	18.7
175----	30	12,234	-46.2		235	21.0
150----	30	13,259	-46.1		242	20.0
125----	30	14,473	-45.9		243	16.7
100----	30	15,956	-46.9		242	13.8
80-----	30	17,432	47.7		238	12.4
70-----	30	18,319	-48.5		243	10.9
60-----	30	19,324	-49.1		231	8.4
50-----	30	20,519	-49.7		223	4.7
40-----	27	21,980	-49.2		188	1.9
30-----	25	23,871	-48.4		100	6.0
25-----	24	25,071	-47.8		101	9.3
20-----	24	26,544	-47.1		93	12.8
15-----	13	28,180	-44.1		84	17.3
10-----						

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots. The resultant wind speed is biased toward a lower value as the number of observations on which the resultant is based lessens. The amount of bias increases with the number of observations that are terminated due to low angle limitations

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

MARCH 1961

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Mar.									
1	1.12	1.21	1.32	1.45	1.50	1.38	1.23	1.09	0.97
2	.95	1.08	1.22	1.35	1.51	1.33	----	----	----
4	----	----	----	----	1.29	----	----	----	----
6	----	1.07	1.21	1.34	1.46	----	.81	.34	.12
7	1.02	1.10	1.17	1.36	----	----	----	----	----
8	M	M	M	1.33	1.53	1.38	1.22	1.05	.94
10	----	----	----	----	----	----	1.15	1.02	.87
11	----	----	----	(1.28)	(1.43)	(1.40)	(1.01)	(.85)	(.78)
12	.92	1.01	1.17	1.32	(1.43)	(1.19)	(1.11)	(.95)	(.89)
13	----	(.93)	(1.06)	(.93)	(.82)	(1.02)	----	----	----
14	.79	.87	1.04	1.19	1.22	1.02	.84	.79	.76
15	----	----	----	----	1.43	1.26	----	----	----
17	----	----	----	----	(1.41)	1.33	1.16	1.05	.97
18	----	----	----	1.39	----	----	----	----	----
20	1.00	1.09	----	1.35	(1.49)	1.31	1.11	(1.00)	(.83)
21	.99	1.09	1.21	1.35	(1.41)	1.33	1.10	1.07	.94
22	(.95)	(1.06)	(1.13)	1.35	1.45	(1.33)	(1.14)	(1.05)	(.91)
23	.95	1.05	1.16	1.30	1.46	----	----	----	----
27	----	----	----	----	(1.46)	(1.14)	(.93)	(.85)	----
30	----	----	----	----	----	----	----	----	----
31	.94	1.03	----	----	----	----	----	----	----
Averages	0.96	1.06	1.19	1.33	1.43	1.29	1.09	0.92	0.80

TUCSON, ARIZ.

	Air mass: 4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Mar.									
1	1.04	1.13	----	----	1.53	1.37	----	----	0.93
6	.93	1.02	1.15	----	----	1.32	1.19	1.08	.99
7	.77	.88	1.04	----	----	1.34	----	1.07	.97
8	.98	1.08	----	1.34	1.45	----	----	----	----
11	----	----	1.13	----	----	----	----	.98	.86
12	.84	.94	----	----	----	----	----	----	----
13	----	.94	1.09	----	----	----	----	----	.83
14	.85	.96	----	----	----	----	----	----	----
15	.88	.98	1.12	1.28	----	----	----	----	----
17	.86	.95	1.10	1.28	----	----	----	----	----
19	.92	1.04	1.15	1.31	----	----	----	1.01	----
20	.95	1.05	----	----	----	----	----	----	----
21	.93	1.02	1.14	----	----	----	----	----	.90
22	.89	1.00	----	----	----	----	----	----	----
23	.89	.97	1.10	1.26	----	----	----	----	----
28	.90	1.00	----	----	----	----	----	----	----
31	.84	.99	1.10	1.28	----	----	----	----	.86
Averages	0.90	1.00	1.11	1.29	1.49	1.34	1.19	1.03	0.91

OMAHA, NEBR.

	Air mass: 4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Mar.									
1	S 0.76	S 0.84	S 1.01	S 1.20	S 1.29	S 1.14	----	----	----
10	----	----	----	----	S 1.23	S 1.04	:	S 0.51	S 0.38
14	----	----	S .90	S 1.07	----	----	----	----	----
16	S .72	S .86	S 1.00	S 1.19	S 1.27	S 1.08	S 0.97	----	----
24	----	----	----	----	----	H	H	H	H
30	----	----	----	----	S 1.19	----	----	----	----
Averages	0.74	0.85	0.97	1.15	1.25	1.09	0.97	0.51	0.38

M Missing
H Haze
S Slight haze - indeterminable
: Shadow
( ) Interpolated - Clouds present
* Inoperative March 10 to 22, and 31

BLUE HILL OBS., MASS.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Mar.									
2	----	----	----	----	----	1.32	1.18	1.01	0.89
3	0.75	0.83	0.96	1.11	----	1.07	.90	.77	.67
+7	----	----	----	----	1.35	1.30	1.15	.94	.86
22	.99	1.06	1.20	----	----	----	----	----	----
25	----	----	----	----	----	1.22	1.05	.89	.75
26	.84	.94	1.07	1.27	1.47	1.33	1.20	1.06	.96
27	.77	.89	1.00	1.18	1.33	1.12	.95	.75	.55
30	.72	.84	1.00	1.23	1.45	1.28	1.10	.98	.84
Averages	0.81	0.91	1.05	1.20	1.40	1.23	1.08	0.91	0.79

MAUNA LOA OBS., HAWAII

	Air mass: 3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Mar.									
1	1.12	1.21	1.31	1.44	----	----	1.27	1.15	----
3	----	----	----	----	1.59	1.42	1.31	----	1.14
6	1.21	1.29	1.39	1.51	1.61	----	1.33	1.23	1.15
7	1.27	1.34	1.43	1.55	1.63	1.48	1.37	1.27	1.20
8	1.24	1.32	1.41	1.52	1.61	----	1.35	1.27	1.19
9	1.23	1.31	1.41	1.52	1.62	----	1.30	----	----
10	1.24	1.32	1.41	1.52	----	----	----	----	----
11	1.23	1.31	1.40	1.51	----	----	----	----	----
12	1.23	1.31	1.41	1.53	1.62	----	----	----	----
13	1.30	1.37	1.47	1.57	1.64	----	1.37	1.30	1.23
14	1.30	1.37	1.46	1.56	1.64	----	1.31	1.23	1.17
15	1.30	1.37	1.46	1.56	1.63	1.45	1.33	1.24	1.19
16	1.29	1.36	1.44	1.54	1.63	1.44	1.37	1.26	1.18
17	1.29	1.36	1.45	1.56	1.62	----	1.36	1.28	1.25
18	1.29	1.37	1.46	1.55	1.62	----	----	----	----
19	1.30	1.37	1.45	1.55	----	----	----	----	----
21	1.21	1.28	1.39	1.50	1.63	1.47	1.36	1.24	1.18
22	1.21	1.29	1.38	1.49	1.63	----	----	----	----
23	----	----	----	1.50	----	----	----	----	----
24	----	1.27	1.37	1.48	----	----	----	----	----
25	----	----	----	----	1.61	----	----	----	----
26	1.24	1.31	1.42	1.53	----	----	----	----	----
27	1.17	1.25	1.36	1.49	----	----	----	----	----
28	1.19	1.28	----	----	----	----	----	----	----
29	----	1.29	1.38	1.49	----	----	----	----	----
30	1.21	1.29	1.39	1.51	1.62	----	----	----	----
31	1.19	1.27	1.37	1.48	----	----	----	----	----
Averages	1.24	1.31	1.41	1.52	1.62	1.45	1.34	1.25	1.19

MADISON, WIS.

	Air mass: 4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Mar.									
9	----	----	----	1.34	----	----	----	----	----
16	1.04	1.15	1.27	1.45	1.53	1.42	1.26	1.15	1.08
30	----	----	----	----	1.42	1.29	1.06	.88	.80
Averages	1.04	1.15	1.27	1.40	1.48	1.36	1.16	1.02	0.94

GUAM, M. I.

Air mass: 4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92

No observations during March

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

MARCH 1961

1961	Albuquerque, N. Mex.	Ames, Iowa	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill Obs., Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Cape Hatteras, N.C.	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Corvallis, Oreg.	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Flaming Gorge, Utah	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.
Mar. 5	348	101	356	424	77	301	143	170	375	68	92	63	343	678	483	154	410	49	41	92	132	61	53	561	290	---	421	333	210	553	444	---	314	262	---
Mar. 6	516	147	363	290	246	155	132	181	122	33	147	26	---	587	556	471	314	158	137	230	452	500	174	584	381	178	144	543	316	350	295	---	251	242	269
Mar. 7	569	82	122	361	210	263	138	263	77	362	419	397	321	407	186	157	389	124	230	317	433	285	299	592	540	183	447	354	428	449	293	446	355	350	294
Mar. 8	595	197	83	---	111	463	144	259	449	121	229	178	365	671	295	453	349	42	55	162	358	541	40	(610)	525	193	539	589	415	383	433	537	363	172	560
Mar. 9	501	356	293	---	162	240	143	348	403	136	183	122	552	---	---	108	319	81	---	219	495	570	375	584	477	197	520	598	375	615	275	526	334	365	233
Mar. 10	545	476	158	607	102	538	120	360	292	289	224	358	498	581	599	320	563	427	492	131	462	441	474	540	486	164	436	534	437	693	410	463	259	546	647
Mar. 11	579	356	242	582	195	353	137	390	---	278	265	462	286	588	599	400	466	308	444	283	423	481	80	451	455	132	193	199	450	590	381	242	306	438	334
Average	522	245	231	452	157	330	137	282	286	184	223	229	394	585	453	295	401	170	233	205	394	411	213	(560)	451	175	386	450	376	519	362	443	312	339	389
Mar. 12	596	138	202	479	107	331	152	373	151	100	207	144	267	597	580	459	507	316	34	178	372	336	347	603	428	163	523	535	419	581	366	518	392	416	---
Mar. 13	---	89	261	72	43	181	133	331	403	317	211	378	523	518	(446)	514	330	85	2	126	410	573	34	565	412	164	524	583	426	171	290	540	204	367	179
Mar. 14	590	452	51	552	74	541	128	330	415	36	367	30	529	583	(537)	311	433	10	515	97	294	567	59	623	466	247	366	---	374	450	231	510	132	346	645
Mar. 15	566	387	72	622	302	510	117	338	473	---	191	385	255	554	595	297	563	---	435	249	426	522	311	583	305	144	430	554	287	662	413	455	377	433	630
Mar. 16	112	527	235	418	181	526	127	224	437	---	424	359	482	610	428	409	---	309	572	159	225	179	393	515	549	271	193	221	427	533	---	352	226	576	631
Mar. 17	563	472	84	303	242	393	230	255	275	---	201	519	556	658	---	489	415	471	471	300	428	---	497	613	192	242	---	224	493	370	454	521	415	569	440
Mar. 18	358	180	23	300	392	64	242	326	226	498	497	473	537	676	454	441	48	196	30	404	518	130	282	508	335	130	120	389	320	214	476	367	452	34	108
Average	462	321	132	392	191	364	161	311	340	238	300	327	450	601	(507)	417	383	231	294	216	382	384	275	573	384	194	359	418	392	426	372	466	314	391	439
Mar. 19	322	427	213	106	82	---	208	275	171	73	447	46	353	661	(496)	467	480	58	51	125	232	110	395	390	552	268	480	239	438	475	386	442	452	382	304
Mar. 20	618	98	384	50	448	---	164	334	392	530	382	540	536	---	582	561	365	462	16	303	534	202	535	640	534	214	295	315	466	435	467	407	300	420	183
Mar. 21	629	137	353	561	378	69	242	370	326	508	422	514	518	654	140	548	171	59	49	304	538	424	56	649	576	126	560	609	480	540	309	563	405	26	119
Mar. 22	631	122	105	628	297	347	240	382	207	477	422	500	517	---	265	549	331	205	72	276	332	619	104	637	544	276	584	594	472	321	374	576	431	114	268
Mar. 23	596	183	119	606	315	436	269	317	350	354	101	363	298	662	483	563	440	53	28	399	540	606	94	623	222	240	551	623	387	625	449	497	170	325	486
Mar. 24	286	520	243	630	183	376	273	230	443	91	448	---	244	612	616	426	589	28	545	326	207	567	245	520	271	---	447	609	358	697	417	204	312	168	583
Mar. 25	314	126	201	645	370	573	273	246	345	253	232	273	364	---	650	358	600	456	494	473	270	577	490	538	360	---	362	239	449	678	132	138	102	595	685
Average	185	273	232	461	296	360	238	307	319	327	350	373	404	617	(462)	496	425	189	179	315	379	444	274	571	437	225	468	461	436	539	362	404	310	290	375
Mar. 26	512	64	474	633	246	567	282	277	62	552	157	564	238	720	664	506	600	386	282	175	---	387	377	624	443	285	433	152	271	681	192	---	438	578	667
Mar. 27	498	112	147	451	530	285	321	332	87	502	347	516	---	533	642	571	576	281	294	434	242	503	323	(641)	393	310	427	521	338	620	74	111	277	501	403
Mar. 28	125	461	160	502	498	186	311	324	541	390	563	373	488	278	619	325	502	264	487	472	582	132	86	670	349	302	194	483	529	562	515	172	503	346	209
Mar. 29	398	568	230	601	512	355	307	271	538	334	551	314	411	504	673	164	536	201	307	529	581	199	217	558	642	273	634	193	526	612	396	530	478	522	465
Mar. 30	463	572	178	517	153	183	275	279	396	513	549	523	306	565	538	238	---	527	477	400	560	151	591	591	611	---	644	57	521	588	514	639	300	366	205
Mar. 31	668	487	17	80	379	79	227	306	554	536	415	547	597	684	87	573	37	325	269	331	545	605	283	640	560	---	527	183	515	375	524	552	244	30	132
Apr. 1	561	622	159	647	176	554	339	331	533	46	323	37	401	630	592	399	614	132	659	382	500	626	235	660	622	182	449	661	488	---	314	441	272	545	633
Average	503	412	199	490	356	316	294	303	387	410	415	415	407	559	545	397	477	302	396	389	502	372	302	(626)	517	270	473	321	456	573	361	407	359	413	388

Note.- Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

	Hilo, Hawaii	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Laramie, Wyo.	Las Vegas, Nev.	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif.	Los Angeles, Calif. (Urban)	Madison, Wis.	Manhattan, Kans.	Matanuska, Alaska	Mauna Loa, Hawaii	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	North Omaha, Nebr.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Page, Ariz.	Phoenix, Ariz.	Portland, Me.	Pullman, Wash.	Rapid City, S. Dak.	Riverside, Calif.	St. Cloud, Minn.	Salt Lake City, Utah	San Antonio, Tex.	[illegible]
1961																																			
Mar. 5------	254	78	---	223	164	471	429	407	124	166	437	380	475	36	140	---	191	434	466	87	131	232	68	167	330	494	468	41	161	151	179	198	435	332	[illegible]
Mar. 6------	222	313	627	26	210	284	328	399	180	519	511	460	104	412	243	---	223	589	526	152	44	13	290	43	454	342	596	49	233	381	424	333	253	412	[illegible]
Mar. 7------	427	203	616	124	139	334	508	564	296	145	592	500	179	329	242	(679)	358	479	540	206	296	291	82	48	425	542	555	276	285	303	382	334	530	344	[illegible]
Mar. 8------	285	334	635	11	555	483	523	551	348	427	486	466	154	332	277	(648)	101	466	566	124	154	30	---	389	---	549	563	332	250	452	540	338	511	577	[illegible]
Mar. 9------	502	333	644	94	575	430	487	561	(182)	582	524	498	473	448	259	661	223	602	543	309	224	218	---	171	---	522	551	130	313	417	561	413	391	574	540
Mar. 10------	396	480	635	228	545	504	483	553	586	550	514	488	459	435	273	---	274	640	471	519	368	314	---	188	---	539	551	503	383	422	561	133	480	459	548
Mar. 11------	---	464	542	263	---	458	348	537	589	285	494	478	221	270	178	---	152	419	515	394	417	360	---	427	---	529	559	518	213	429	517	415	169	221	549
Average--------	348	315	617	138	365	423	444	510	(329)	382	496	467	252	323	230	---	218	518	518	256	233	208	---	248	---	503	536	264	263	369	515	312	383	417	520
Mar. 12------	567	66	535	182	249	492	484	541	279	177	475	464	356	7	185	559	134	573	547	124	187	374	---	309	---	538	551	485	164	240	510	441	482	438	550
Mar. 13------	519	227	630	200	469	450	508	559	346	584	488	476	125	177	279	---	172	422	445	363	302	45	---	139	---	514	560	487	93	416	557	411	514	539	547
Mar. 14------	606	70	618	96	564	365	373	524	60	551	489	506	481	485	---	691	264	588	510	396	46	19	---	97	---	522	544	104	359	430	579	411	407	547	521
Mar. 15------	565	245	581	295	429	463	373	267	268	520	517	485	450	420	---	700	194	603	411	156	367	303	---	360	---	387	531	376	129	337	394	481	348	144	493
Mar. 16------	514	529	666	250	291	327	355	567	640	400	560	554	579	489	302	---	152	535	342	567	422	354	---	533	---	477	552	361	433	414	584	500	225	194	517
Mar. 17------	509	492	684	491	236	494	289	421	610	172	338	262	491	176	167	683	330	448	230	326	514	497	---	446	---	423	537	540	326	111	178	457	---	573	578
Mar. 18------	560	40	690	519	556	184	344	298	216	136	564	577	249	27	139	---	433	396	413	202	516	380	---	134	---	531	409	541	417	214	617	296	---	576	604
Average--------	549	238	634	290	399	396	390	454	346	363	490	475	390	255	215	658	240	509	414	305	336	282	---	288	---	484	526	414	274	309	488	428	395	430	544
Mar. 19------	328	50	631	72	227	521	466	547	202	523	543	540	540	102	157	581	161	568	147	236	48	22	---	292	---	570	602	287	348	244	595	241	---	264	551
Mar. 20------	542	346	617	520	369	469	509	550	351	75	553	511	449	72	116	522	426	590	600	207	517	439	---	410	---	555	598	570	341	380	564	302	---	607	492
Mar. 21------	495	131	692	455	588	557	474	585	147	487	543	531	58	96	376	708	172	325	592	202	520	469	---	44	---	575	598	574	462	353	614	59	574	597	582
Mar. 22------	243	49	690	173	519	550	567	583	136	586	448	434	127	229	345	712	423	505	588	372	419	262	---	209	---	589	599	568	126	508	599	156	547	580	562
Mar. 23------	249	141	709	95	591	505	546	443	153	541	220	100	114	227	354	389	247	539	547	112	391	5	---	148	---	470	460	508	112	541	423	427	365	564	581
Mar. 24------	369	100	642	53	571	476	380	573	159	611	477	355	405	509	346	342	193	469	445	209	139	298	---	210	571	323	534	142	408	450	256	486	304	558	423
Mar. 25------	549	491	747	107	513	402	383	601	561	564	540	502	422	185	361	---	298	590	514	573	281	367	---	532	161	399	433	338	126	419	432	397	328	155	615
Average--------	396	187	676	211	483	497	475	555	244	484	475	425	302	203	294	542	274	512	490	273	331	266	---	264	---	497	546	427	275	413	498	295	424	475	544
Mar. 26------	333	350	680	497	320	287	401	536	543	98	571	569	252	44	359	---	389	491	538	500	545	511	---	539	---	541	618	581	174	181	616	(164)	445	502	549
Mar. 27------	397	450	703	495	87	330	253	623	415	574	535	383	173	457	309	---	452	545	547	374	460	406	---	227	526	316	584	546	401	518	241	71	360	449	448
Mar. 28------	478	309	560	346	378	241	341	381	190	635	471	403	280	351	322	386	557	543	607	411	424	240	---	147	544	245	427	298	531	344	213	503	409	483	669
Mar. 29------	631	269	745	253	327	607	618	652	416	214	628	595	---	229	161	---	558	579	142	320	530	461	555	276	77	243	297	231	548	585	642	555	633	367	667
Mar. 30------	537	524	733	229	162	600	602	650	606	25	509	529	---	358	195	---	533	610	319	173	477	351	588	221	42	634	574	376	511	501	662	438	611	109	428
Mar. 31------	574	104	724	375	556	502	497	639	105	85	395	239	303	512	277	593	553	512	---	131	508	288	561	162	319	584	634	592	380	528	422	505	595	512	650
Apr. 1------	---	455	728	25	638	540	383	645	363	681	591	587	338	569	383	---	517	230	631	499	59	12	632	359	623	634	638	61	247	572	655	573	603	633	650
Average--------	492	352	696	317	353	444	442	589	377	330	529	472	269	360	287	---	508	501	464	344	429	324	584	276	355	457	539	384	399	461	493	(402)	522	436	580

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

1961	S. Ste. Marie, Mich.	Sayville, N. Y.	Seattle, Wash.	Seattle-Tacoma, Wash.	Shreveport, La.	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Tampa, Fla.	Tucson, Ariz.	Wake Island Pacific Area	Washington, D. C. (Obs. & Test Dev Ctr.)
Mar. 5------	446	329	46	68	201	175	291	229	543	419	305	240
Mar. 6------	105	35	123	143	294	224	154	462	432	559	201	236
Mar. 7------	457	346	188	221	257	407	297	319	483	592	554	333
Mar. 8------	275	84	107	97	543	205	32	519	491	590	541	13
Mar. 9------	467	340	233	221	557	240	191	548	582	564	420	139
Mar. 10------	453	424	217	222	542	316	493	409	---	579	482	546
Mar. 11------	267	423	204	176	196	221	391	417	581	592	458	510
Average--------	353	283	160	164	370	256	264	415	519	556	423	288
Mar. 12------	368	367	68	80	246	130	339	317	568	591	599	442
Mar. 13------	312	88	94	115	539	179	47	499	85	600	600	83
Mar. 14------	218	17	114	121	531	206	70	526	516	608	460	94
Mar. 15------	239	330	297	278	527	237	307	475	616	611	542	259
Mar. 16------	551	514	250	289	150	318	281	192	512	417	644	460
Mar. 17------	558	533	235	260	115	289	601	106	414	(584)	343	587
Mar. 18------	477	534	361	440	276	455	440	124	368	600	532	272
Average--------	389	340	203	226	341	259	298	320	440	(573)	531	314
Mar. 19------	438	64	103	117	368	324	67	111	566	643	588	181
Mar. 20------	515	543	449	492	167	---	608	121	---	(643)	488	565
Mar. 21------	412	552	423	434	566	416	418	408	573	639	379	251
Mar. 22------	102	353	172	127	557	96	164	567	579	638	635	49
Mar. 23------	148	158	230	217	582	148	163	574	608	583	628	121
Mar. 24------	571	233	299	300	570	381	156	545	591	515	626	403
Mar. 25------	333	462	239	245	395	400	590	212	640	536	654	593
Average--------	360	338	274	276	458	294	310	363	593	(600)	571	309
Mar. 26------	312	563	296	264	197	157	563	206	611	607	654	568
Mar. 27------	253	472	226	279	475	---	555	468	610	636	643	471
Mar. 28------	120	417	395	470	394	479	285	529	602	---	585	380
Mar. 29------	336	451	415	475	(323)	536	503	87	599	222	635	566
Mar. 30------	627	532	234	275	(60)	471	641	51	588	446	620	548
Mar. 31------	423	395	138	261	219	238	171	284	279	654	639	59
Apr. 1------	306	53	82	126	616	235	122	550	522	665	511	249
Average--------	340	412	255	307	326	353	406	311	544	538	612	406

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

TOTAL OZONE DATA

Total amount of ozone in the atmosphere, expressed in terms of integrated depth, in units of 10^{-3} centimeter. These data are given as daily averages obtained from measurements with a Dobson Ozone Spectrophotometer using the sun or zenith cloud (see explanation below) as a light source.

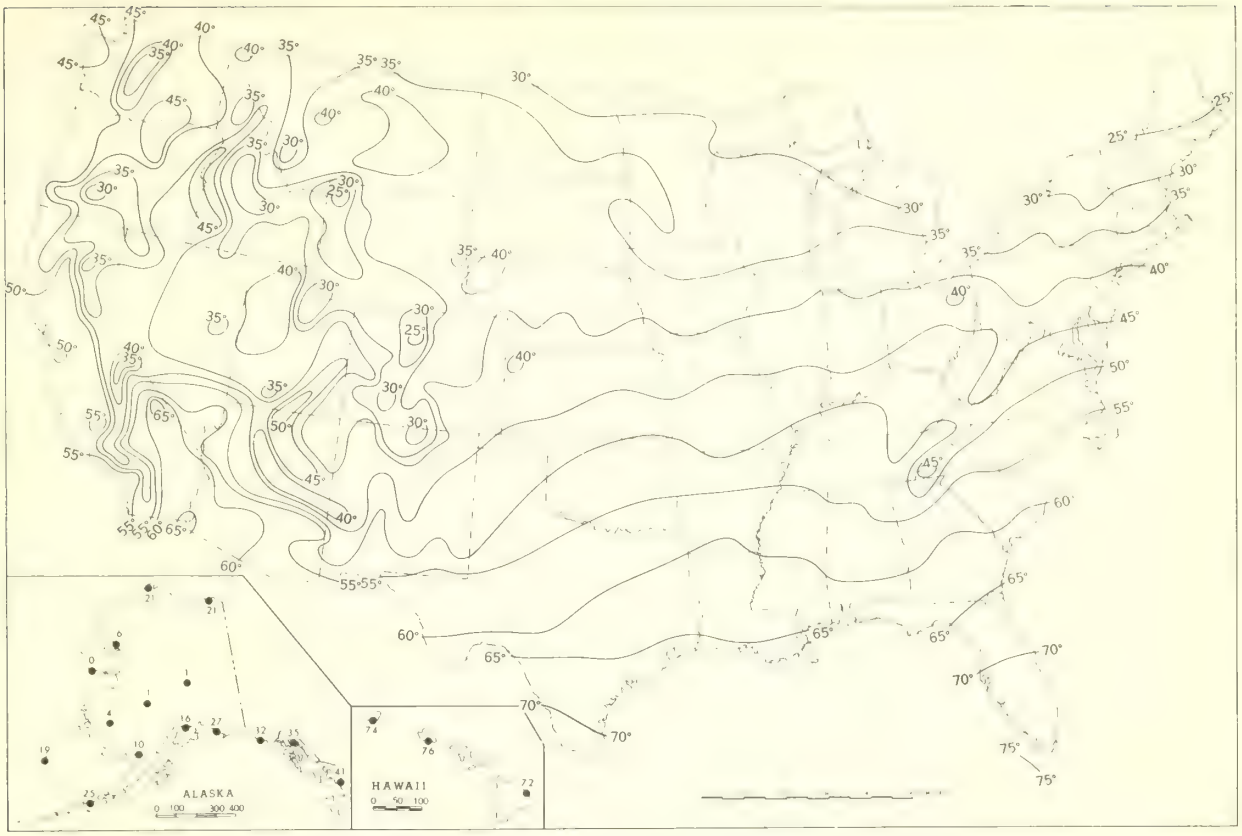
MARCH 1961

Station	Day of month																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Bismarck, N. Dak.	---	450	397	---	409	---	---	389	341	400	---	---	330	319	296	293	340	---	---	294	373	---	361	321	398	---	---	388	380	358	386
Caribou, Maine	398	443	---	341	---	348	---	337	---	---	---	384	405	---	---	414	---	375	354	467	456	353	354	---	---	385	201	---	---	---	390
Fort Worth, Texas	319	260	---	273	261	260	267	248	252	255	---	321	299	295	262	---	321	---	296	---	328	334	321	302	---	---	305	---	---	---	---
Green Bay, Wis.	422	373	331	---	---	---	365	---	349	304	445	355	---	382	397	313	292	---	301	327	---	---	---	320	---	---	---	---	394	365	359
Mauna Loa, Hawaii	269	---	264	261	---	260	259	259	259	264	259	255	251	249	255	250	250	250	242	244	270	274	270	270	284	284	274	279	295	271	269
Sterling, Va.	---	348	302	---	254	---	272	---	---	---	353	---	---	---	339	---	325	---	---	329	329	---	---	392	348	---	---	---	---	359	---

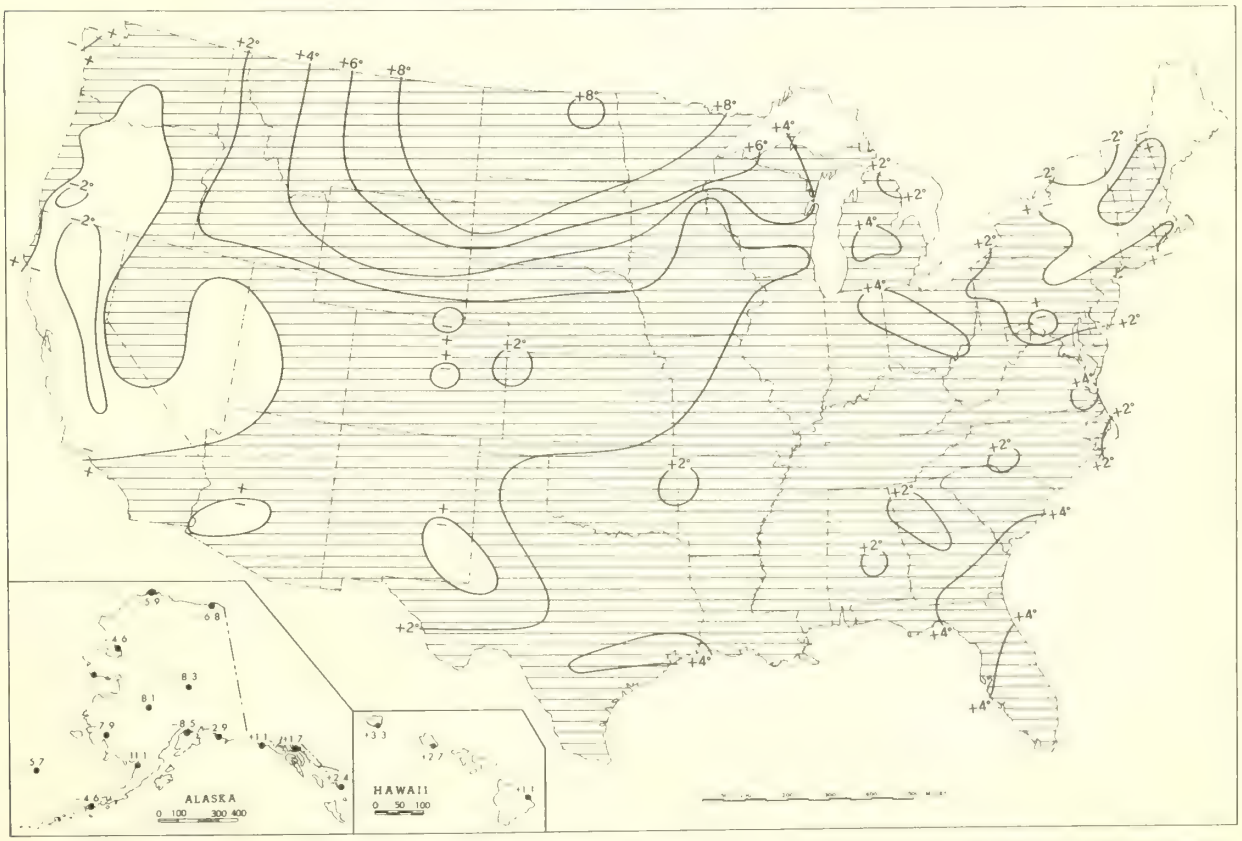
The spectrophotometer measures the total amount of ozone in the atmosphere i.e., the amount contained in a vertical column of air extending from the ground to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column of air is expressed in terms of thickness it would occupy if it were compressed to standard pressure and temperature.

The standard method of observation is that using A (3055 Å and 3254 Å) and D (3176 Å and 3398 Å) wave length pairs. On cloudy days when no observations can be obtained directly upon the sun, observations are taken by using light from the zenith cloud. These observations are not quite as reliable as the sunlight observations, therefore, average values based upon zenith cloud observations are denoted with an asterisk. A detailed description of the spectrophotometer and observational procedures may be found in the "Observer's Handbook of the Ozone Spectrophotometer," Annals of the International Geophysical Year, Volume V, Pergamon Press, 1957.

Chart I. A. Average Temperature (°F.) at Surface, March 1961.



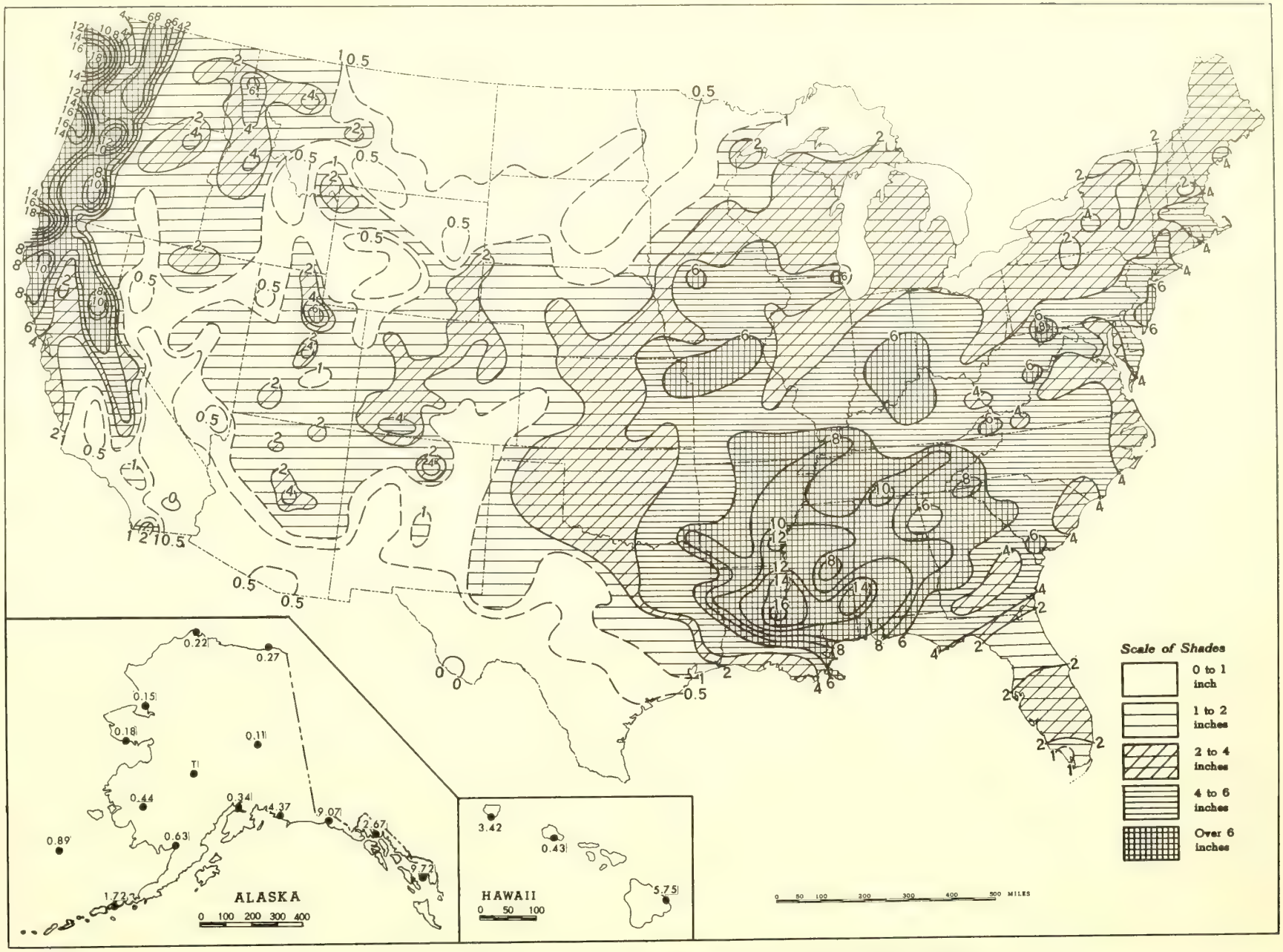
B. Departure of Average Temperature from Normal (°F.), March 1961.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

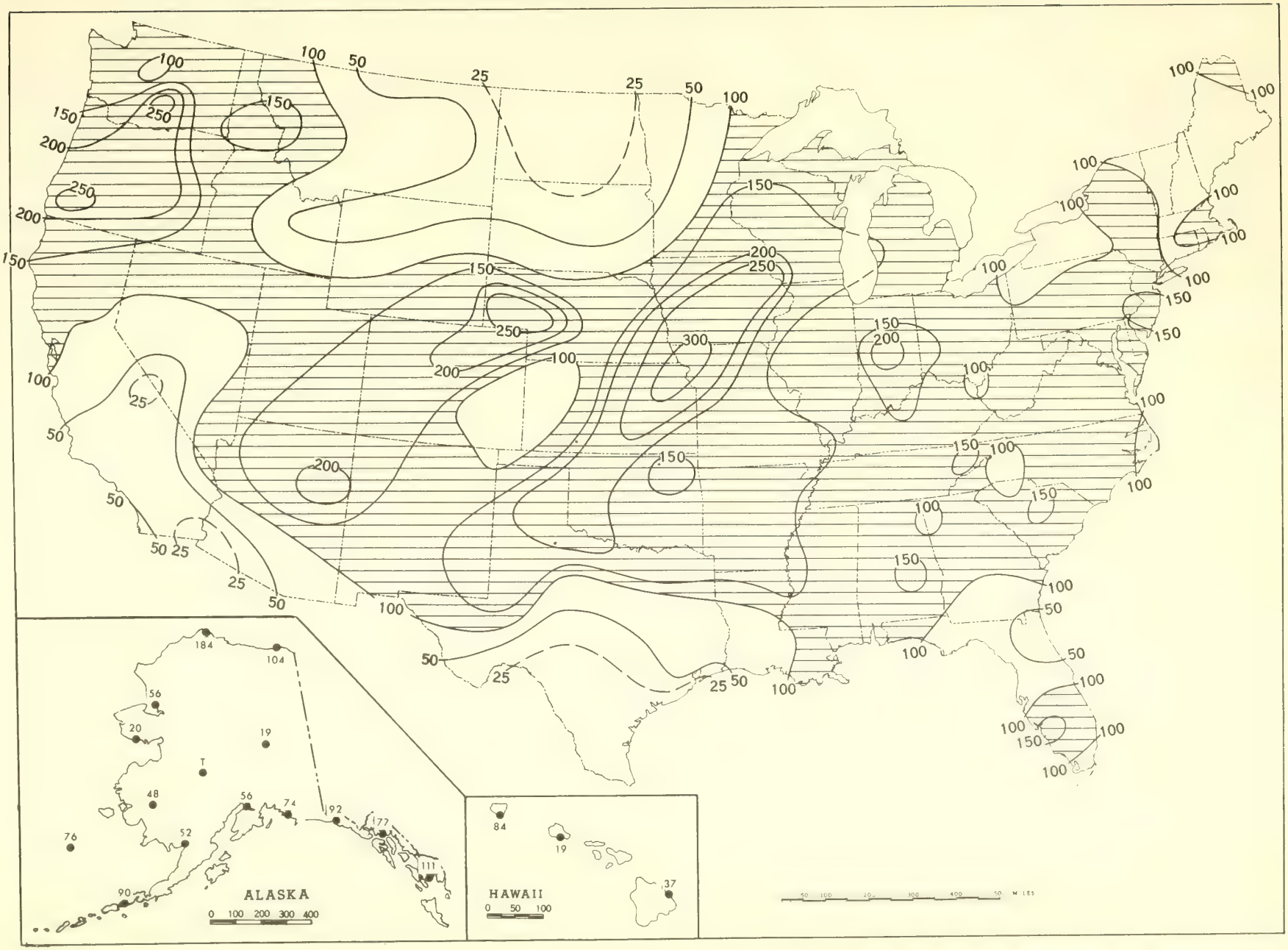
B. Departures from normal are based on the 30-yr. normals (1921-50) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), March 1961.



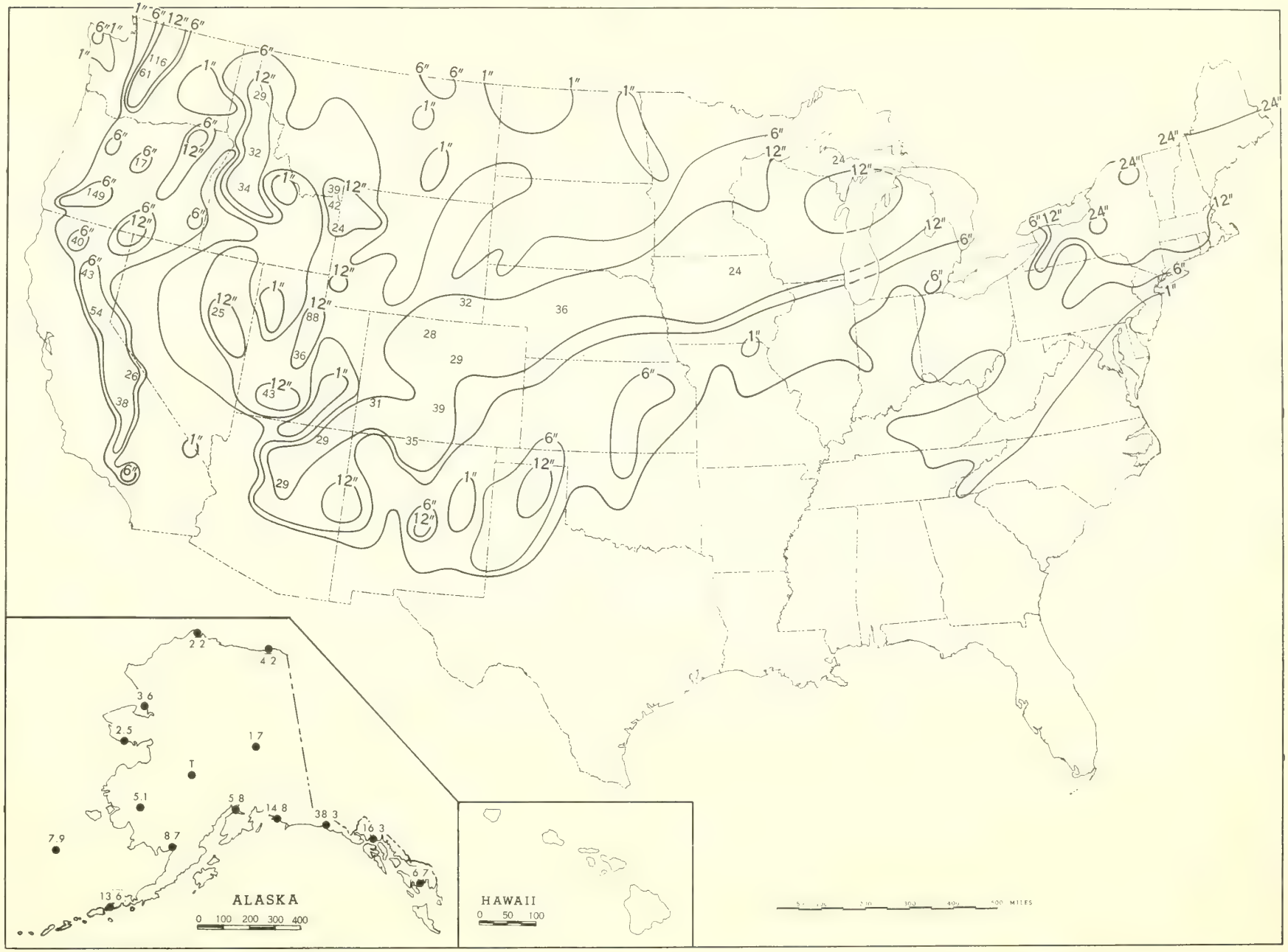
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, March 1961.



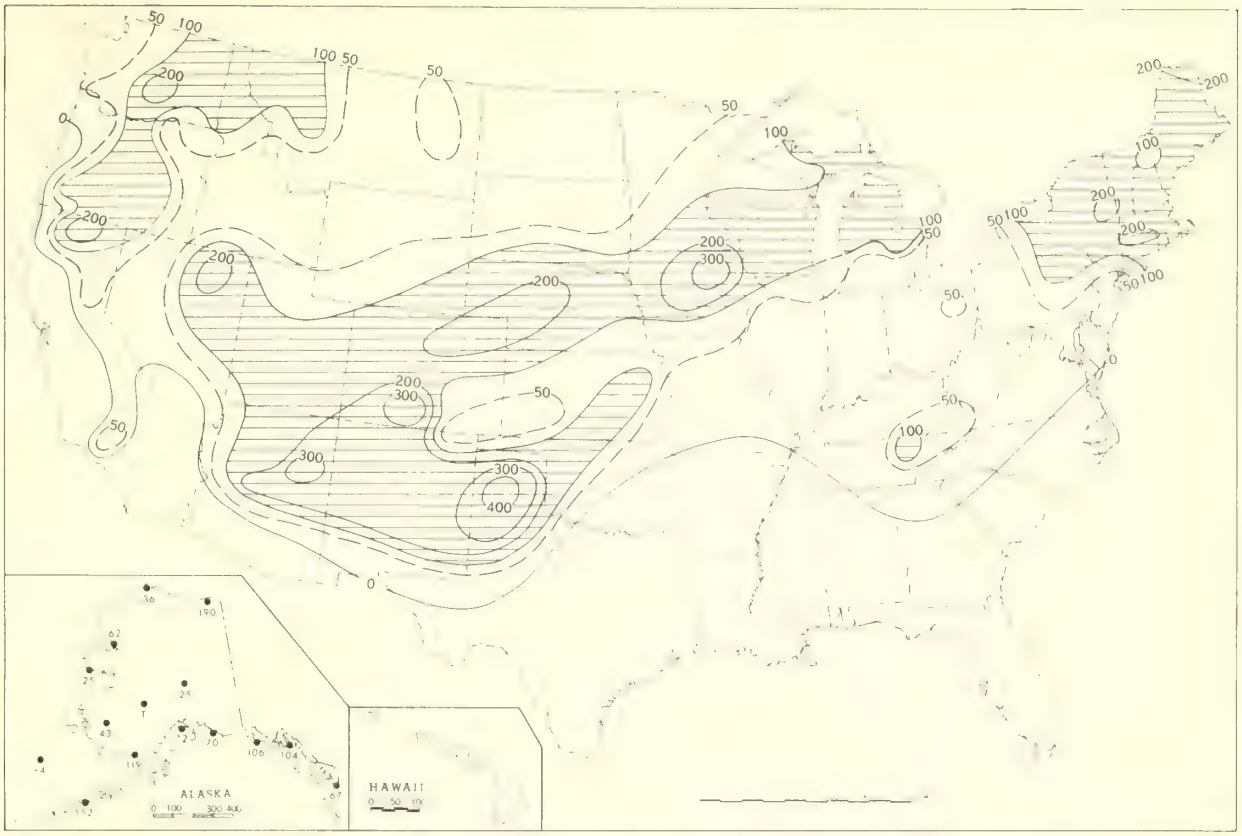
Normal monthly precipitation amounts are computed from the records for 1921-50 for first-order Weather Bureau stations.

Chart IV. Total Snowfall (Inches), March 1961.



This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

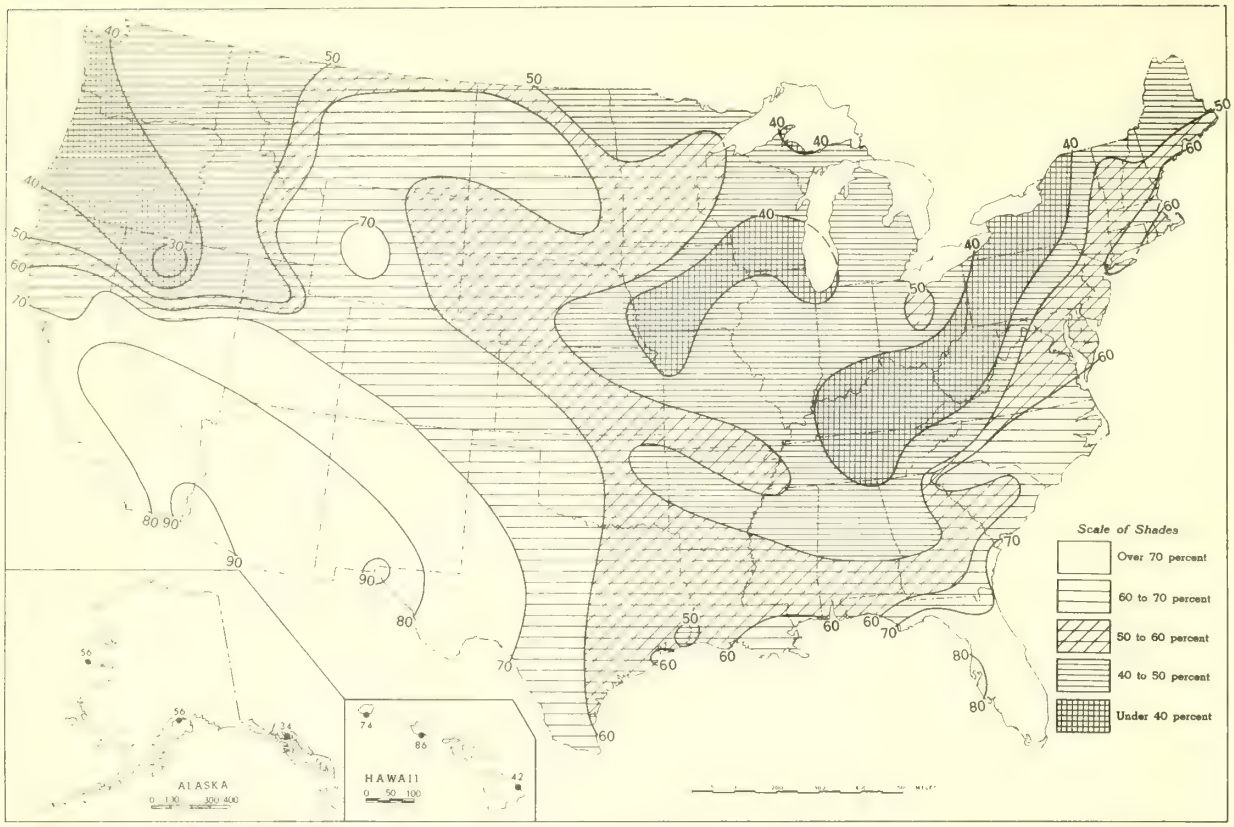
Chart V. A. Percentage of Mean Monthly Snowfall, March 1961.



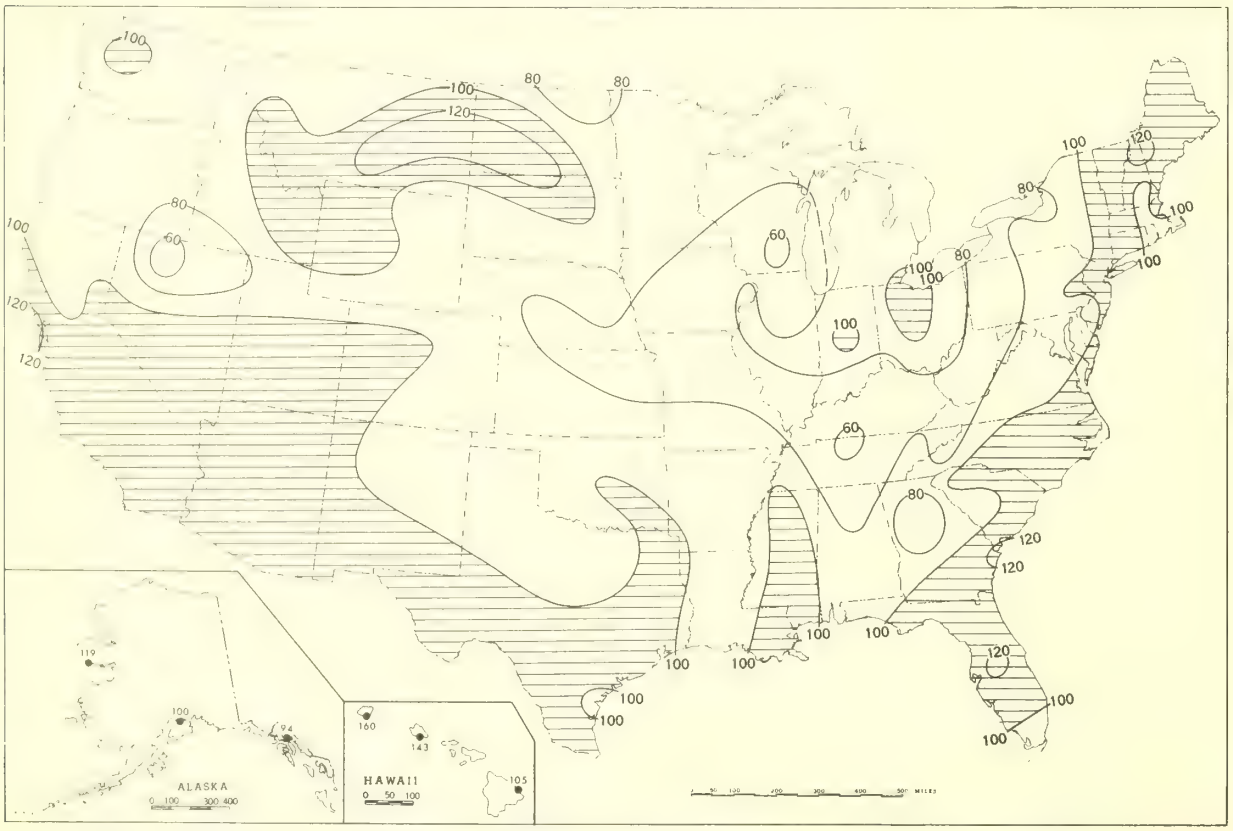
B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., March 27, 1961.

A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a. m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, March 1961.

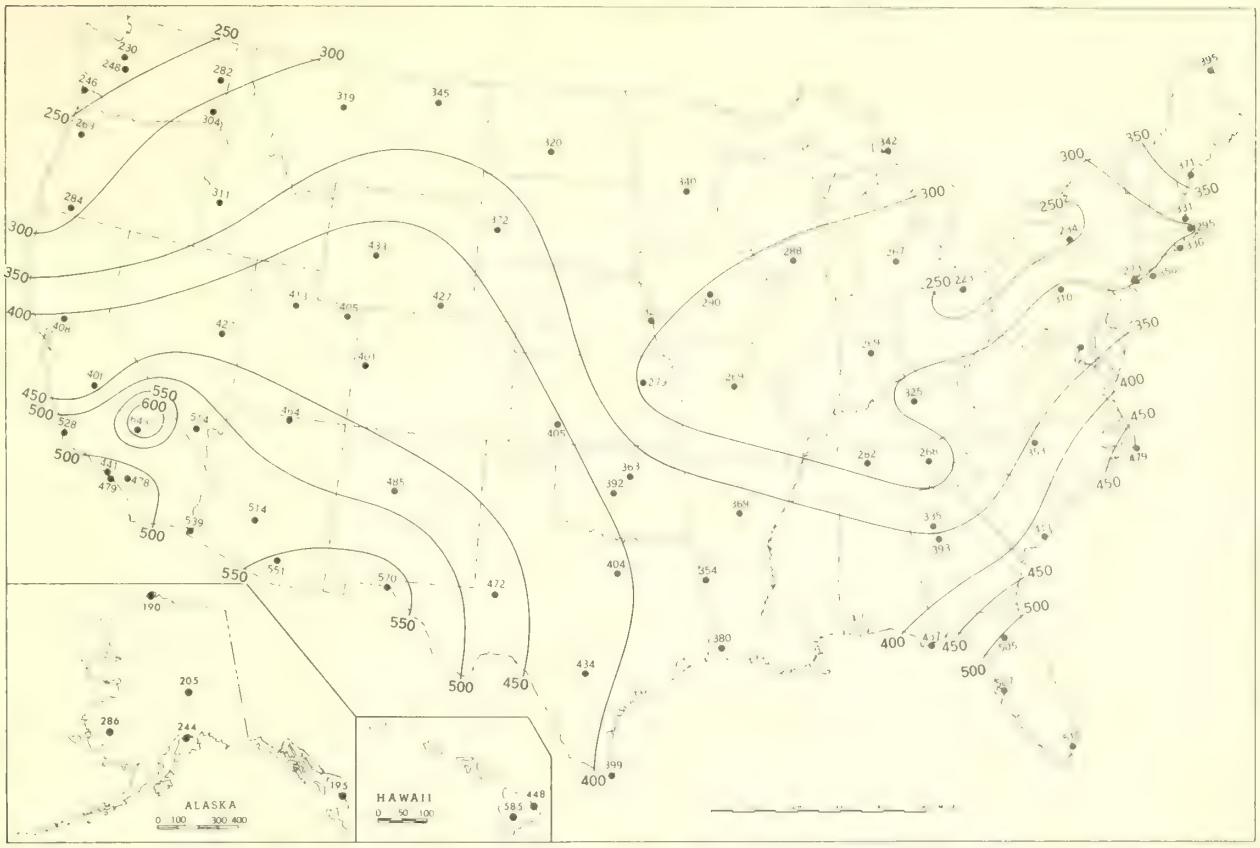


B. Percentage of Mean Monthly Sunshine, March 1961.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, March 1961.

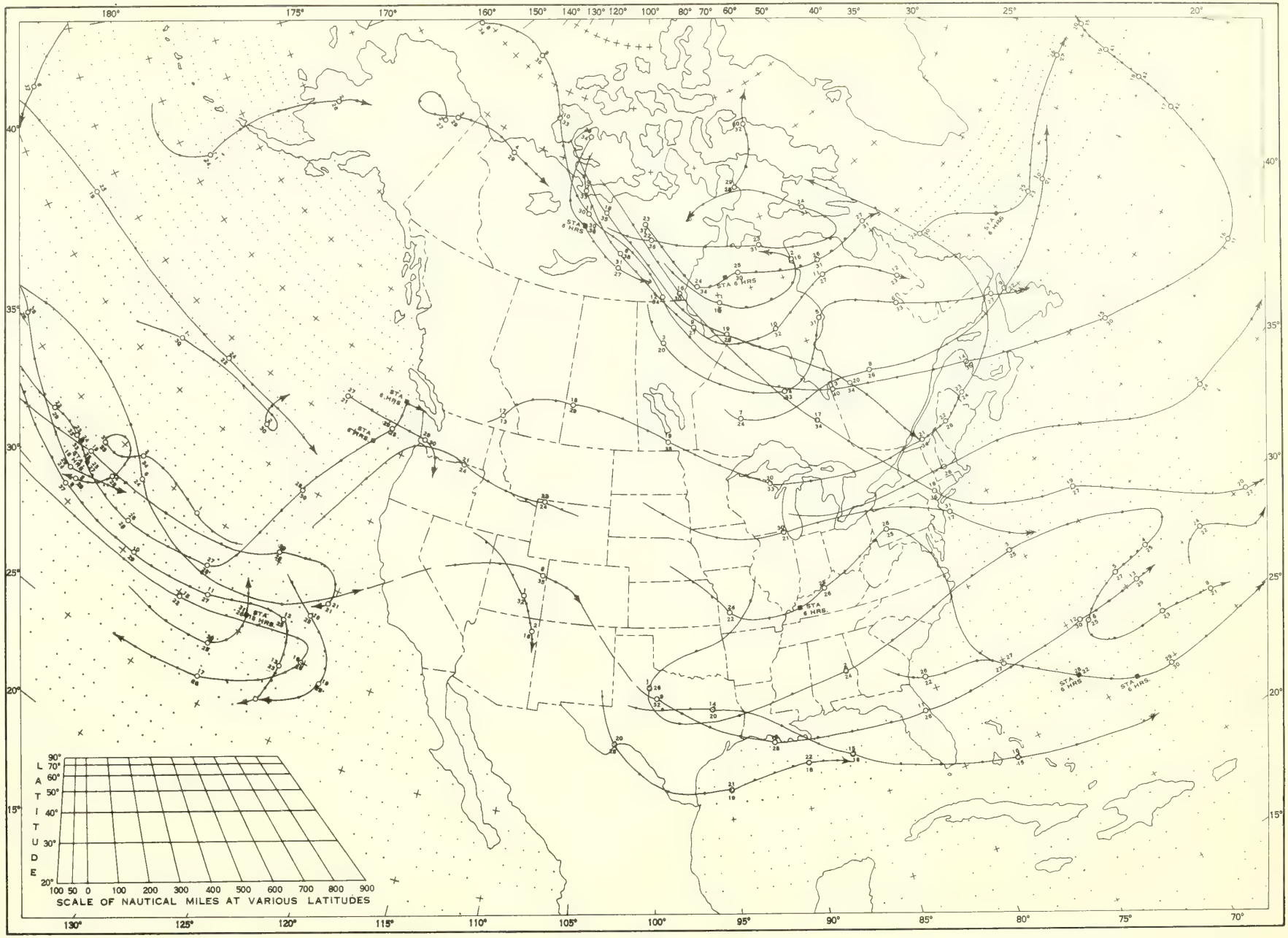


B. Percentage of Mean Daily Solar Radiation, March 1961.

A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956.

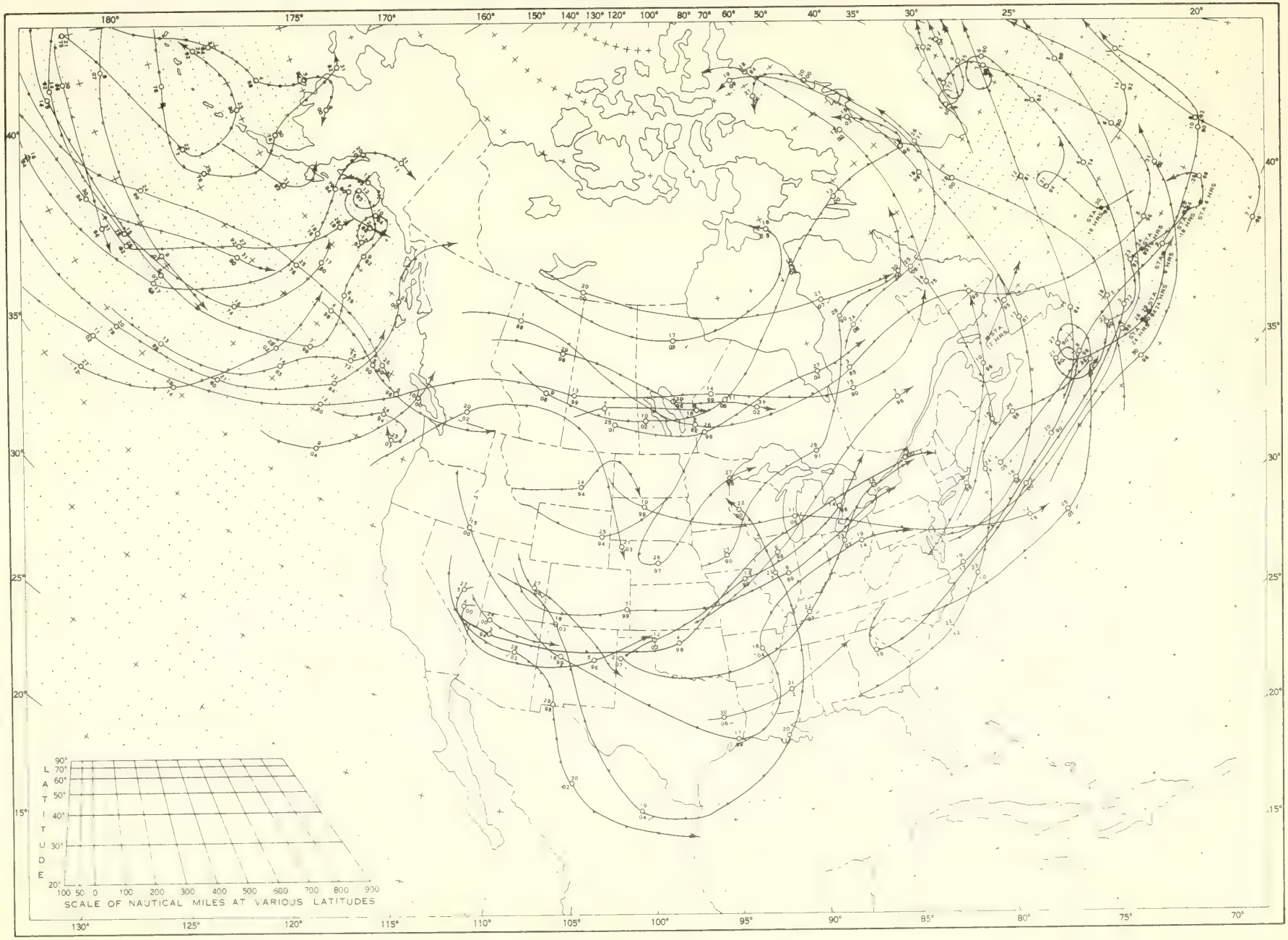
B. Percentage of the mean based on the period 1953-57, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, March 1961.



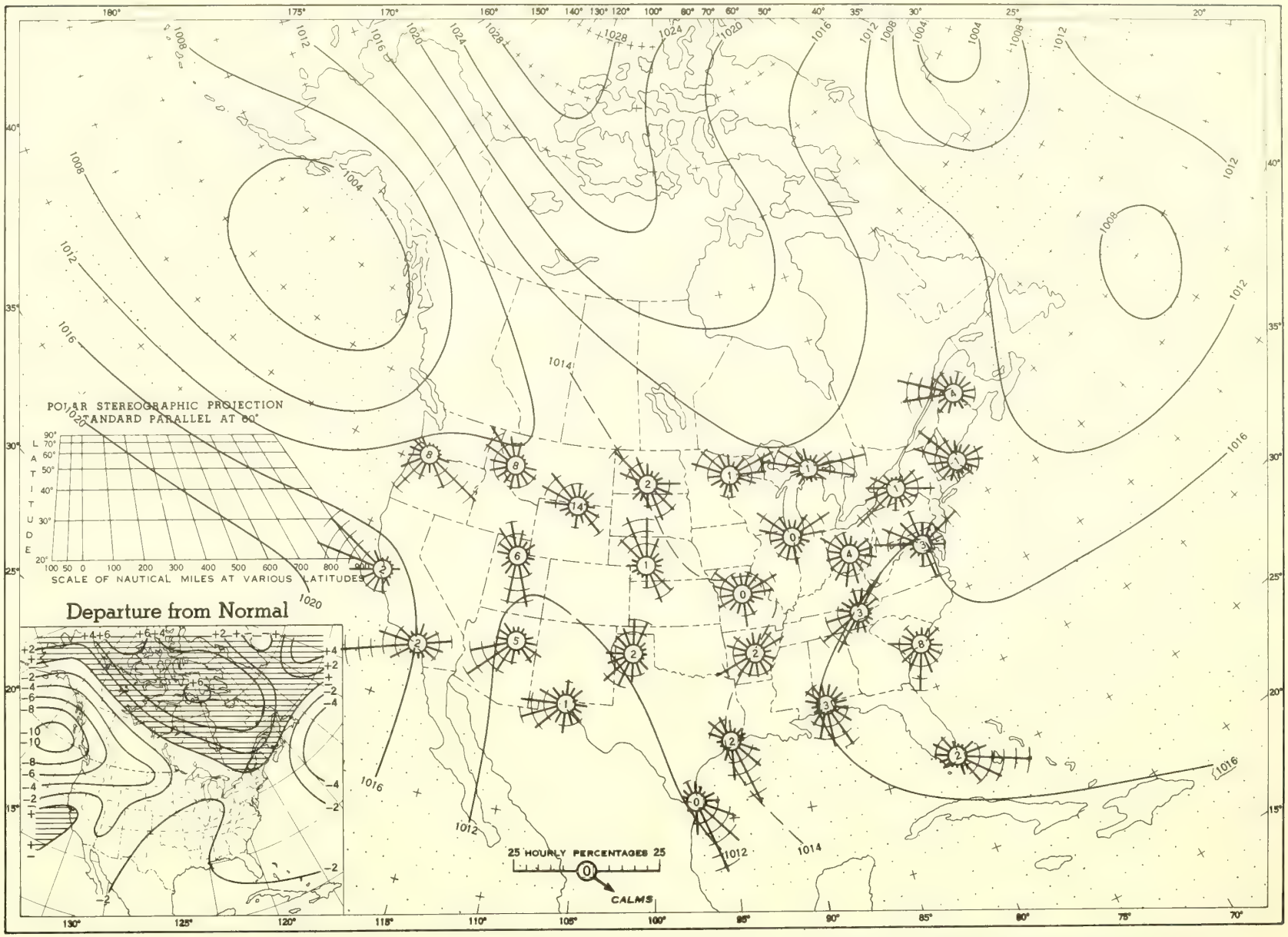
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, March 1961.



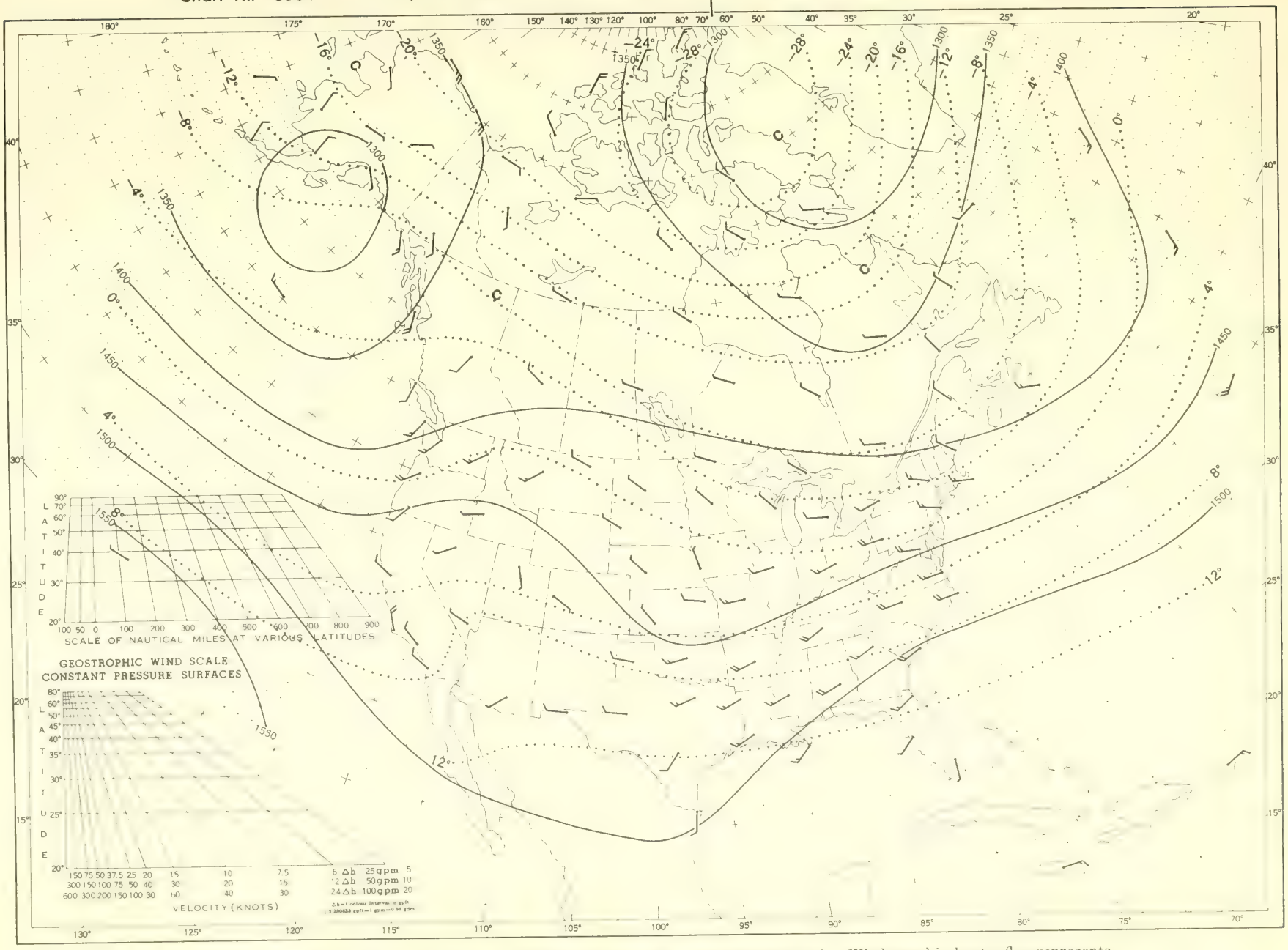
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, March 1961. Inset: Departure of Average Pressure (mb.) from Normal, March 1961.



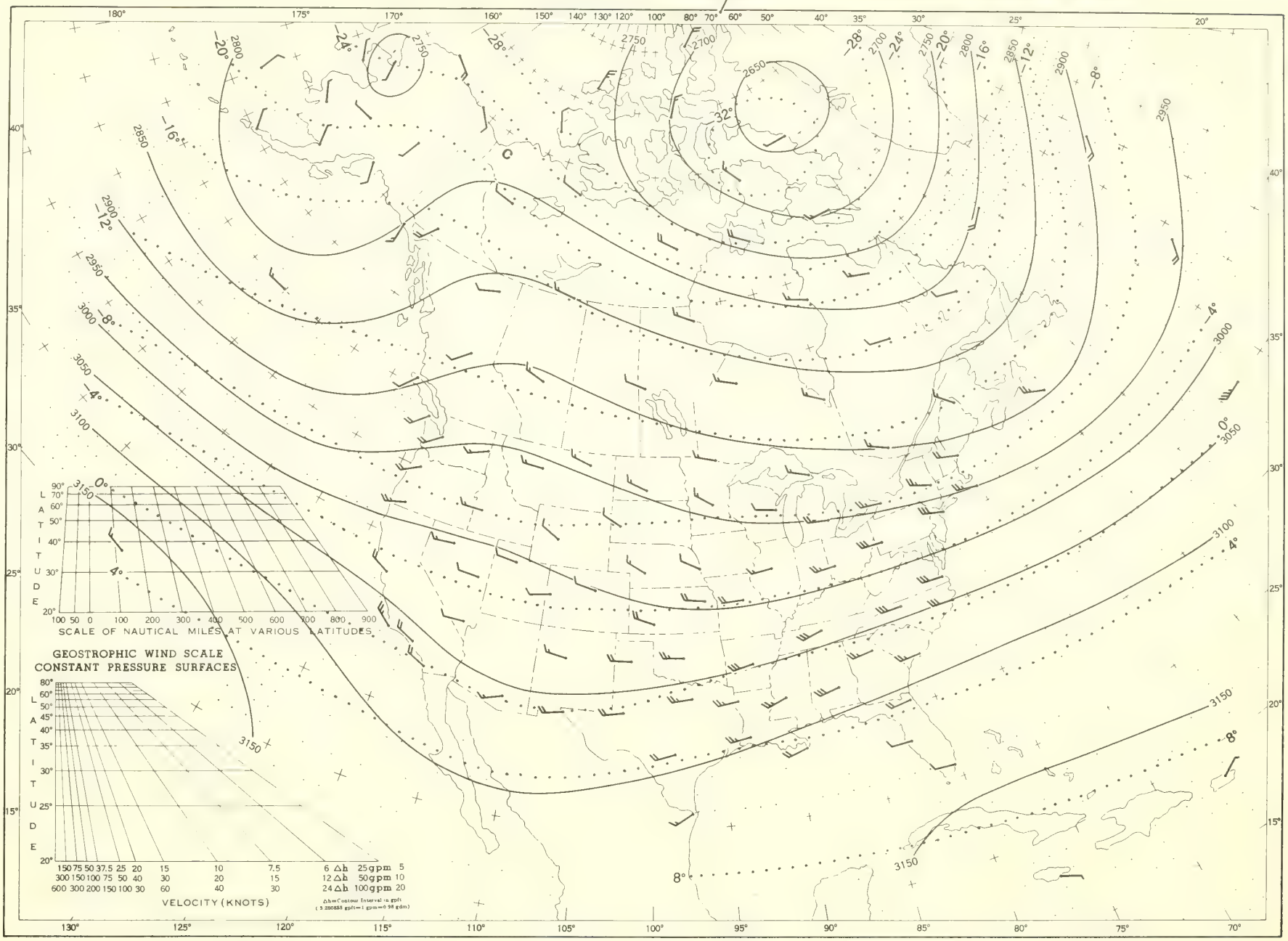
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, March 1961. Average Height and Temperature, and Resultant Winds.



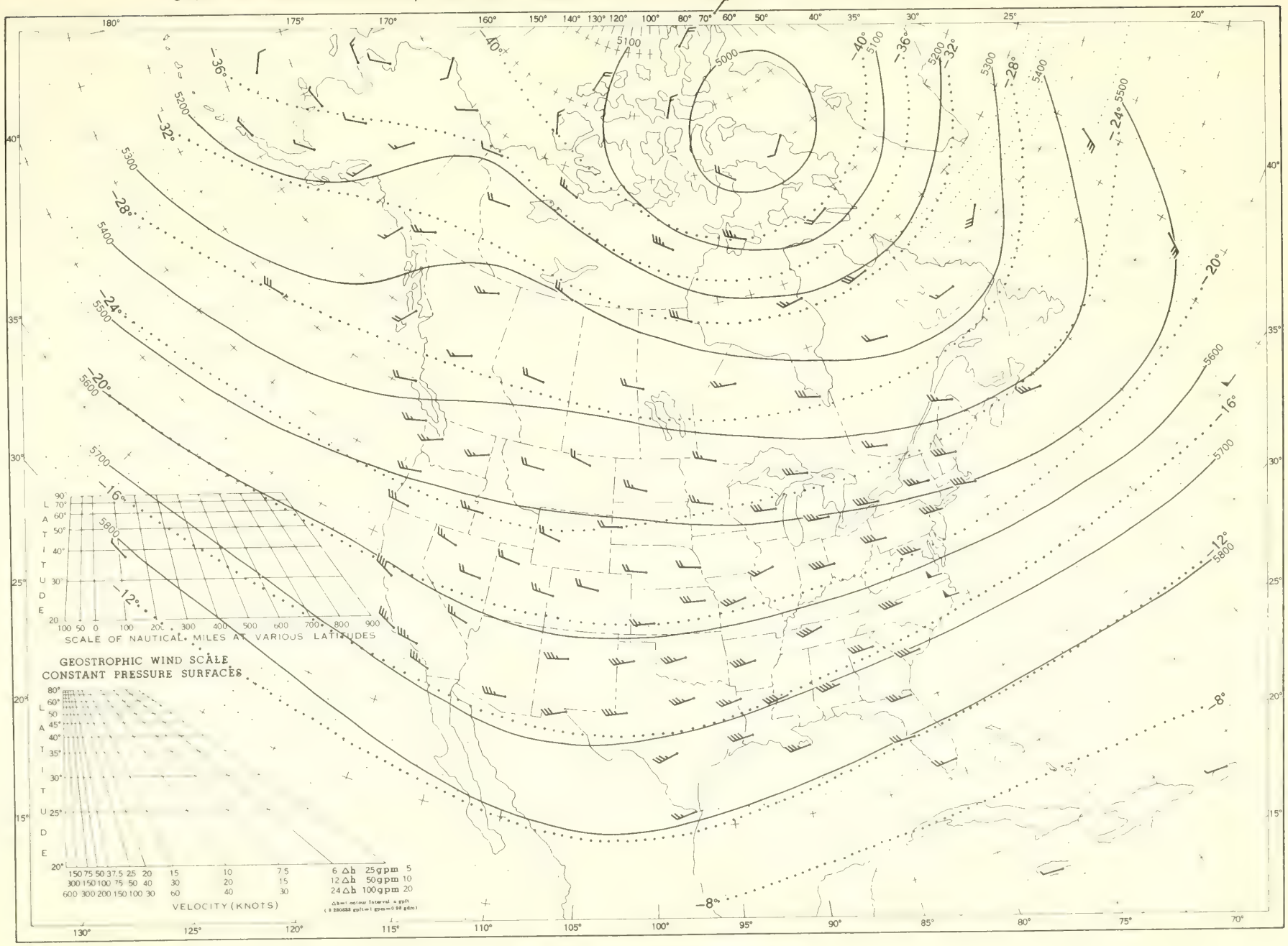
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, March 1961. Average Height and Temperature, and Resultant Winds.



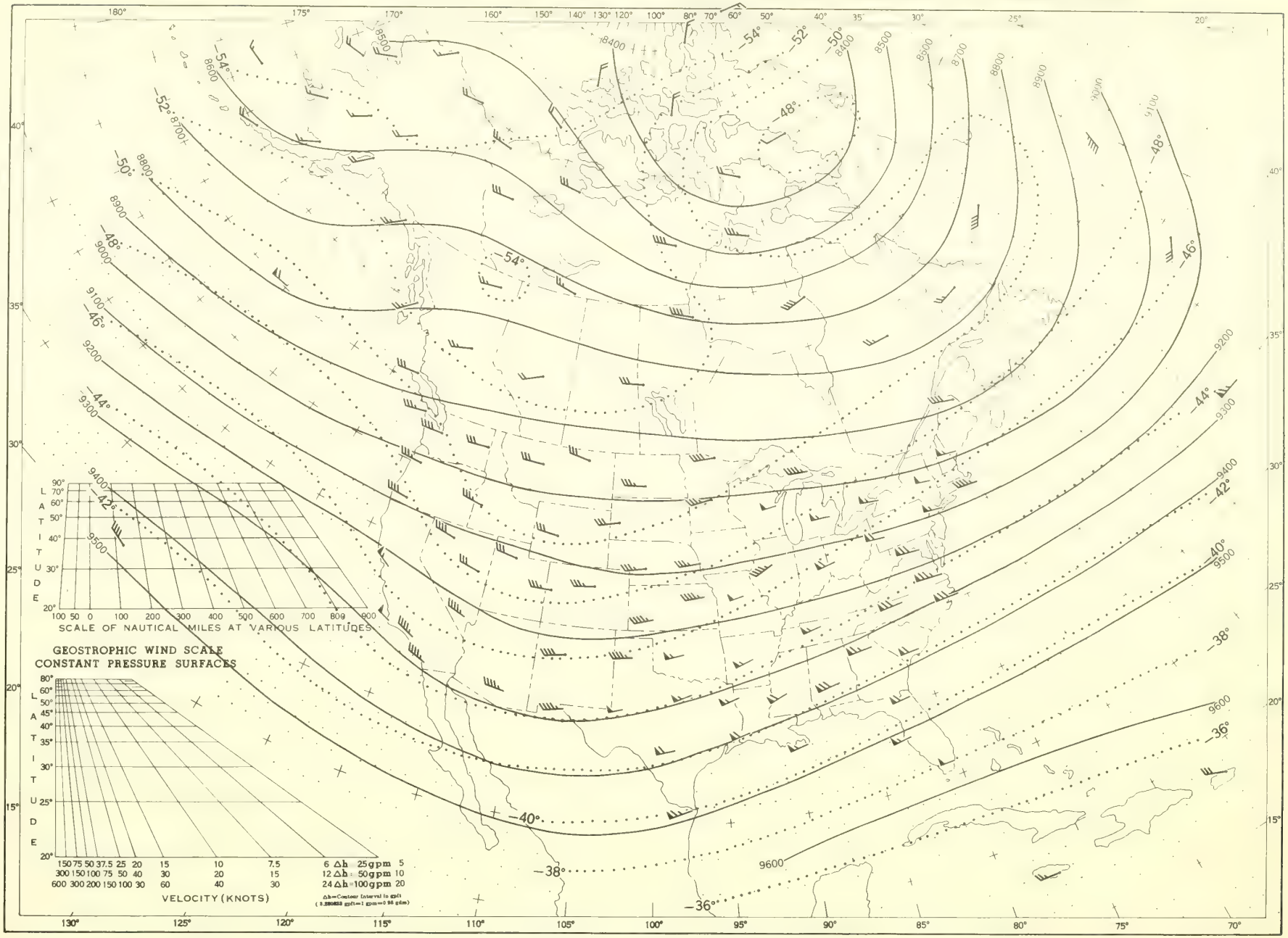
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, March 1961. Average Height and Temperature, and Resultant Winds.



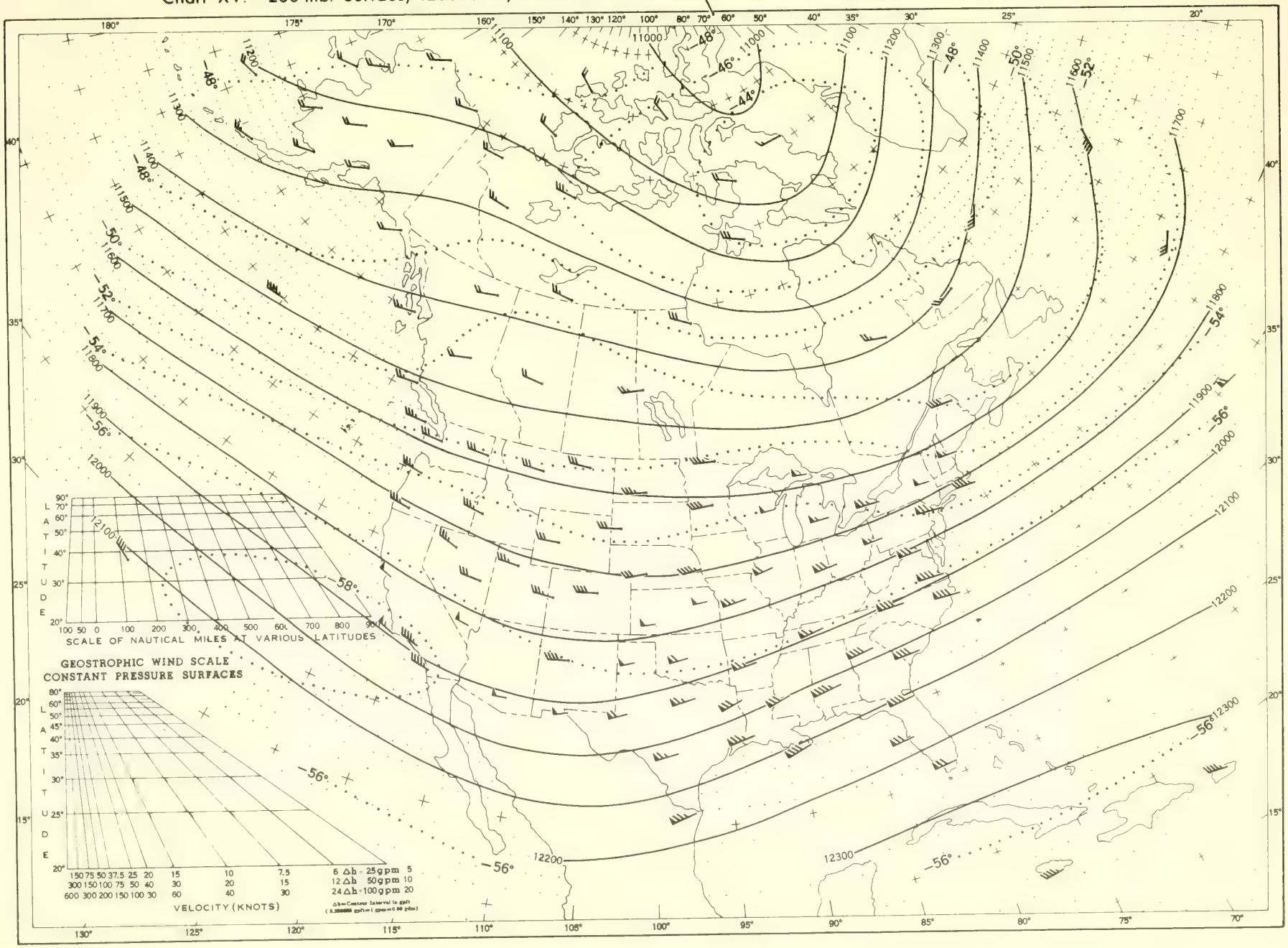
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, March 1961. Average Height and Temperature, and Resultant Winds.



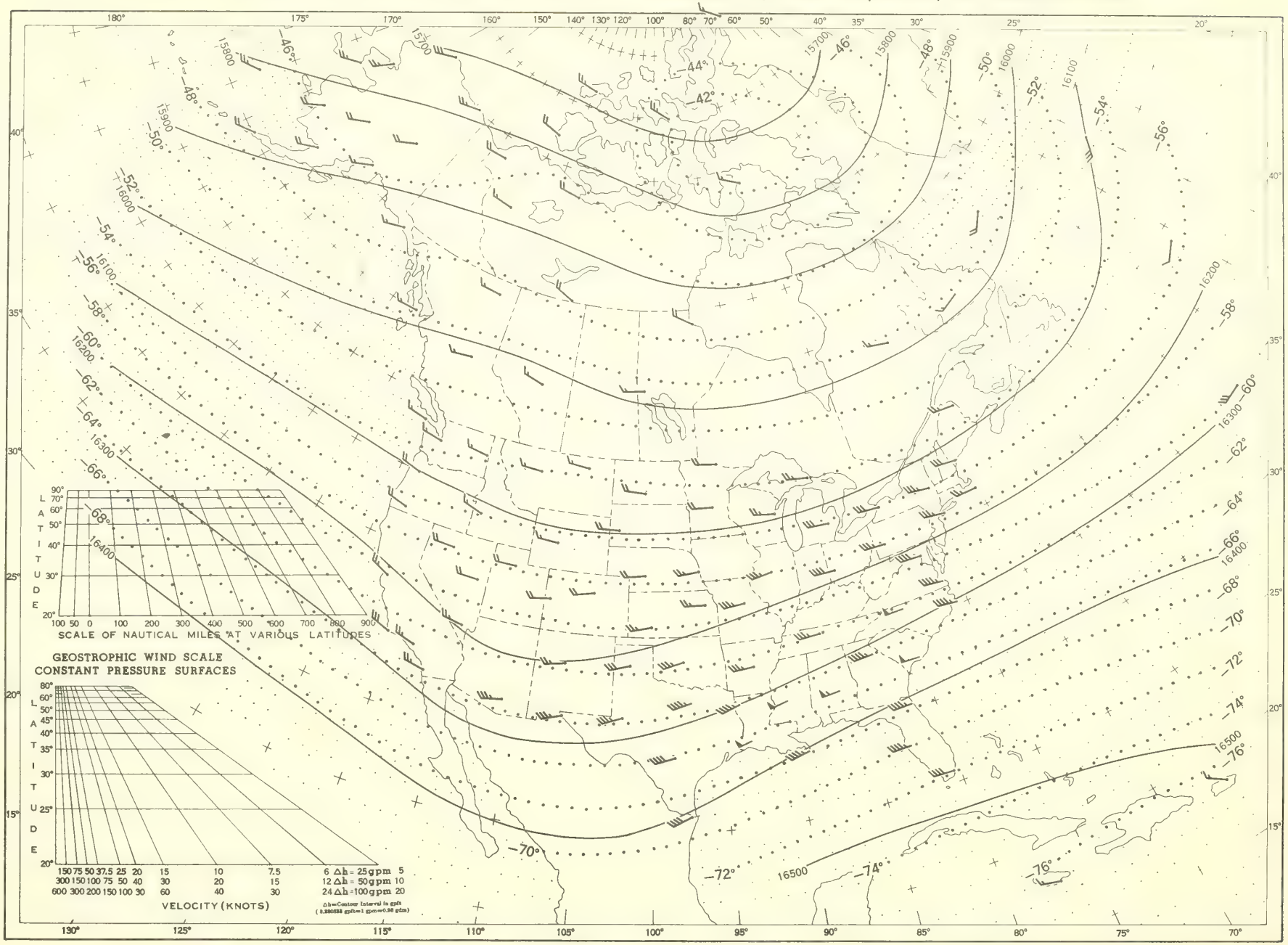
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, March 1961. Average Height and Temperature, and Resultant Winds.



See Chart XI for explanation of map.

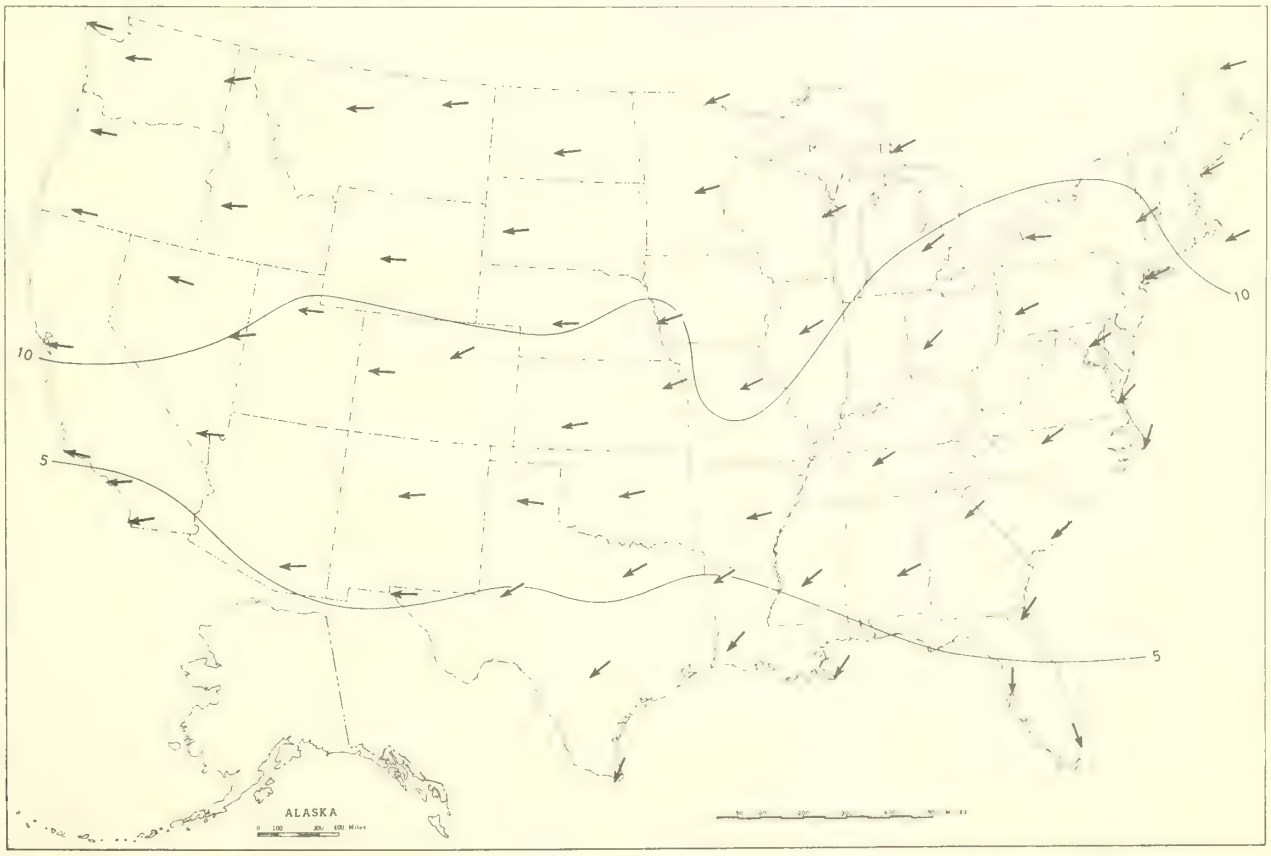
Chart XVI. 100-mb. Surface, 1200 GMT, March 1961. Average Height and Temperature, and Resultant Winds.



See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, March 1961. Resultant Winds.

B. 30-mb. Surface, 1200 GMT, March 1961. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-WB-Asheville - 5 26 61 - 1850

12/4

U. S. DEPARTMENT OF COMMERCE
LUTHER H. HODGES, Secretary
WEATHER BUREAU
F. W. REICHELDERFER, Chief

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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Volume 12 No. 4

ASHEVILLE: 1961

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 12 No. 4 APRIL 1961

GENERAL SUMMARY OF WEATHER CONDITIONS

April was abnormally cold, with heavy snowfall in many northern areas. Freezing about midmonth in the Far West damaged fruit buds in local areas. Precipitation was much below normal in the Florida Peninsula and the lower Great Plains, and droughty conditions continued in the Great Basin and Far Southwest. Near to above-normal precipitation elsewhere was beneficial in the northern Great Plains, but resulted in considerable flooding in the Mississippi Basin and Southeast where wet soil delayed spring planting.

TEMPERATURE. --Temperatures for the month averaged below normal nearly everywhere, except slightly above in Maine and the Far Southwest. The month was unusually cold in the middle Mississippi Valley and East where monthly averages were as much as 6° below normal, and the lowest since 1907 at numerous stations including St. Louis, Mo.; Louisville, Ky.; Pittsburgh, Pa.; Nashville, Tenn.; and Raleigh, N. C. This month was the coldest April during an 89-year record at Montgomery, Ala.; the coldest since 1904 at Atlanta, Ga.; since 1913 at Lake Charles, La.; since 1926 at Indianapolis, Ind.; and since 1928 at Cairo, Ill., and Memphis, Tenn.

Below-normal temperatures were unusually persistent east of the Great Plains. The only unseasonably warm period of the month, lasting 5 or 6 days, began in the eastern Great Plains and Mississippi Valley around the 20th and in the East about the 22d or 23d. Virtually all stations east of the Rockies recorded their monthly maxima during this period. There were no unusual extremes other than a few late season lows. In the Far West the usual alternate warm and cold periods occurred and monthly averages were within a few degrees of normal. Cold air outbreaks, however, the middle and latter parts of the month, caused some local crop damage.

PRECIPITATION.--Precipitation for the month generally was near to well above normal east of the Mississippi River, except in Florida and the immediate Gulf coast where it was much below. Monthly totals were generally below normal west of the Mississippi River, except above in Missouri and along the Canadian Border.

Precipitation in the East was well distributed through the month, and occurred with more than usual frequency in the northeastern quarter of the country. Heaviest falls in the East occurred during the passage of major storms on the 8th and 9th and 11th and 12th and during frontal passages on the 26th and 27th. Heavy precipitation of 1 to over 2 inches in the upper Mississippi Valley and northern Great Plains during the third and fourth weeks was very beneficial in helping to replenish soil moisture. Billings, Mont., measured 2.33 inches, the most in 23 months, and Williston, N. Dak., 2.39 inches which was among the greatest amounts for April (there on record). In the East, precipitation set new April records at Wilmington, N. C. (8.21 inches); and Providence, R. I., (7.32 inches); and 7.19 inches at Sandusky, Ohio, was the most since 1877.

While most of the East received generous precipitation, an exception was the Florida Peninsula where rainfall was less than 25 percent of normal in the southern half and less then 50 percent in most of the northern half. Soil moisture was very short and becoming critical in central and southern sections of the state at the end of the month. Orlando measured only 0.28 inch, the least on record for April.

Extremely dry weather in the lower Great Plains and in central and southern areas west of the Continental Divide continued the drought in the latter areas and in the trans-Pecos region of Texas. San Diego, Calif., had only a trace of precipitation for April for the first time since 1918. Precipitation at Las Vegas, Nev., for January through April has been only 47 percent of normal. Abilene, Tex., had only a trace for the driest April during a record dating back to 1886, and Austin, Tex., had its driest April with only 0.10 inch.

SNOWFALL. --April snowfall in the West was not heavy enough to raise the mountain snowpack to average levels, and the water content of the pack remained below normal in most areas. The pack was average or above mainly in the northern areas.

Snowfall was unusually heavy for April in some northern areas. One of the worst snowstorms of the month occurred in north-central areas on the 15th, 16th, and 17th. Falls ranged up to 4 inches in southern Iowa, 5 to 9 inches in northeastern Illinois, 2 to 17 inches in the northeastern half of Minnesota, 5 inches in southern and central Wisconsin and 20 inches in northern portions of the State, 4 to 12 inches in southern Michigan, and several inches in the northern portions of Indiana and Ohio. Strong winds blew the snow into drifts 10 feet high or more in northeastern Illinois and northern Indiana where thousands of travelers were stranded. Chicago, Ill., measured 6.8 inches, the heaviest snowstorm there on record for so late in the season.

The most snow for April was reported by Grand Rapids and Muskegon, Mich., 15.5 and 13.8 inches, respectively, and near-record amounts were reported by numerous other stations.

DESTRUCTIVE STORMS AND UNUSUAL WEATHER PHENOMENA. --Numerous storms of wind and hail and several tornadoes occurred in the lower midcontinent area and the Southeast the latter part of the month. One of the most destructive tornadoes of the month damaged about 30,000 buildings south of Chicago on the 23d. Another tornado caused heavy damage in the Eaton, Ohio, area. At Pueblo, Colo., on the 8th, the highest wind speed for April, 72 m. p. h., was equaled and 56 m. p. h. at Vicksburg, Miss., on the 3d was a new record there for April. Louisville, Ky., on the 12th measured a sea level pressure of 29.21 inches, the lowest on record there for April. At Duluth, Minn., 40 percent of the seasonal snowfall, 24.4 inches, came in April. Buffalo, N. Y., had only 26 percent of possible sunshine, an April record. At Erie, Pa., precipitation was observed on all except 4 days of the month. On the 16th, scattered frost caused some crop damage in the San Antonio, Tex., area, and light frost was observed near Corpus Christi.

CONDENSED CLIMATOLOGICAL SUMMARY

APRIL 1961

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	2 Stations	89	28+	Valley Head	25	7	Coffee Springs 2NW	11.13	Redstone Arsenal	1.90
Arizona	6 Stations	104	5+	Maverick	7	25	Greer	1.20	91 Stations	.00
Arkansas	2 Stations	89	25	Gravette	24	1	Wynne	5.71	Greenwood	1.24
California	do	108	4+	White Mountain 2	-4	24+	Orick 10SE	7.30	51 Stations	.00
Colorado	Eversoll Ranch	92	19+	Taylor Park	-8	9	Winter Park	4.25	Pueblo WB AP	.08
Connecticut	Bridgeport WB AP	79	26	Coventry	18	20	Putnam Lake	9.95	Natchaug Ranger Sta.	3.32
Delaware	2 Stations	89	25	Selbyville	26	8	Wilmington Porter Resvr	5.51	Lewes 1SW	2.18
Florida	Avon Park	95	26	Woodruff Dam	34	17	Fernandina Beach	7.98	2 Stations	.00
Georgia	Folkston 9SW	89	25	Blairsville Exp Sta	20	8	Tifton Exp Sta.	10.68	Rising Fawn	2.73
Idaho	Grandview	81	30	Obsidian 3SSE	1	5	Fenn RS	5.60	Emmett 2E	.00
Illinois	E. St. Louis Parks C	88	24	2 Stations	17	2	Brookport Dam 52	6.79	Gladstone Dam 18	1.05
Indiana	3 Stations	83	25	do	16	2	Pendleton Reformatory	D9.51	Newberry Hiway St Br	2.43
Iowa	2 Stations	91	23	4 Stations	15	2	Oelwein 2SE	6.55	James 1NE	.63
Kansas	do	97	19	Imperial	12	6	Chanute FAA Airport	6.72	Richfield 10WSW	.31
Kentucky	do	91	24	Williamstown 5WSW	21	2	Princeton	10.20	Covington WB AP	2.81
Louisiana	Oberlin Fire Tower	93	25	Ashland 2S	29	16	Hammond 3NW	6.43	Gloster 1W	.54
Maine	Sanford 2NNW	71	21	Squa Pan Dam	12	20+	Gardiner	7.15	Caribou WB AP	2.93
Maryland	Laurel 3W	93	25	2 Stations	20	3+	Edgemont	7.35	Solomons	2.24
Massachusetts	3 Stations	75	26+	Stockbridge	20	20	West Medway	7.41	Tully Dam	2.99
Michigan	do	75	25+	Champion Van Riper Pk	4	9	Adrian	6.97	Rogers City	.45
Minnesota	Luverne	79	19	Thorhult 3E	-1	1	Hoyt Lakes 5N	5.53	Springfield	.69
Mississippi	Tupelo	90	23	4 Stations	29	16+	Van Cleave	7.28	Woodville	1.14
Missouri	Tarkio	91	23	Berryman 6NW	15	2	Warsaw No. 1	7.49	Granby	1.44
Montana	2 Stations	85	18	Summit	-2	26	Hungry Horse Dam	5.16	Lima	.16
Nebraska	Beaver City	92	19	Nenzel 20S	4	7	Roca	2.86	Mullen 21NW	.34
Nevada	Mesquite	99	3	Wilkins	5	20	Mt Rose Highway Sta	2.43	2 Stations	.00
New Hampshire	3 Stations	72	21	First Conn Lake	13	20+	West Henniker	6.55	Marlow	2.58
New Jersey	Belleplain Sta Forest	92	25	Layton 3NW	18	9	Cedar Grove	8.00	Millville FAA Airport	2.96
New Mexico	Dunlap	97	19	Gascon	-9	9	Bateman Ranch	2.50	24 Stations	.00
New York	4 Stations	82	25	2 Stations	6	9	Liberty	9.77	Eagle Bridge 2SE	2.52
North Carolina	3 Stations	92	25+	Andrews 2E	15	4	Wilmington 7N	10.22	Raleigh Durham WB AP	2.23
North Dakota	Fort Yates	89	19	Medora 3NNE	-1	16	Killdeer 7NW	3.89	Adams 7S	.59
Ohio	Ironton	90	24	Greenville Sewage Plant	11	2	Wauseon Sewage	8.47	Fernbank Dam 37	2.85
Oklahoma	2 Stations	98	19	Kenton	21	16	Bartlesville 2W	3.66	Tipton 4S	.08
Oregon	Richland	84	30	Brothers	6	23	Tidewater 1WSW	7.40	3 Stations	.02
Pennsylvania	3 Stations	85	26+	Coudersport 3NW	16	20	North East 2SE	8.09	Scranton WB Airport	2.48
Puerto Rico	Dorado 4W	96	20	Guineo Reservoir	53	7	Calero Camp	16.92	Water Isle	.70
Rhode Island	Kingston	76	25	Kingston	25	20+	Kingston	8.02	Woonsocket	5.92
South Carolina	Ridgeland 2SE	91	25	Chester 2WSW	25	8	Springfield	14.11	Wateree Dam	3.79
South Dakota	Cedarbutte	92	19	Deerfield 5NW	-5	16+	Deadwood	3.37	Cottonwood 2E	.37
Tennessee	Franklin Sewage Plant	89	23	Mountain City 2	20	20+	Haw Knob	6.86	Harriman	2.31
Texas	Presidio	106	22	Tarpley 1E	21	16	Fowlerton	5.30	Numerous Stations	.00
Utah	La Verkin	91	30	Silver Lake Brighton	3	8	Kanosh	2.72	Wendover WB AP	.08
Vermont	Bellows Falls	73	22	Somerset	11	20	Whitingham 3W	7.52	Gilman	2.40
Virginia	Wakefield	93	25	Burkes Garden	19	2	Big Meadows	6.38	Richmond WB AP	1.73
Washington	Wawawai	79	29	Bumping Lake	11	4	Clearwater	11.99	Quincy 3S	.21
West Virginia	Williamson	93	25	Birch River 6SSW	15	3	Pickens 1	8.17	Matoaka	2.50
Wisconsin	Marinette	72	22	Gordon 2ESE	5	2	Superior 7SE	6.37	Viroqua	.87
Wyoming	Yoder	84	19	Foxpark	-10	15	Encampment 10ESE	2.49	Cody 23SW	T

D Water equivalent of snowfall wholly or partly estimated, using a ratio of 1 inch water equivalent to every 10 inches of snowfall.

\+ And also on an earlier date or dates.

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	989.7	1015.2	72	46	59.2	- 2.7	84	23	33	7	0	0	44	62	4.33	-0.32	1.61	8	3	0.0	0	11.2	SSW	43	W	15	10	11	9	5.0	70
HUNTSVILLE	605	991.1	1014.3	70	45	57.5		88	23	33	7	0	0	41	59	2.21		1.02	10	6	0.0	0	9.5	SE	27*	W	16+	10	10	10	5.3	
MOBILE	211	1013.9	1016.2	74	51	62.5	- 4.2	86	28+	38	2	0	0	50	68	6.86	1.76	4.24	9	5	0.0	0	12.7	S	43*	NNW	3	13	8	9	4.8	
MONTGOMERY	195	1007.2	1015.7	73	48	60.2	- 4.5	84	24	37	2	0	0	48	68	4.22	-0.59	1.20	8	5	0.0	0	8.4	SW	37	W	17	13	5	12	4.8	71
ALASKA																																
ANCHORAGE	90	1007.1	1012.4	43	30	36.0	0.6	52	30+	20	20	0	20	24	63	1.38	0.98	0.40	6	0	6.4	4	7.5	N	30*	NNW	29	3	8	19	7.3	45
ANNETTE	110	1011.5	1015.4	50	39	44.2	1.6	63	28	29	3	0	3	36	77	7.41	-0.72	1.75	15	0	T	T	9.0	SSE	31*	SSE	1	4	8	18	7.7	
BARROW	22	1023.7	1024.4	0	-15	- 7.4	- 7.2	27	25	-28	8	0	30	-16	61	0.15	0.05	0.13	3	0	1.5	17	12.1	ENE	40*	SW	23	17	7	6	3.8	
BARTER ISLAND	39	1021.3	1023.6	- 2	-18	-10.0	-11.0	26	26	-33	3	0	30	-18	65	0.24	0.05	0.19	4	0	4.6	9	14.3	W	51*	E	1	15	6	9	4.4	
BETHEL	125	1013.2	1014.8	30	12	20.8	- 6.0	48	28	- 7	20+	0	30	-17	83	1.30	0.75	0.35	16	0	10.2	10	12.5	WSW	32*	S	17	5	5	20	7.5	
COLD BAY	94	1012.5	1016.8	38	28	33.1	- 1.1	47	30	14	2	0	25	29	84	1.78	0.44	0.43	20	0	6.0	4	19.8	NW	52*	SSE	21	0	8	22	8.8	
CORDOVA	40	1010.2	1011.8	45	29	36.6	0.2	50	30	20	21+	0	24	30	79	4.18	-0.89	0.90	16	0	16.5	6	5.0	E	18*	SE	15	7	5	18	7.1	
FAIRBANKS	436	997.0	1014.7	35	15	25.1	- 3.8	60	24	- 5	21+	0	29	17	69	0.37	0.08	0.17	10	0	7.0	12	7.4	NNE	21*	SW	12	6	5	19	7.3	
JUNEAU	17	1011.9	1012.7	46	34	39.9	0.4	61	29	24	13	0	11	34	81	3.92	0.94	0.57	19	0	6.3	1	9.7	ESE	32*	ESE	19	3	5	22	8.4	30
KING SALMON	44	1011.2	1013.5	39	23	30.8	- 2.3	56	29	7	20	0	27	25	79	2.47	1.63	0.92	14	0	10.1	5	10.6	W	29*	NW	18	2	9	19	7.9	
KOTZEBUE	10	1015.6	1016.2	22	1	11.5	- 2.3	38	30	-20	8	0	30	6	76	0.83	0.47	0.28	14	0	14.9	22	13.1	ESE	40*	E	17	7	7	16	6.8	
MC GRATH	334	1001.7	1014.8	34	16	25.2	- 0.8	47	30	-12	20	0	30	17	71	1.39	0.90	0.41	11	0	19.1	11	7.3	N	23*	NW	12	6	4	20	7.5	
NOME	13	1013.2	1014.1	25	11	18.0	- 3.0	44	30	-11	16	0	30	13	78	2.15	1.37	0.56	19	0	23.3	24	14.5	E	43*	ENE	8	3	8	19	7.5	43
ST. PAUL ISLAND	22	1013.2	1014.2	33	24	28.4	- 1.7	39	23	0	1	0	28	26	89	1.73	0.71	0.39	14	0	3.7	10						0	9	21	8.4	
SHEMYA	122	1008.1	1011.6	39	33	35.9		42	27+	28	3	0	9	33	89	1.71		0.41	20	0	4.7	3	19.5	WSW	48*	W	22	0	2	28	9.4	
YAKUTAT	28	1011.2	1012.3	45	31	37.9	1.4	56	30	24	22	0	18	33	84	7.29	-0.69	1.92	18	0	22.9	6	6.4	ENE	25*	ESE	15	4	6	20	7.9	
ARIZONA																																
FLAGSTAFF	6993			60	28	44.1	2.0	74	4	13	25	0	21			0.35	-0.91	0.30	2	3	0.8	1						17	8	5	3.5	
PHOENIX	1109	972.2	1011.1	86	52	69.2	2.1	98	4	42	25	8	0	29	23	T	-0.35	T	0	0	0.0	0	7.7	W	32*	SW	7	24	5	1	1.6	98
PRESCOTT	5014	844.9	1012.2	70	38	54.2	1.3	85	4	27	25	0	3	22	32	0.23	-0.57	0.21	2	2	0.0	0	9.6	SSW	56	S	7	22	5	3	2.2	92
TUCSON	2584	923.5	1010.8	82	50	66.2	1.2	94	30	43	25+	5	0	20	19	T	-0.32	T	0	0	0.0	0	10.7	WNW	38	SW	7	22	5	3	1.9	97
WINSLOW	4880	849.3	1010.8	72	37	54.6	0.6	88	30	26	25+	0	8	20	32	0.18	-0.31	0.12	3	3	0.2	T	12.2	SW	43*	SW	7	17	10	3	2.7	
YUMA	199	1006.8	1012.2	90	57	73.6	0.8	1 4	4	50	24	14	0	30	24	0.00	-0.10	0.00	0	0	0.0	0	9.2	WNW	27	SE	4	29	1	0	0.7	99
ARKANSAS																																
FORT SMITH	449	996.6	1013.7	71	46	58.8	- 3.8	87	19	30	13	0	1	44	61	1.38	-3.11	0.56	9	3	0.0	0	9.5	SSW	34	NW	3	10	9	11	5.5	64
LITTLE ROCK	257	1000.7	1014.0	72	49	60.4	- 2.1	88	25	36	16+	0	0	46	62	3.38	-1.78	1.23	10	7	0.0	0	10.7	SSW	65	NW	25	12	4	14	5.5	55
TEXARKANA	361		1014.0	73	50	61.7	- 3.3	87	25	36	16+	0	0	48	66	1.49	-3.81	0.60	9	6	0.0	0	9.8	S								
CALIFORNIA																																
BAKERSFIELD	494	998.0	1016.3	77	51	64.1	1.1	90	3	40	24	1	0	44	50	0.04	-0.71	0.04	1	0	0.0	0	7.0	NNW	31*	NNW	23+	18	9	3	2.9	
BISHOP	4108	872.2	1012.5	75	37	56.1	1.5	92	3	26	23+	1	8			T	-0.25	T	0	0	T	0						14	13	3	3.8	
BLUE CANYON	5280	838.5	1015.2	55	38	46.3	1.2	73	3	21	22	0	9			4.08	-0.57	1.86	7	2	24.1	21	9.2	ENE	38	ENE	4	8	11	11	5.6	
BURBANK	699	988.5	1015.1	74	51	62.6	2.1	97	3	44	23	2	0	45	54	0.48	-0.73	0.35	3	0	0.0	0	6.6	SSE	25*	NNW	23	18	7	5	3.0	
EUREKA	43	1017.6	1020.0	55	44	49.2	- 1.4	63	30	36	21	0	0			3.49	0.61	1.74	6	0	0.0	0	[illegible]	N#	39	N	5	8	7	15	6.3	69
FRESNO	331	1003.7	1015.6	76	47	61.4	- 0.1	91	3	37	24+	1	0	41	52	0.57	-0.39	0.45	2	1	0.0	0	7.0	WNW	35	SW	21	18	10	2	2.9	93
LONG BEACH	34	1014.6	1015.7	73	50	61.4		93	3	44	23	1	0	47	64	0.04		0.02	2	0	0.0	0	7.9	WNW	32*	NW	23	17	9	4	3.3	
LOS ANGELES	99	1012.2	1015.7	67	52	59.6	0.4	77	3	47	27+	0	0	48	67	0.02	-0.94	0.02	1	0	0.0	0	9.2	WSW	32*	W	23	19	6	5	3.0	
LOS ANGELES U	312			74	54	64.0	2.5	94	[illegible]	49	23	2	0	49	65	0.29	-0.88	0.29	1	0	0.0	0	6.8	W#	28	NW	24+	16	10	4	3.4	82
MT SHASTA R	3544	893.0	1017.6	60	35	47.0	0.5	78	16	23	22+	0	11			1.84	-1.22	1.31	5	0	9.2	4						12	11	7	4.8	
OAKLAND	3	1017.3	1017.6	67	47	57.2	1.6	84	3	40	24	0	0	45	69	0.96	-0.50	0.46	5	0	0.0	0	10.4	WNW	33*	NW	12	15	12	5	4.3	
POINT ARGUELLO	367	1002.7	1016.1	61	45	53.2		76	3	39	23+	0	0			0.18		0.18	1	0	0.0	0	9.6		29*	NW	19	13	11	6	4.4	
RED BLUFF	341	1002.7	1015.5	74	48	61.0	1.0	89	3	35	19	0	0	37	47	0.65	-1.14	0.48	3	3	0.0	0	11.0	N	50	SE	21	11	10	9	5.0	89
SACRAMENTO	17	1015.2	1016.2	74	45	59.6	1.4	87	16	35	19	0	0	45	64	0.46	-0.92	0.41	3	0	0.0	0	8.3	SW	35	SW	12	16	10	4	3.6	92
SANDBERG R	4517	862.2	1013.9	63	42	52.4	1.9	83	3	27	24	0	5			0.09	-0.65	0.06	2	0	0.3	T	14.0	N	48*	N	13	24	3	3	2.3	
SAN DIEGO	13	1012.2	1015.4	70	54	61.9	1.4	82	15+	51	28+	0	0	49	66	T	-0.83	T	0	0	0.0	0	7.6	WNW	25	S	4	18	8	4	3.4	75
SAN FRANCISCO	8	1016.4	1017.7	67	47	57.1	3.0	79	3+	42	22	0	0	46	71	1.25	-0.04	0.83	4	0	0.0	0	10.5	WNW	33	S	21	19	7	4	3.5	
SAN FRANCISCO U	52			64	50	56.9	1.2	79	3+	45	22	0	0			0.79	-0.70	0.52	4	0	0.0	0	8.9	W#	30	SE	21					86
SANTA MARIA	238	1008.1	1017.1	68	43	55.3	- 0.5	92	3	33	20	1	0	45	71	0.24	-0.96	0.23	2	0	0.0	0	7.1	WNW	31*	W	24	21	5	4	3.1	
COLORADO																																
ALAMOSA	7536	767.4	1012.1	56	25	40.6	- 1.1	71	30	14	15+	0	28			1.02	0.48	0.70	5	1	14.2	4						9	14	7	4.7	
COLORADO SPRINGS	6173	807.3	1013.6	58	29	43.6	- 2.9	77	18	15	15	0	19	22	52	0.56	-0.84	0.33	6	0	5.8	2	12.9	N	35*	NNW	11	6	16	8	5.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb	Mb.	F.	F.	F.	F	F		F.				F	%	In.	In.	In.			In.	In	M.p.h		M.p.h							%
COLORADO																																
DENVER	5283	833.7	1012.1	60	32	46.0	- 1.5	83	19	21	15	0	17	25	50	1.06	-0.99	0.55	10	0	8.6	3	10.5	SSW	37	N	11	7	12	11	5.9	67
GRAND JUNCTION	4849	856.4	1012.1	62	38	50.3	- 1.5	78	30	25	15	0	8	18	34	0.85	0.10	0.58	3	1	0.6	T	12.0	ESE	45	S	19	7	9	14	6.1	64
PUEBLO	4639	852.4	1010.9	66	33	49.5	- 0.3	83	30+	18	9	0	15	24	44	0.08	-1.16	0.05	4	0	0.5	T	11.5	WNW	72	N	8	10	10	10	5.4	80
CONNECTICUT																																
BRIDGEPORT	7	1008.7	1009.5	54	39	46.3	0.0	79	26	31	3	0	2	35	69	4.93	1.44	1.14	13	4	T	0	13.1	WNW	53	E	13	4	12	14	6.6	
HARTFORD	169	1002.5	1008.5	55	35	45.1	- 2.9	76	26	24	4	0	13	31	62	4.73	1.17	1.15	12	2	1.4	1	10.2	WNW	37	SW	2	3	12	15	7.3	40
NEW HAVEN	6	1008.1		54	38	45.7	- 0.2	76	26	30	21	0	4			5.59	1.70	1.43	13	4	0.4	T	10.1		33	NE	13	5	11	14	6.6	56
DELAWARE																																
WILMINGTON	78	1006.2	1009.6	59	39	48.9	- 2.9	85	25	29	4	0	4	36	63	4.88	1.24	2.56	12	4	T	T	11.9	WNW	43*	ENE	13	5	13	12	6.3	
DIST. OF COLUMBIA																																
WASHINGTON U	72			61	44	52.4	- 2.3	89	25	34	13+	0	0			3.37	0.17	1.75	8													
WASH NATL AP	14	1006.3	1010.8	61	43	52.0	- 2.4	88	25	32	3	0	1	36	58	3.24	0.18	1.68	11	2	T	0	11.3	WNW	34	NW	1	6	13	11	6.2	55
FLORIDA																																
APALACHICOLA U	13	1014.0		72	57	64.4	- 3.1	78	26	48	16	0	0			1.55	-2.73	0.55	7	3	0.0	0	9.3		39	W	12	13	10	7	4.4	89
DAYTONA BEACH	31	1014.6	1016.4	77	54	65.6	- 3.4	88	27+	42	5	0	0	53	66	2.16	-0.77	0.90	5	3	0.0	0	10.8	WSW	37*	SSW	12	14	8	8	4.6	
FORT MYERS	15	1015.7		83	59	70.8	- 2.2	90	28	50	5	1	0			0.46	-1.91	0.16	4	3	0.0	0	9.2		29*	SSW	12	13	12	5	4.2	
JACKSONVILLE	24	1015.0	1016.3	77	54	65.4	- 3.0	89	25	44	5	0	0	50	62	4.16	0.82	1.54	8	5	0.0	0	11.3	SW	48	SW	12	14	9	7	4.4	76
KEY WEST	5	1014.9	1016.0	81	72	76.4	- 0.6	87	10	64	5	0	0	65	70	1.75	-0.65	1.70	2	1	0.0	0	12.1	ENE	32	S	1	13	13	4	4.3	77
LAKELAND U	214			79	58	68.7	- 2.9	87	25+	50	5	0	0			1.21	-1.66	0.78	6	3	0.0	0	8.4					13	11	6	4.4	77
MIAMI BEACH	9			82	70	76.1	0.7	91	28+	56	5	2	0			0.24	-2.37	0.12	2		0.0	0	9.8		31	W	16	12	14	4	4.2	76
MIAMI	7	1014.9	1016.1	83	65	74.1	- 0.8	91	16	51	5	3	0	60	65	0.56	-3.43	0.37	4	1	0.0	0	11.0	ESE	30*	NE	20	8	17	5	5.1	
ORLANDO	106	1011.8	1016.4	82	57	69.4	- 2.2	94	15	47	5	3	0	54	61	0.28	-2.68	0.19	4	2	0.0	0	10.2	WNW	25*	SW	12	16	9	5	4.2	
PENSACOLA U	13			72	56	63.6	- 3.4	79	28	44	16	0	0			4.59	-0.31	2.20	7	2	0.0	0	12.7		33	SE	12+					74
TALLAHASSEE	64	1013.7	1016.3	75	49	62.1	- 5.1	84	24	38	5	0	0	50	69	2.36	-2.13	0.74	8	4	0.0	0	11.2	NW	35*	W	12	10	12	8	4.5	
TAMPA	19	1015.3	1016.8	79	58	68.6	- 2.9	88	28	49	5	0	0	55	65	1.44	-1.07	1.13	5	3	0.0	0	12.5	WNW	37*	NW	4	15	7	8	4.5	72
WEST PALM BEACH	15	1014.9	1016.0	83	62	72.3	- 1.5	93	12	50	5	4	0	59	65	2.28	-1.85	1.94	6	2	0.0	0	11.7	WNW	32*	NW	4	9	12	9	5.0	
GEORGIA																																
ATHENS	798	985.4	1014.6	68	43	55.7	- 6.0	82	24+	31	11	0	1	43	65	6.40	1.81	1.99	6	3	0.0	0	10.4	W	30*	W	17	11	9	10	5.2	
ATLANTA	975	973.0	1014.9	68	45	56.4	- 5.3	82	23	34	11	0	0	41	59	5.01	0.59	1.50	6	3	0.0	0	13.2	WNW	46*	SW	17	11	10	9	5.0	66
AUGUSTA	143	1007.4	1014.2	71	47	59.0	- 4.2	86	25+	34	11	0	0	45	62	8.43	4.95	2.75	8	5	0.0	0	10.1	W	37*	SE	9	13	7	10	4.8	
COLUMBUS	385	1001.2		72	46	59.4	- 4.0	85	25	34	2	0	0			5.36	1.13	1.81	8	5	0.0	0	10.5		32*	SW	9	12	9	9	4.7	
MACON	356	1001.2	1015.0	73	48	60.5	- 5.2	86	25	36	11	0	0	44	60	5.30	1.49	2.08	7	3	0.0	0	11.6	WNW	45	SE	9	12	9	9	4.8	69
ROME	637	991.5		70	42	55.5	- 5.0	85	23	30	8+	0	5			4.18	-0.44	1.51	7	5	0.0	0						10	8	12	5.3	
SAVANNAH	48	1012.8	1015.5	73	50	61.4	- 4.3	88	25	38	5	0	0	47	63	7.74	5.27	3.66	8	5	0.0	0	10.5	SW	31	W	17	13	9	8	4.5	82
THOMASVILLE U	283			76	52	63.8	- 3.6	85	25+	44	16+	0	0			8.69	4.39	3.79	9	4	0.0	0										
IDAHO																																
BOISE	2841	918.7	1015.5	62	35	48.1	- 1.8	78	29	22	5	0	13	28	49	0.22	-0.88	0.14	5	2	0.0	0	7.6	SE	29	NW	29+	5	11	14	6.6	68
IDAHO FALLS 42NW R	4790			57	27	42.0	- 0.4	74	3	11	8	0	25			0.31	-0.28	0.26	3				10.3	SSW	38A	NW	14					
IDAHO FALLS 46W R	4933	845.6	1014.2	57	27	41.8	- 0.7	71	3	9	5	0	24			0.54	-0.21	0.30	5	0	3.0	2	10.0	SW	39A	SW	13					
LEWISTON	1413	964.4	1016.3	61	39	49.7	- 1.7	76	29	26	5	0	7			1.12	-0.02	0.32	10	1	0.7	T						2	3	25	8.4	
POCATELLO	4444	860.8	1014.7	57	33	44.9	- 1.4	73	29	20	8	0	20	25	49	0.85	-0.47	0.42	4	0	6.1	5	13.0	WSW	52	W	13	4	8	18	7.3	71
HAWAII																																
HILO	31	1014.9	1016.2	81	65	72.5	0.9	84	15+	61	8+	0	0	64	77	5.52	-7.75	1.90	21	2	0.0	0	9.4	SW	24*	ESE	16	2	8	20	8.1	36
HONOLULU	7	1016.3	1016.8	82	69	75.9	1.6	85	28+	62	5	0	0	63	66	0.71	-0.93	0.28	9	0	0.0	0	10.9	NE	40	NE	2	6	6	18	7.0	79
LIHUE	115	1011.5	1016.6	81	69	75.0	3.0	87	16	61	7	0	0	65	73	1.77	-1.26	0.64	17	0	0.0	0	12.6	NE	29	NE	2	0	7	23	8.3	57
ILLINOIS																																
CAIRO U	314	999.7		63	46	54.7	- 5.3	83	25	33	2	0	0			4.61	0.65	1.17	12	5	T	T	10.6	SW#	34	SW	25	5	8	17	7.0	62
CHICAGO O HARE	658	986.1	1011.1	53	34	43.3		76	24	20	2	0	12	33	70	2.47		0.49	15	1	6.9	5	11.5	W	37*	SSE	20	5	7	18	7.3	
CHICAGO MIDWAY	610	988.5	1011.6	52	36	44.3	- 3.8	73	24	22	2	0	8	33	68	3.28	0.46	0.88	18	3	8.8	4	12.2	NW	35	NW	28	5	7	18	7.4	41
MOLINE	582	989.2	1011.8	54	35	44.3	- 5.6	69	24+	21	3	0	14	34	70	2.19	-0.82	0.51	14	5	2.5	2	12.1	WNW	38	NW	16	2	10	18	7.4	46
PEORIA	652	990.2	1012.5	54	34	44.4	- 6.1	75	24	20	2+	0	15	34	71	2.38	-1.06	1.47	13	4	1.2	T	13.0	WNW	40	W	16	5	9	16	7.1	49
ROCKFORD	728	984.1	1011.6	52	34	43.0	- 4.3	68	21	21	2	0	14	32	69	2.87	-0.13	0.55	13	4	4.4	4	10.4	WNW	28*	NW	16	4	11	15	6.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No of days: Max. 90 F. or above	Temperature: No of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
ILLINOIS	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
SPRINGFIELD	588	988.5	1012.1	58	38	47.7	- 4.0	81	24	21	2	0	11	37	68	3.95	0.53	2.29	13	4	1.8	1	15.1	NW	54	W	16	6	9	15	6.9	45
INDIANA																																
EVANSVILLE	383	996.6	1012.6	63	43	52.7	- 4.4	81	25+	28	2	0	2	38	61	4.42	0.63	1.14	12	4	1.3	T	11.8	W	45	SW	16	4	9	17	7.0	57
FORT WAYNE	801	979.3	1011.1	53	36	44.3	- 3.5	73	24	21	2	0	10	36	73	4.45	1.20	0.85	15	6	11.7	3	14.7	WNW	52	NW	16	0	11	19	8.1	48
INDIANAPOLIS	793	981.4	1011.6	55	36	45.6	- 5.2	79	24	20	2	0	12	37	74	6.68	2.83	2.56	11	3	2.7	1	11.7	WNW	38	NW	28	3	7	20	7.6	67
SOUTH BEND	768	982.4	1010.7	51	34	42.5	- 4.8	72	24	22	8	0	12	34	75	4.93	1.53	1.23	20	5	13.1	8	12.9	NW	31*	NW	28	1	10	19	7.7	
IOWA																																
BURLINGTON	694	986.8	1012.8	56	35	45.7	- 5.3	75	24+	21	2	0	14	34	68	1.27	-2.16	0.34	14	5	3.4	T	14.2	WNW	42	W	16	6	10	14	7.0	55
DES MOINES	948	982.1	1013.8	55	35	44.7	- 5.7	77	20	21	2	0	14	33	68	2.39	-0.06	1.48	17	3	2.7	T	15.2	NW	48	NW	16+	4	8	18	7.3	43
DUBUQUE	1065	986.5	1012.3	51	33	41.8	- 5.1	67	22+	19	2	0	17	29	63	3.79	1.10	1.58	14	4	5.3	4						6	7	17	7.0	
SIOUX CITY	1095	971.9	1013.6	57	35	45.8	- 3.4	88	20	22	2	0	10	29	56	1.76	-0.38	0.58	11	2	0.9	T	15.4	NW	47	NW	5	5	13	12	6.6	53
WATERLOO	868	979.7	1012.5	52	32	41.8	- 6.4	70	19	20	2	0	15	33	73	4.27	1.88	1.64	12	3	2.0	1	11.5	NW	31*	SE	20+	3	10	17	7.5	
KANSAS																																
CONCORDIA U	1375	962.8		61	39	49.9	- 4.1	88	19	26	16	0	7		55	2.17	-0.09	1.32	7	2	7.0	3	9.9	NW#	28	NW	3	10	12	8	5.0	70
DODGE CITY	2594	924.1	1012.4	65	38	51.4	- 2.4	92	19	27	6	1	11	33	56	0.99	-1.27	0.80	4	0	0.2	T	15.7	NNW	44	SW	13	14	7	9	4.8	72
GOODLAND	3645	884.5	1012.6	59	31	44.7	- 2.5	87	19	16	7	0	17	30	62	1.26	-0.55	0.50	8	3	8.0	5	14.8	NNW	40*	NW	14	10	10	10	5.7	
TOPEKA	877	976.6	1012.9	62	39	50.2	- 4.3	89	23	27	6+	0	9	36	63	2.65	-0.85	1.33	12	6	0.6	T	15.3	NNW	52	N	22	6	13	11	6.2	62
WICHITA	1321	963.1	1012.1	66	42	53.8	- 2.4	93	20	29	6	1	4	39	63	2.00	-1.52	0.90	7	5	T	T	14.8	S	56	NW	12	13	5	12	5.2	61
KENTUCKY																																
LEXINGTON	979	976.3	1012.7	58	40	48.7	- 5.8	79	24	26	2	0	6	39	71	6.04	2.28	1.84	16	6	2.9	2	13.4	WNW				3	12	15	7.5	
LOUISVILLE	474	992.6	1012.2	59	39	49.2	- 6.8	81	24	25	2	0	7	39	69	4.83	0.82	1.21	14	5	0.2	T	9.9	WNW	43	W	25	4	9	17	7.3	37
LOUISIANA																																
ALEXANDRIA	92	1010.5	1015.3	75	49	61.6		85	27	35	7	0	0	50	70	2.03		1.21	5	3	0.0	0	8.9	SSW				11	8	11	4.8	
BATON ROUGE	64	1012.5	1015.7	75	51	62.7	- 4.1	84	28+	39	2	0	0	52	74	4.65	0.15	2.15	5	4	0.0	0	10.9	S				12	10	8	4.8	
LAKE CHARLES	12	1013.5	1015.1	74	55	64.6	- 3.4	86	28	43	16+	0	0	53	71	3.47	-0.80	1.49	5	5	0.0	0	7.4	S	25*	NNW	15	12	4	14	5.5	
NEW ORLEANS U	9			76	58	67.0	- 2.8	85	26	50	6+	0	0		67	4.22	-1.23	2.15	7	2	0.0	0	7.8		25	NE	6	13	15	2	3.9	77
NEW ORLEANS	3	1013.5	1015.8	76	53	64.7	- 3.6	86	27	39	2	0	0	56	74	2.88	-2.52	1.61	7	1	0.0	0	10.4	S	25*	NW	12	11	11	8	4.6	
SHREVEPORT	252	1005.4	1014.7	75	51	62.7	- 4.4	86	25+	34	16	0	0	49	64	1.70	-2.89	0.65	6	3	0.0	0	15.4	S				10	11	9	5.0	71
MAINE																																
CARIBOU	624	985.3	1010.5	44	28	35.7	1.0	57	29	16	1	0	27	28	77	2.93	0.30	0.84	18	0	24.4	24	10.4	NW	30	E	17	2	6	22	8.4	
PORTLAND	61	1003.8	1008.0	50	33	41.9	0.0	65	21	25	21+	0	14	33	74	6.48	2.73	2.04	12	0	9.8	4	11.2	WNW	36	NE	13	3	9	18	7.8	50
MARYLAND																																
BALTIMORE	146	1005.8	1010.7	61	39	50.0	- 2.4	88	25	29	3+	0	7	35	60	4.45	0.73	2.04	12	3	0.0	0	13.2	WNW	43	NW	26	7	13	10	5.8	76
BALTIMORE U	14			61	44	52.4	- 1.9	89	25	35	4+	0	0			4.47	0.75	1.78	12													
FREDERICK	294			58	37	47.7	- 5.2	85	25	26	4	0	11			4.25	0.75	1.46	12	0	T	0										
MASSACHUSETTS																																
BLUE HILL OBS R	629	983.4		51	35	42.8		70	25	27	3	0	11		70	5.59	1.60	1.27	16		3.5	1	16.9	NNW	47	NW	11					41
BOSTON	15	1002.8	1007.6	52	38	45.3	- 1.9	71	21	32	13+	0	2	33	68	6.59	3.13	1.63	14	1	2.0	1	13.8	WNW	42	ENE	13+	5	7	18	7.2	48
NANTUCKET	43	1007.2	1007.8	49	37	43.0	- 0.6	73	25	29	4	0	3			5.88	2.43	1.32	13	2	0.1	0	15.8	W	39	E	13	6	7	17	7.1	52
PITTSFIELD	1170			49	33	40.6	- 1.4	64	23+	23	9	0	20			3.36	-0.25	0.70	19		11.4	4										
WORCESTER	986	970.3	1007.4	50	34	41.8	- 2.0	66	21	26	3	0	15	29	66	5.72	2.23	1.15	13	1	9.5	3	10.9	W	29	E	16+	4	12	14	7.2	
MICHIGAN																																
ALPENA	689	985.1		48	27	37.4	- 3.3	63	22	17	9	0	24	29	69	1.68	-0.90	0.87	10	2	3.2	1	8.6	NW#	35	SE	16	3	6	21	7.9	37
DETROIT	619	983.4	1010.7	51	36	43.5	- 2.9	73	24	25	2	0	8	33	71	5.23	2.32	1.97	18	3	3.7	1	11.3	WNW	37	SW	16+	0	9	21	8.3	35
DETROIT M WAYNE CO	630	985.8	1010.1	51	34	42.6		74	24	23	2	0	13	34	74	5.40		1.54	16	4	7.4	2	11.8	WNW				0	9	21	8.5	
DETROIT WILLOW RUN	722	981.4	1010.2	52	34	43.2	- 3.4	73	24	22	2	0	13	33	72	5.66	2.72	2.14	16	5	5.5	4	13.5	WNW	40*	SW	16	0	7	23	8.6	
ESCANABA U	594	988.8		46	32	38.8	0.6	68	21	20	8	0	16		71	2.63	0.53	1.63	10	0	T	T	10.7		45	NE	16	3	13	14	7.0	56
FLINT	766	982.4	1010.8	50	33	41.7	- 2.7	71	24	22	8+	0	15	33	74	5.21	2.60	1.57	17	4	5.6	2	9.9	WNW	28*	SSW	16	0	6	24	8.4	
GRAND RAPIDS	681	985.1	1010.9	51	34	42.3	- 2.5	68	21	23	2	0	16	31	69	3.98	1.08	1.74	16	3	15.6	7	10.7	WNW	28	NW	28	3	8	19	7.9	41
LANSING	852	977.7	1010.4	51	32	41.8	- 3.5	72	24	19	2	0	15	31	71	3.45	0.62	1.11	15	4	6.6	5	14.0	W	43	W	2	0	9	21	7.7	53
MARQUETTE U	677	984.8		44	31	37.6	- 1.1	67	22	22	1	0	20		65	2.96	0.45	1.61	12	0	5.4	5	7.7	NW#	32	S	20	2	13	15	7.2	60

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb	Mb.	F.	F.	F.	F	F.		F				F	%	In	In.	In			In	In	M.p.h.		M.p.h.							%
MICHIGAN																																
MUSKEGON	627	987.8	1011.1	49	34	41.5	- 2.1	64	20	25	3+	0	15	32	71	4.09	1.75	1.51	18	2	13.8	4	10.5	W	28*	SW	16	3	12	15	7.1	
SAULT STE MARIE	721	988.2	1011.4	46	30	37.7	0.9	63	22	20	8	0	23	27	70	0.87	-1.08	0.21	10	0	2.9	2	10.1	WNW	25*	ESE	16	3	6	21	7.9	49
MINNESOTA																																
DULUTH	1408	970.5	1012.9	44	27	35.3	- 1.5	61	22+	11	1	0	26	25	70	4.72	2.22	1.46	13	2	24.4	15	13.9	NW	43	W	22	5	5	20	7.2	49
INTERNATIONAL FALLS	1179	971.2	1013.7	45	25	34.8	- 2.4	58	2+	5	1	0	27	24	69	2.39	0.66	0.75	13	2	13.5	7	9.2	NW	31*	SE	20	6	7	17	6.8	
MINNEAPOLIS	830	978.7	1013.0	48	29	38.5	- 7.5	67	22	15	2	0	20	27	67	2.39	0.48	0.74	11	2	7.7	6	11.2	NNW	33	NW	16+	3	9	18	7.4	48
ROCHESTER	1297	963.8	1012.5	46	30	37.9	- 7.1	64	22	18	2	0	22	30	74	1.7	-0.54	0.71	13	2	4.5	3	13.3	NW				2	11	17	7.7	
ST CLOUD	1034	974.6	1013.4	48	27	37.3	- 5.6	67	22	12	2	0	23	25	67	2.18	0.22	0.77	12	2	8.7	6						6	6	18	7.1	
MISSISSIPPI																																
JACKSON	305	1002.9	1015.2	74	48	61.0	- 3.9	94	25	36	7	0	0	47	64	2.00	-2.82	0.75	7	5	0.0	0	7.2	S	33	NW	15	12	9	9	4.9	65
MERIDIAN	292	1001.7	1015.7	74	46	60.3	- 4.0	85	25+	34	7	0	0	48	68	1.99	-3.47	0.79	8	2	0.0	0	9.3	SSW	29*	SW	9	13	6	11	4.7	
VICKSBURG U	234	1005.8		72	52	62.0	- 3.8	83	30	41	1	0	0			2.69	-2.15	1.28	7	4	0.0	0	10.3		56	W	3	10	9	11	5.3	64
MISSOURI																																
COLUMBIA	778	983.1	1012.0	59	41	49.8	- 4.7	84	24	28	2	0	5	38	67	4.70	0.90	1.41	13	7	3.5	1	13.4	NW	38	NW	16	5	9	16	6.6	53
KANSAS CITY	742	977.3	1012.7	60	41	50.1	- 5.7	81	23+	2	13+	0	7	35	60	4.20	0.59	1.82	12	6	3.7	2	11.7	NW	40	NW	22	6	14	10	6.1	63
ST JOSEPH	809	977.3		60	39	49.2	- 5.3	89	23	26	2	0	7			2.16	-1.19	0.93	15	4	2.5	T	15.2	S	43*	NW	16	8	13	9	5.8	
ST LOUIS	535	991.5	1012.6	61	40	50.0	- 5.6	85	24	23	2	0	6	36	61	3.47	-0.46	1.00	14	5	T	0	12.5	WNW	37	W	16	6	10	14	6.8	53
ST LOUIS RFC	465			61	44	52.6	- 3.9	87	24	30	2	0	1			2.81	-1.20	0.91	14		T	0										
SPRINGFIELD	1265	964.8	1012.7	63	41	52.0	- 3.5	84	19	27	10	0	9	40	67	6.56	2.22	2.24	12	5	T	T	14.4	SSE	44	NW	16	9	7	14	5.9	61
MONTANA																																
BILLINGS	3567	888.3	1013.7	53	32	42.8	- 3.4	74	18	21	6	0	17	25	56	2.33	1.28	1.33	11	1	14.0	3	12.4	WSW	52	NW	3	2	8	20	7.7	59
GLASGOW	2277	938.7	1014.2	52	28	39.7	- 4.7	76	18	18	16	0	23	22	55	0.55	-0.45	0.37	7	0	1.3	T						3	7	20	7.8	
GREAT FALLS	3662	886.2	1014.4	51	30	40.3	- 4.0	65	3	14	10	0	20	25	58	0.96	0.01	0.21	13	1	6.1	2	11.9	SW	47	W	3	3	6	21	8.0	59
HAVRE U	2583	924.5	1014.9	53	26	39.4	- 5.7	70	17	12	6	0	23			1.32	0.42	0.45	9	0	1.4	1	10.0	SW#	40	W	3	4	7	19	7.4	55
HELENA	3893	871.3	1015.1	51	30	40.6	- 2.6	64	17+	18	6	0	18	25	56	0.90	0.02	0.30	10	1	8.3	4	10.8	WNW	45	W	3	0	11	19	8.0	49
KALISPELL	2965	909.9	1014.2	50	31	40.5	- 3.2	62	17	21	26	0	21			2.01	0.99	0.68	13	2	8.1	3	7.4					2	6	22	8.2	
MILES CITY	2629	928.9	1014.1	54	30	42.1	- 3.9	81	18	17	15+	0	19	24	54	0.97	-0.11	0.64	8	0	T	T	11.4	NW	40*	NW	4	5	8	17	7.1	
MISSOULA	3200	901.1	1016.7	53	31	42.2	- 2.5	68	29	20	6	0	19	30	66	1.52	0.62	0.49	16	0	4.7	3	7.5	NW	31	W	13	1	5	24	8.7	37
NEBRASKA																																
GRAND ISLAND	1842	946.5	1013.3	59	34	46.3	- 4.6	82	23+	17	7	0	16	28	55	1.79	-0.43	0.70	6	0	4.7	4	15.7	NNW				10	9	11	5.3	
LINCOLN U	1150			60	37	48.1	- 4.5	85	23+	26	16+	0	12			1.67	-0.62	0.93	4	1	0.8	1	12.4	NW#	49	SE	13	6	14	10	6.2	72
NORFOLK	1544	956.7	1012.9	56	33	44.4	- 3.9	80	23	18	7	0	16	27	54	1.78	-0.50	0.82	8	0	1.9	1						7	10	13	6.5	
NORTH PLATTE	2779	912.6	1012.7	56	29	42.8	- 5.9	86	19	14	7	0	20	25	56	2.49	0.43	1.20	9	1	13.0	5	15.2	NNW	54	NW	2	8	7	15	6.1	64
OMAHA	978	972.6	1013.3	58	37	47.5	- 4.7	87	20	25	2	0	7	31	57	1.64	-0.51	1.01	8	2	1.3	T	14.7	NW	50	NW	15	4	15	11	6.5	59
OMAHA N OMAHA AP	1323	964.4		57	35	45.8	- 4.2	86	20	22	1	0	16			1.81	-0.34	1.24	8	2	0.8	1						4	10	16	7.1	
SCOTTSBLUFF	3950	875.7	1012.9	56	29	42.7	- 3.4	83	19	15	15	0	19	27	58	0.92	-1.07	0.31	9	0	7.0	4	14.6	WNW	52*	W	23	2	9	19	7.5	
VALENTINE	2587	921.4		55	27	40.9	- 5.6	89	19	10	7	0	22		59	0.55	-1.42	0.27	6	0	1.0	1	13.1	N#	55	N	4	7	9	14	6.0	63
NEVADA																																
ELKO	5075	843.2	1015.0	60	25	42.4	- 2.2	77	3	14	5	0	27	18	40	0.14	-0.79	0.11	4	0	0.7	T	6.7	W	30*	NW	12	5	15	10	6.5	
ELY	6257	806.6	1013.7	57	25	41.4	- 2.3	75	3	11	23	0	28	19	45	0.80	-0.40	0.47	8	2	7.3	4	11.3	S	45	S	22	7	12	11	5.9	88
LAS VEGAS	2162	944.1	1010.8	80	50	65.1	- 0.5	94	4	42	9	5	0	20	20	0.02	-0.22	0.02	1	2	0.0	0	11.4	SSW	44*	NW	10	17	9	4	3.2	90
RENO	4404	861.5	1015.8	66	28	47.0	- 0.7	86	3	19	20	0	22	24	43	0.27	-0.19	0.12	3	0	0.6	T	7.2	S	40	SE	18	10	12	8	4.9	85
WINNEMUCCA	4299	867.9	1016.6	63	26	44.7	- 2.1	80	3	13	20	0	24	20	39	0.12	-0.71	0.09	3	1	1.1	1	8.5	W	43	W	12	6	9	15	6.3	65
NEW HAMPSHIRE																																
CONCORD	339	997.2	1008.3	52	33	42.6	- 0.4	71	21	21	20	0	15	29	65	3.35	0.27	0.81	11	1	3.9	2	8.1	NW	26	W	2	5	8	17	7.3	41
MT WASHINGTON OBS	6262	794.2		26	15	20.4	- 1.6	37	22	6	19+	0	30		91	10.69	4.82	2.35	25	0	59.6	16	30.0	W	128Y	W	26	7	0	23	8.0	24
NEW JERSEY																																
ATLANTIC CITY	58	1007.6	1009.9	58	40	49.1	- 1.0	87	25	30	9+	0	4	35	62	3.12	-0.21	1.68	11	2	0.0	0	15.0	WNW	46*	ENE	13	5	13	12	6.4	62
ATLANTIC CITY U	30			54	39	46.8	- 2.6	82	25	30	4	0	3			2.86	-0.54	1.64	9				16.1		46*	E	13					
NEWARK	11	1008.1	1009.4	57	41	48.6	- 1.4	82	25	33	9+	0	0	34	59	5.28	2.01	1.10	14	6	T	T	12.3	WNW	35*	NE	26+	3	12	15	6.7	
TRENTON U	56	1001.7		57	40	48.6	- 2.1	85	25	32	9+	0	3			4.71	1.71	1.71	14	4	T	T	11.6	NW	40	NE	13	3	13	14	6.5	58

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW MEXICO																																
ALBUQUERQUE	5310	844.9	1009.8	70	39	54.5	- 1.0	85	30	26	15	0	4	21	32	0.73	0.20	0.68	3	2	T	0	9.4	N	45	W	14	17	8	5	3.6	82
CLAYTON	4969	841.2	1009.8	66	33	49.2	- 1.8	83	30+	20	15	0	14			0.89	-0.24	0.74	3	0	2.3	1						13	8	9	4.6	
RATON	6379	801.9	1010.8	62	28	45.1	- 1.8	79	30	14	9	0	24			0.74	-0.34	0.48	5	0	7.1	2						13	9	8	4.5	
ROSWELL	3612	889.3	1009.5	79	37	58.0	- 1.7	94	30+	22	9	8	6	25	36	0.02	-0.73	0.02	2	0	0.0	0	10.4		45	W	11	16	8	6	3.6	
SILVER CITY	5373	831.4	1009.8	74	39	56.5		84	30+	30	9	0	3			0.01		0.01	1	0	0.0	0						23	5	2	2.0	
NEW YORK																																
ALBANY	277	1005.1	1008.8	52	36	43.9	- 1.2	68	21	22	9	0	10	33	68	3.09	0.48	0.89	18	0	6.2	1	10.3	WNW	36	NW	26	3	5	22	8.1	37
BINGHAMTON	1590	948.8	1008.5	46	33	39.8	- 2.8	65	22	24	9	0	19	33	78	4.68	1.44	1.77	18	1	13.2	5	11.3	WNW	40	E	16	1	5	24	8.5	37
BUFFALO	693	981.5	1010.4	47	33	39.8	- 4.0	65	15	23	9	0	18	32	78	5.90	3.35	1.25	22	1	13.1	2	10.6	WSW	38	SW	2	2	3	25	8.6	26
NEW YORK	19	1007.6	1009.2	55	42	48.6	- 1.5	80	25	35	9+	0	0	35	63	7.36	4.26	2.23	14	4	0.6	0	14.6	WNW	59	NE	13	4	15	11	6.5	
NEW YORK U	10	999.1		56	42	49.0	- 1.5	82	25	34	3+	0	0	32	57	5.08	1.73	1.25	13	2	T	0	11.2	NW	45	NE	13	8	12	10	6.1	50
ROCHESTER	543	990.7	1010.2	50	34	41.7	- 2.8	66	21	23	9	0	11	34	77	4.07	1.43	0.85	16	4	5.4	1	13.1	WSW	55	W	26	3	5	22	8.0	37
SCHENECTADY	217			52	37	44.5	- 0.6	71	21	28	20	0	4			3.91	0.86	1.12	13		3.6	1						10	11	9	5.2	
SYRACUSE	424	987.3	1009.6	51	35	42.9	- 3.1	71	21	25	9	0	10	33	71	3.74	0.62	0.82	20	2	8.4	2	12.4	WNW	42	W	26+	3	5	22	8.2	26
NORTH CAROLINA																																
ASHEVILLE U	2203	933.3		60	40	50.4	- 5.1	86	24	30	8+	0	3	57		2.98	0.12	1.52	10	3	T	0	11.0		33	NW	2	9	6	15	6.2	49
CAPE HATTERAS R	7	1011.1	1011.9	64	49	56.4	- 3.2	75	16	37	20	0	0	45	66	3.20	0.12	0.98	9	4	0.0	0	16.5	WSW	61	SSW	10	12	8	10	5.1	67
CHARLOTTE	725	984.7	1013.1	64	42	53.0	- 6.7	83	24	28	11	0	6	39	61	4.05	0.88	1.70	8	4	0.0	0	9.7	SW	37	SW	28	12	7	11	5.4	63
GREENSBORO	891	981.0	1013.2	63	40	51.8	- 5.3	87	24	29	5	0	3	37	61	3.95	0.60	1.26	10	5	T	T	10.1	SW	32	NW	28+	10	8	12	5.7	65
RALEIGH	433	999.2	1012.6	66	41	53.6	- 4.9	87	24	31	3	0	3	38	58	2.23	-1.30	0.54	8	2	0.0	0	10.4	SSW	40*	SE	9	10	10	10	5.5	72
WILMINGTON	30	1010.0	1013.1	6[illegible]	47	57.9	- 4.3	91	24	35	21	1	0	45	66	8.21	5.50	3.52	11	5	0.0	0	12.9	WSW	48	SW	12	14	6	10	4.8	73
WINSTON SALEM	967	977.1	1012.7	63	43	53.1	- 4.4	86	24	33	8	0	0	34	52	3.80	0.40	1.35	8	3	T	0	12.6	NW	42*	W	16	11	5	14	5.5	
NORTH DAKOTA																																
BISMARCK	1647	952.9	1014.6	52	29	40.3	- 2.8	86	19	14	1	0	21	23	55	1.70	0.31	0.76	8	0	6.5	3	14.9	NW	44	E	23	7	9	14	6.5	75
DEVILS LAKE U	1471	959.4		46	26	35.7	- 4.3	72	19	7	1	0	24		62	1.27	-0.17	0.47	8	0	5.4	3	11.3	N#	33	NW	26	5	10	15	6.9	62
FARGO	900	979.3	1014.7	48	27	37.8	- 4.3	72	19	12	1	0	23	26	67	2.27	0.39	0.84	9	0	2.8	1	19.1	N	53	N	16	3	13	14	7.1	49
WILLISTON U	1877	945.5	1014.6	49	28	38.7	- 4.2	70	18	14	16+	0	21	24	59	2.39	1.32	1.30	10	1	11.4	3	8.6	NW#	29	E	23+	7	7	16	6.7	61
OHIO																																
AKRON	1210	972.4	1011.0	51	35	42.7	- 4.4	75	24	24	2	0	13	36	79	5.07	1.87	0.84	20	6	15.8	4	12.7	NW				1	8	21	8.4	
CINCINNATI ORS	761			57	40	48.5	- 5.1	81	24	23	2	0	7			3.48	-0.16	0.93	15	3	1.5	1	8.4	W	38	SW	25					48
CINCINNATI	869	979.6	1012.0	57	40	48.4	- 3.7	81	24	23	2	0	5	36	65	2.81	-0.78	0.91	15	2	1.4	1	12.3	WNW	43	SW	16	0	7	23	8.6	
CLEVELAND	787	982.1	1013.4	[illegible]	35	43.4	- 3.4	77	24	24	3	0	12	35	76	6.61	3.88	2.24	17	5	5.1	1	12.1	WNW	34	S	16	1	[illegible]	22	8.3	41
COLUMBUS	815	975.1	1011.6	55	39	47.1	- 3.1	80	24	24	3	0	5	37	70	4.58	1.14	1.19	15	5	[illegible]	T	10.8	WNW	40	NW	28	0	7	23	8.4	41
COLUMBUS U	724			54	39	46.8	- 4.6	78	24	25	2	0	5			4.64	1.45	1.17	15	6	4.1	1										
DAYTON	1000	974.7	1011.4	54	37	45.6	- 4.9	78	24	21	2	0	8	36	72	5.15	2.08	1.58	15	5	[illegible]	T	13.4	WNW	52	W	28	1	7	22	8.6	35
MANSFIELD	1246			51	35	42.6		75	24	22	2	0	15			5.21		0.99	17	6	5.6	[illegible]						0	8	22	8.5	
SANDUSKY	6[illegible]	987.9		52	37	44.7	- 3.2	78	24	26	2	0	7			7.19	4.23	2.05	16	7	5.2	4	13.1		56	SW	16	3	10	17	7.1	44
TOLEDO	676	985.0	1010.9	52	32	41.6	- 4.4	74	24	21	8+	0	19	34	77	4.94	1.69	1.43	16	7	7.6	[illegible]	11.0	NW	28	W	28+	0	10	20	8.5	40
YOUNGSTOWN	1178	967.4	1010.6	50	34	42.1	- 5.1	74	24	20	2	0	15	35	78	4.99	1.35	0.96	20	5	[illegible]	[illegible]	10.7	NW	41*	SW	15	1	4	25	8.9	
OKLAHOMA																																
OKLAHOMA CITY	1285	969.2	1012.7	7[illegible]	47	59.2	- 1.1	91	20	31	10	1	1	42	57	0.73	-2.44	0.41	6	3	T	0	16.0	SSE	47	W	11	13	8	9	4.9	67
TULSA	672	988.2	1012.6	6[illegible]	47	57.6	- 3.1	86	24	33	13	0	0	43	61	1.49	-2.76	0.71	6	4	0.0	0	13.0	SSE	57	NW	30	12	6	12	5.3	53
OREGON																																
ASTORIA	8	1019.3	1019.8	54	41	47.5	- 2.2	62	28+	32	7+	0	3	42	81	5.47	0.32	1.22	20	0	0.0	0	9.4	NNW	30*	NW	13	2	2	26	8.9	
BURNS U	4161	977.3	1016.4	56	30	44.2	- 2.4	74	16	18	23	0	20	25	49	0.21	-0.61	0.11	3	0	0.0	0						5	7	18	6.8	
EUGENE	361	1006.1	1019.8	61	34	50.2	- 0.7	75	2	32	23	0	1			1.48	-1.06	0.63	10	0	0.0	0	13.0		29*	N	4	5	7	18	7.2	
MEACHAM	4500			47	31	39.4	- 1.7	65	16	21	4	0	20			2.85	0.12	0.69	20	0	7.3	3						3	6	21	8.0	
MEDFORD	1298	970.9	1019.1	66	36	51.1	- 1.2	78	16+	29	19	0	10	37	64	0.96	-0.23	0.68	8	0	3.2	T	5.2	WNW	20*	NNW	3	8	7	15	6.4	
PENDLETON	1492	963.1	1017.2	61	40	50.2	- 2.1	75	16	29	5+	0	6	34	56	1.30	0.26	0.36	14	0	T	T	11.4	W	43*	W	13	6	6	18	7.2	
PORTLAND	21	1013.9	1019.6	57	42	50.1	- 1.2	71	28	33	22	0	0	41	73	3.59	1.48	0.95	18	1	T	T	7.7	NW	26	S	29	4	2	24	8.3	41
ROSEBURG	505	1000.7	1019.6	64	39	51.6	0.1	78	2	30	19	0	4			0.90	-1.23	0.27	10	0	T	0	5.3	N#	24	NE	5	5	8	17	6.8	66
SALEM	195	1012.6	1019.6	59	39	49.1	- 2.3	70	2+	30	7+	0	5	41	75	3.19	0.80	0.82	15	0	T	0	7.2	S	21*	S	20+	4	5	21	7.8	
SEXTON SUMMIT R	3845	904.5	1018.6	50	32	42.1	- 2.2	69	16	21	19	0	16			1.76	-0.32	0.64	6	0	9.[illegible]	5	11.4	N				8	4	18	6.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

APRIL 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90° F. or above	Temperature: No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: 01 inch or more	Precipitation: No of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear, 0.3	No of days (sunrise to sunset): Partly cloudy, 4.7	No of days (sunrise to sunset): Cloudy, 8.10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In	M.p.h.		M.p.h							%
PACIFIC AREA																																
CANTON ISLAND	8	1008.5	1008.9	90	79	84.4	0.7	92	25	76	15	20	0	75	78	0.92	-2.86	0.23	11	0	0.0	0	13.3	ENE	26*	ENE	13	1	13	16	7.5	
ENIWETOK	13	1009.5	1010.2	87	79	82.7		88	26+	75	27+	0	0	74	76	1.21		0.37	14	0	0.0	0	20.2									
JOHNSTON	7	1012.9	1013.5	83	74	78.4		85	30+	70	25+	0	0	70	77	3.17		1.82	18	0	0.0	0	11.8		33	NE	2	2	13	15	7.2	61
KOROR R	94	1006.4	1010.2	88	76	82.1	0.6	91	18	75	30+	4	0	76	83	6.72	-2.06	1.38	18	2	0.0	0	6.9	ENE	21	NE	27	0	1	29	9.8	77
KWAJALEIN	8	1009.5	1010.4	87	78	82.1		89	9	74	21+	0	0	75	79	4.85		1.82	18	0	0.0	0	18.0	ENE	31*	ENE	23	0	6	24	8.7	
MAJURO	10	1009.8	1010.1	86	78	81.7		87	24+	74	8	0	0	75	81	8.50		2.86	20	1	0.0	0	12.8	ENE	32	E	10	0	2	28	9.4	
PONAPE R	123	1004.1	1009.4	87	76	81.6	0.1	90	15	73	13+	1	0	76	83	11.59	-7.41	2.67	25	2	0.0	0	6.2	NE	20	E	1	0	2	28	9.5	51
TAGUAC GUAM R	361			86	73	79.5	0.4	88	25+	65	21	0	0			4.28	1.91	1.35	21	0	0.0	0	8.1	E#	26	E	28					65
TRUK MOEN ISLAND	5	1009.1	1009.4	87	77	82.0	0.8	88	30+	74	16	0	0	76	83	11.28	-0.24	2.45	23	1	0.0	0	6.9	NNE	26	SE	2	0	7	23	8.7	76
WAKE ISLAND	11	1015.9	1016.3	82	73	77.4	- 0.9	85	3	68	19	0	0	68	73	1.09	-0.85	0.80	11	0	0.0	0	20.4	ENE	31*	ENE	11+	5	18	7	5.8	
YAP R	55	1008.1	1010.1	87	77	82.1	- 0.2	88	28+	73	13	0	0	76	81	4.75	-1.00	1.63	18	0	0.0	0	6.7	NE	26	NE	5	0	0	30	9.9	65
PENNSYLVANIA																																
ALLENTOWN	376	995.5	1010.0	56	36	45.9	- 2.6	79	24	24	9	0	13	34	67	4.36	0.97	1.49	13	3	2.9	1	14.2	W	51*	W	26	3	10	17	6.9	
ERIE	732	983.5	1010.1	49	35	42.0	- 2.3	70	24	26	2	0	12	35	79	7.11	3.61	2.42	17	2	8.9	5	12.4	WSW	40*	SSW	16+	1	6	23	8.5	
HARRISBURG	335	996.3	1010.3	57	39	48.1	- 2.8	82	24	30	9	0	3	32	58	4.56	1.59	1.49	14	3	2.5	1	11.5	WNW	32	W	26	2	11	17	7.4	63
PHILADELPHIA	7	1004.9	1009.4	59	40	49.8	- 1.8	84	25	32	4	0	1	35	60	4.82	1.44	2.03	14	3	T	0	11.9	NW	39	E	13	4	11	15	6.8	52
PHILADELPHIA U	35			59	43	51.0	- 1.7	86	25	35	4+	0	0																			
PITTSBURGH	1151	980.4	1011.2	53	35	44.0	- 4.8	77	24	24	3	0	15	34	69	5.21	2.02	1.05	20	5	5.9	1	11.4	WNW	35*	SW	16	1	7	22	8.5	33
PITTSBURGH U	749			54	39	46.6	- 5.2	78	24	28	2	0	2			5.50	2.42	1.41	21		2.8											25
READING U	266	998.0		58	40	48.8	- 2.5	83	24	30	4	0	3			4.75	1.51	1.40	13	3	0.8	1	15.0		57	N	16	4	10	16	7.0	53
SCRANTON	940	975.0	1009.9	50	34	42.0	- 5.0	76	24	21	9	0	17	32	71	2.48	-0.77	0.76	15	5	8.4	3	10.6	NW	35	E	16	3	7	20	7.9	40
WILLIAMSPORT	527	990.7		54	37	45.4	- 3.7	75	24	25	9	0	9			5.46	1.92	1.70	16		7.9	3						2	5	23	8.1	
RHODE ISLAND																																
BLOCK ISLAND	110	1005.2		50	37	43.6	- 1.3	67	25	31	5	0	3			6.24	2.87	1.48	11	3	T	0						6	11	13	6.5	
PROVIDENCE	55	1001.8	1008.1	54	37	45.4	- 0.6	75	26	30	20	0	7	32	65	7.32	3.95	2.12	11	4	0.3	T	13.6	NNW	40	SW	2	5	9	16	6.8	47
SOUTH CAROLINA																																
CHARLESTON	41	1012.1	1014.2	71	48	59.7	- 4.6	88	25	37	5	0	0	47	66	5.78	2.96	2.27	10	5	0.0	0	11.3	WSW	51	S	9	16	7	7	4.3	
CHARLESTON U	9			69	53	61.0	- 4.6	83	25+	44	8	0	0			5.13	2.68	1.87	11		0.0	0	13.0		49	SE	9					
COLUMBIA	217	1000.9	1013.8	71	46	58.6	- 4.9	89	24	34	5	0	0	42	58	5.52	1.98	2.25	11	5	0.0	0	10.8	SW	40*	W	17	16	4	10	4.5	71
FLORENCE	146	1007.1	1012.9	70	46	58.1	- 5.3	88	25+	36	8	0	0	43	60	5.59	1.92	1.62	10	5	0.0	0	9.8	SW	30*	SW	17	14	8	8	4.6	
GREENVILLE	1018	976.0	1013.4	69	44	56.4	- 3.8	87	26	33	8	0	0	37	54	4.84	1.02	1.69	10	4	0.0	0	10.0	WSW	37	SW	17	12	7	11	5.2	69
SPARTANBURG	801	983.1	1013.0	66	44	55.2	- 5.3	84	26+	34	14+	0	0	38	57	4.91	1.36	2.28	8	3	0.0	0	8.8	SW	30*	SW	17	12	6	12	5.2	
SOUTH DAKOTA																																
HURON	1282	966.1	1014.2	54	25	39.6	- 6.8	84	19	6	12	0	24	26	62	0.46	-1.46	0.15	8	2	1.2	T	14.9	NW	47	NW	20	6	8	16	6.8	69
RAPID CITY	3165	898.4	1014.2	55	29	41.8	- 2.7	85	19	16	7	0	20	22	53	1.53	-0.48	0.52	13	1	5.2	3	12.4	NNW	49	NW	4	4	13	13	6.8	60
SIOUX FALLS	1420	961.1	1013.3	53	30	41.9	- 4.5	81	19	17	1	0	18	26	57	1.04	-1.31	0.38	5	2	T	T	14.1	NW	40*	NW	20	4	14	12	6.6	
TENNESSEE																																
BRISTOL	1519	958.2	1012.9	61	41	51.1	- 4.9	83	24	29	8	0	4	36	61	2.72	-0.53	0.89	13	4	0.2	0	10.4	WSW	40*	SW	16	6	6	18	7.3	
CHATTANOOGA	670	986.2	1014.1	69	45	56.7	- 3.0	85	23	30	7	0	1	40	58	3.01	-1.52	1.32	11	3	0.0	0	10.6	S	45	W	28	8	9	13	6.1	58
KNOXVILLE	950	978.1	1013.9	63	43	52.7	- 6.3	79	24+	31	7	0	2	39	64	2.50	-1.14	0.72	12	6	T	0	11.6	SW	47	SW	17	7	8	15	6.9	57
MEMPHIS	263	999.0	1014.1	69	48	58.2	- 3.6	82	30+	34	7	0	0	43	60	4.65	-0.15	2.15	9	4	0.0	0	11.9	SSW	35	NW	15	12	7	11	5.1	70
MEMPHIS U	271			67	50	58.4	- 3.8	81	30+	38	15	0	0			3.96	-0.74	1.97	10		0.0	0										
NASHVILLE	577	993.1	1013.3	66	43	54.5	- 5.2	84	23	30	11	0	2	40	61	4.50	0.81	1.41	13	6	0.0	0	9.5	NW	40	W	16	7	10	13	6.2	58
OAK RIDGE	905	980.1		64	43	53.9	- 3.7	81	24+	29	11	0	4			3.61	-0.47	1.33	11	6	0.0	0	6.3					8	6	16	6.6	
TEXAS																																
ABILENE	1759	950.9	1011.5	80	51	65.4	0.9	96	24	34	1	5	0	41	46	T	-2.47	T	0	1	0.0	0	13.9	SSE	43	SW	11	18	6	6	3.5	85
AMARILLO	3590	885.2	1010.4	72	40	56.2	0.6	91	19	26	9	4	5	31	47	0.24	-1.21	0.13	5	0	0.3	T	15.2	SW	43	NE	14	15	9	6	3.8	80
AUSTIN	615	991.2	1013.3	80	55	67.5	- 0.4	94	14	37	16	3	0	50	60	0.10	-3.86	0.05	3	2	0.0	0	12.1	SSE	31	S	21+	12	6	12	4.8	65
BROWNSVILLE	16	1010.8	1013.5	81	64	72.4	- 1.3	90	25	51	16	1	0	62	73	2.68	1.09	2.08	3	3	0.0	0	14.2	SSE	44	SE	30	6	12	12	5.9	57
CORPUS CHRISTI	43	1012.5	1013.9	79	61	70.1	- 1.6	89	14	45	2+	0	0	59	71	3.78	2.04	3.33	5	3	0.0	0	13.4	SE	42	S	30	9	8	13	6.1	63
DALLAS	481	994.6	1013.4	76	53	64.8	- 1.5	87	24+	37	1	0	0	47	56	1.66	-2.21	1.23	5	5	0.0	0	14.6	S	58	N	30	16	6	8	4.2	70
DEL RIO U	957			84	58	71.1	0.0	97	27	42	16	8	0			1.30	-0.15	1.29	2	3	0.0	0										
EL PASO	3918	883.2	1009.9	80	49	64.1	1.0	91	30	35	9	2	0	17	19	0.01	-0.26	0.01	1	0	0.0	0	14.9	WSW	57	NW	8	21	6	3	2.6	96
FORT WORTH	544	992.6	1013.5	76	52	64.0	- 1.9	89	27	36	16	0	0	47	57	2.23	-1.62	1.55	4	5	0.0	0	16.0	S	37*	N	30	16	4	10	4.2	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
TEXAS																																
GALVESTON U	7			71	62	66.4	- 2.5	82	3	49	6+	0	0			2.25	-0.84	1.62	5		0.0	0	14.4		57	NW	9					73
GALVESTON	5	1012.9	1015.3	72	61	66.4	- 2.7	82	3	49	16	0	0	55	68	3.24	-0.16	2.02	6	4	0.0	0	12.8	SE				10	12	8	5.2	
HOUSTON U	41			74	59	66.5	- 3.0	85	27	45	1	0	0			4.67	1.27	2.78	5		0.0	0										
HOUSTON	50	1012.2	1015.1	78	58	68.0	- 0.4	88	27	39	16	0	0	57	72	2.42	-0.67	1.29	6	3	0.0	0	10.6	SSE				10	6	14	5.7	
LAREDO	500	996.6	1012.1	88	62	74.7	- 1.2	98	22	48	16	16	0	53	55	1.37	-0.24	0.95	3	3	0.0	0	13.5	SE	37*	NNW	15	9	12	9	5.1	
LUBBOCK	3243	900.1	1011.1	77	44	60.3	0.8	93	30	30	12+	6	3	33	42	0.10	-1.01	0.10	1	0	T	T	17.9	S	50*	N	14	18	7	5	3.4	
MIDLAND	2854	912.3	1010.3	81	48	64.4	- 0.1	95	2	33	9	9	0	34	39	0.02	-1.39	0.02	1	0	0.0	0	12.8	S	44*	NW	11	17	8	5	3.5	
PORT ARTHUR	16	1013.2	1014.9	76	55	65.4	- 2.5	88	28	37	16	0	0	55	73	2.79	-1.15	1.74	6	4	0.0	0	12.0	S	56	NW	11	12	4	14	5.3	51
SAN ANGELO	1903	944.8	1011.6	84	51	67.1	- 0.3	100	24	33	1	10	0	41	43	0.29	-1.90	0.27	3	2	0.0	0	16.0	S	51*	NW	11	17	7	6	3.5	
SAN ANTONIO	792	988.5	1013.5	81	56	68.5	- 0.3	95	14	35	16	4	0	52	63	0.32	-2.70	0.30	2	2	0.0	0	11.4	SSE	41	NW	15	13	6	11	4.8	68
VICTORIA	110	1008.8	1013.9	78	58	68.0	- 2.6	91	27	42	16	1	0	56	68	2.37	-0.07	1.33	5	2	0.0	0	14.5	SSE	53Y	NNW	12	10	7	13	5.7	
WACO	500	992.2	1013.4	79	54	66.1	- 0.7	91	27	34	16	2	0	49	60	1.05	-2.92	0.88	4	2	0.0	0	17.2	S	52*	SSW	8	13	7	10	4.4	
WICHITA FALLS	994	975.3	1012.0	76	48	62.1	- 0.5	94	20	33	16	2	0	44	55	1.71	-0.64	1.53	3	1	0.0	0	14.7	S	46*	NNE	30	17	5	8	3.9	
UTAH																																
MILFORD	5028	841.9	1013.5	63	31	46.8	- 1.0	79	3	19	6	0	22			1.21	0.45	0.53	7	1	3.8	2						8	15	7	5.4	
SALT LAKE CITY	4220	865.9	1013.7	63	37	50.1	0.0	81	29	24	6	0	6	28	46	0.95	-0.81	0.45	9	0	0.8	1	10.8	SSE	47	SW	22	5	13	12	6.2	55
WENDOVER	4237	868.6	1012.2	63	40	51.6		80	3	31	23	0	4			0.08		0.08	2	0	T	T						10	12	8	5.3	
VERMONT																																
BURLINGTON	331	993.7	1008.6	47	30	38.5	- 3.8	67	21	21	20	0	23	30	76	3.96	1.33	0.92	16	1	7.0	2	7.6	N	28	S	16	3	4	23	8.5	30
VIRGINIA																																
LYNCHBURG	947	986.7		60	41	50.8	- 4.7	84	25+	32	5	0	1			2.72	-0.41	1.34	11	2	T	0	10.5		43	S	16	9	8	13	6.3	57
NORFOLK	26	1010.6	1011.9	65	46	55.5	- 0.8	89	25	31	3	0	1	39	57	2.74	-0.42	1.05	11	4	0.0	0	13.1	SW	42	SE	10	8	13	9	5.4	68
RICHMOND	162	1005.7	1012.0	65	41	53.0	- 3.1	91	25	28	3	1	5	36	55	1.73	-1.50	0.65	11	3	0.0	0	9.7	WSW	33	NW	28	7	12	11	6.3	53
ROANOKE	1174	969.4	1012.0	60	42	51.0	- 4.5	86	24	31	20	0	1	33	55	3.86	0.91	1.33	12	2	T	0	13.0	SW				9	4	17	6.6	
WASHINGTON																																
OLYMPIA	190	1012.2	1019.3	56	38	47.0	- 1.4	67	7	26	5	0	10	40	78	3.29	0.95	0.85	18	1	T	0	7.9	WSW	25*	SW	16	3	3	24	8.5	
SEATTLE TACOMA	400	1005.1	1019.4	54	40	47.0	- 2.1	64	28+	30	20	0	1	39	76	2.35	0.23	0.43	17	0	0.0	0	8.6	SW	28*	SW	13	1	5	24	8.4	
SEATTLE	14	1017.7	1019.8											41	74								7.9	S								
SEATTLE U	14			56	45	50.3	- 1.5	66	16+	34	20	0	0			2.01	0.07	0.45	19		0.0	0			38	SW	21+					30
SPOKANE	2357	946.2	1015.7	56	35	45.1	- 1.2	70	29	25	14+	0	12	31	62	0.96	-0.03	0.54	10	1	0.1	T	10.4	SSW	42	SW	12	2	6	22	8.0	42
STAMPEDE PASS R	3958	878.8	1019.1	39	29	33.9	- 3.2	50	16	19	20	0	24			9.87	4.37	2.37	24	0	51.0	110						3	1	26	8.9	
TATOOSH ISLAND	101	1015.6	1018.8	50	41	45.5	- 2.0	55	30+	33	18	0	0	41	81	5.80	0.57	1.19	18	0	T	0	13.9	W	49	S	16+	2	3	25	8.4	33
WALLA WALLA U	949	980.4	1016.3	61	43	52.0	- 1.9	75	16	33	5+	0	0			1.36	0.12	0.72	9	2	T	0	7.2	SE#	35	W	13	4	6	20	7.6	50
YAKIMA	1061	977.7	1016.9	63	37	49.7	- 1.7	74	27	25	19	0	7	32	53	0.86	0.43	0.58	4	2	T	0	9.7	WNW	46*	NW	13	6	7	17	6.8	
WEST INDIES																																
SAN JUAN P.R. U	47			85	72	78.4	1.8	92	20	69	18	5	0			2.43	-1.37	0.50	13	2	0.0	0										
SAN JUAN P.R.	15	1013.0	1015.9	87	70	78.4	2.2	92	5	66	19+	7	0	69	76	2.82	-1.09	1.17	15	1	0.0	0	6.1	ENE	23*	E	29+	4	17	9	5.9	58
SWAN ISLAND	31	1011.3		87	78	82.3	1.3	89	19	73	23	0	0			0.57	-0.53	0.25	5		0.0	0						13	12	5	4.4	
WEST VIRGINIA																																
CHARLESTON	950	976.4	1012.1	59	41	49.7	- 5.3	85	24	27	3	0	4	35	60	3.22	-0.52	0.59	16	4	0.5	T	9.4	WSW	32*	NW	28+	3	3	24	8.1	
HUNTINGTON U	567			60	41	50.4	- 6.9	89	24	29	3	0	5			4.08	0.66	0.85	14		T	T										
PARKERSBURG U	615			57	40	48.2	- 5.6	85	24	27	3+	0	4			5.40	2.32	1.65	16	3	1.4	1	8.0		36	W	28					30
WISCONSIN																																
GREEN BAY	689	988.5	1011.8	50	33	41.4	- 0.4	67	22+	22	2	0	13	29	65	1.67	-0.84	0.53	11	2	1.5	1	12.0	NW	37	NE	16	3	10	17	7.4	42
LA CROSSE	652	987.1	1012.2	51	33	41.8	- 4.8	67	22	20	2	0	14	30	68	1.33	-0.98	0.42	12	1	4.2	3	11.4	NW	35*	NW	16	5	8	17	7.3	
MADISON	858	975.6	1011.5	50	31	40.6	- 5.1	66	22	20	2	0	19	31	71	1.33	-1.16	0.26	13	2	3.2	1	11.3	WNW	32	SE	20+	4	4	17	7.3	46
MILWAUKEE	670	988.5	1012.2	49	34	41.2	- 3.1	65	21	21	2	0	12	33	73	3.89	1.50	1.15	14	5	7.0	1	11.8	WNW	35	N	16	5	7	18	7.1	45
WYOMING																																
CASPER	5319	833.1	1011.9	53	24	41.0	- 2.0	73	19	17	8+	0	21	23	57	0.95	-0.97	0.54	12	1	4.1	1	13.8	WSW	46*	N	30+	3	7	20	7.7	
CHEYENNE	6131	807.3	1012.0	53	28	40.7	- 0.4	77	19	19	7	0	22	22	56	0.83	-1.31	0.27	12	0	7.4	1	16.2	WNW	55	NW	14	2	16	12	7.1	57
LANDER	5563	831.4	1012.0	55	28	41.8	- 0.3	74	29	17	5	0	23	20	48	0.85	-1.56	0.25	9	0	13.1	1	8.2	W#	65	W	23	7	12	11	6.2	75
SHERIDAN	3942	881.8	1014.6	52	29	40.8	- 2.7	77	18	19	7	0	21	28	63	1.20	-1.06	0.27	5	0	4.1	1	10.3	NW	49	NW	23	2	14	14	7.2	56

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

A Maximum hourly average.
\- And also on an earlier date or dates.
B Number of days maximum 70 F. or above for Alaskan Stations.
\# Wind direction to 8 compass points only.
Y Peak Gust.

CLIMATOLOGICAL DATA

METRIC UNITS

APRIL 1961

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days sunrise to sunset: Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb.	C	C.	C.	C	C		C.				C	%	Mm.	Mm	Mm			Mm	Mm	M p s		M p s							%
ALABAMA																																
BIRMINGHAM	186	989.7	1015.2	22.2	7.8	15.1	-1.5	28.9	23	0.6	7	0	0	6.7	62	110	- 8	41	8	3	0	0	5.0	SSW	19.2	W	15	10	11	9	5.0	70
HUNTSVILLE	184	991.1	1014.3	21.1	7.2	14.2		31.1	23	0.6	7	0	0	5.0	59	56		26	10	6	0	0	4.2	SE	12.1*	W	16+	10	10	10	5.3	
MOBILE	64	1013.9	1016.2	23.3	10.6	16.9	-2.3	30.0	28+	3.3	2	0	0	10.0	68	174	45	108	9	5	0	0	5.7	S	19.2*	NNW	3	13	8	9	4.8	
MONTGOMERY	59	1007.2	1015.7	22.8	8.9	15.7	-2.5	28.9	24	2.8	2	0	0	8.9	68	107	- 15	30	8	5	0	0	3.8	SW	16.5	W	17	13	5	12	4.8	71
ALASKA																																
ANCHORAGE	27	1007.1	1012.4	6.1	- 1.1	2.2	0.3	11.1	30+	- 6.7	20	0	20	- 4.4	63	35	25	10	6	0	163	102	3.4	N	13.4*	NNW	29	3	8	19	7.3	45
ANNETTE	34	1011.5	1015.4	10.0	3.9	6.8	0.9	17.2	28	- 1.7	3	0	3	2.2	77	188	- 18	44	15	0	T	0	4.0	SSE	13.9*	SSE	1	4	8	18	7.7	
BARROW	7	1023.7	1024.4	-17.8	-26.1	-21.9	-4.0	- 2.8	25	-33.3	8	0	30	-26.7	61	4	1	3	3	0	38	432	5.4	ENE	17.9*	WSW	23	17	7	6	3.8	
BARTER ISLAND	12	1021.3	1023.6	-18.9	-27.8	-23.3	-6.1	- 3.3	26	-36.1	3	0	30	-27.8	65	6	1	5	4	0	117	229	6.4	W	22.8*	E	1	15	6	9	4.4	
BETHEL	38	1013.2	1014.8	- 1.1	-11.1	- 6.2	-3.3	8.9	28	-21.7	20+	0	30	-27.2	83	33	19	9	16	0	259	254	5.6	WSW	14.3*	S	17	5	5	20	7.5	
COLD BAY	29	1012.5	1016.8	3.3	- 2.2	0.6	-0.6	8.3	30	-10.0	2	0	25	- 1.7	84	45	11	11	20	0	152	102	8.9	NW	23.2*	SSE	21	0	8	22	8.8	
CORDOVA	12	1010.2	1011.8	7.2	- 1.7	2.6	0.1	10.0	30	- 6.7	21+	0	24	- 1.1	79	106	- 23	23	16	0	419	152	2.2	E	8.0*	SE	15	7	5	18	7.1	
FAIRBANKS	133	997.0	1014.7	1.7	- 9.4	- 3.8	-2.1	15.6	24	-20.6	21+	0	29	- 8.3	69	9	2	4	10	0	178	305	3.3	NNE	9.4*	SW	12	6	5	19	7.3	
JUNEAU	5	1011.9	1012.7	7.8	1.1	4.4	0.2	16.1	29	- 4.4	13	0	11	1.1	81	100	24	14	19	0	160	25	4.3	ESE	14.3*	ESE	19	3	5	22	8.4	30
KING SALMON	13	1011.2	1013.5	3.9	- 5.0	- 0.7	-1.3	13.3	29	-13.9	20	0	27	- 3.9	79	63	41	23	14	0	257	127	4.7	W	13.0*	WNW	18	2	9	19	7.9	
KOTZEBUE	3	1015.6	1016.2	- 5.6	-17.2	-11.4	-1.3	3.3	30	-28.9	8	0	30	-14.4	76	21	12	7	14	0	378	559	5.9	ESE	17.9*	E	17	7	7	16	6.8	
MC GRATH	102	1001.7	1014.8	1.1	- 8.9	- 3.8	-0.4	8.3	30	-24.4	20	0	30	- 8.3	71	35	23	10	11	0	485	279	3.3	N	10.3*	WNW	12	6	4	20	7.5	
NOME	4	1013.2	1014.1	- 3.9	-11.7	- 7.8	-1.7	6.7	30	-23.9	16	0	30	-10.6	78	55	35	14	19	0	592	610	6.5	E	19.2*	ENE	8	3	8	19	7.5	43
ST. PAUL ISLAND	7	1013.2	1014.2	0.6	- 4.4	- 2.0	-0.9	3.9	23	-17.8	1	0	28	- 3.3	89	44	18	10	14	0	94	254						0	9	21	8.4	
SHEMYA	37	1008.1	1011.6	3.9	0.6	2.2		5.6	27+	- 2.2	3	0	9	0.6	89	43		10	20	0	119	76	8.7	WSW	21.5*	W	22	0	2	28	9.4	
YAKUTAT	9	1011.2	1012.3	7.2	- 0.6	3.3	0.8	13.3	30	- 4.4	22	0	18	0.6	84	185	- 18	49	18	0	582	152	2.9	ENE	11.2*	ESE	15	4	6	20	7.9	
ARIZONA																																
FLAGSTAFF	2131			15.6	- 2.2	6.7	1.1	23.3	4	-10.6	25	0	21			9	- 23	8	2	3	20	25						17	8	5	3.5	
PHOENIX	338	972.2	1011.1	30.0	11.1	20.7	1.2	36.7	4	5.6	25	8	0	- 1.7	23	T	- 9	T	0	0	0	0	3.4	W	14.3*	WSW	7	24	5	1	1.6	98
PRESCOTT	1528	844.9	1012.2	21.1	3.3	12.3	0.7	29.4	4	- 2.8	25	0	3	- 5.6	32	6	- 14	5	2	2	0	0	4.3	SSW	25.0	S	7	22	5	3	2.2	92
TUCSON	788	923.5	1010.8	27.8	10.0	19.0	0.7	34.4	30	6.1	25+	5	0	- 6.7	19	T	- 8	T	0	0	0	0	4.8	WNW	17.0	SW	7	22	5	3	1.9	97
WINSLOW	1487	849.3	1010.8	22.2	2.8	12.6	0.3	31.1	30	- 3.3	25+	0	8	- 6.7	32	5	- 8	3	3	3	5	0	5.5	SW	19.2*	SW	7	17	10	3	2.7	
YUMA	61	1006.8	1012.0	32.2	13.9	23.1	0.4	40.0	4	10.0	24	14	0	- 1.1	24	0	- 3	0	0	0	0	0	4.1	WNW	12.1	SE	4	29	1	0	0.7	99
ARKANSAS																																
FORT SMITH	137	996.6	1013.7	21.7	7.8	14.9	-2.1	30.6	19	- 1.1	13	0	1	6.7	61	35	- 79	14	9	3	0	0	4.2	SSW	15.2	NW	3	10	9	11	5.5	64
LITTLE ROCK	78	1000.7	1014.0	22.2	9.4	15.8	-1.2	31.1	25	2.2	16+	0	0	7.8	62	86	- 45	31	10	7	0	0	4.8	SSW	29.1	NW	25	12	4	14	5.5	55
TEXARKANA	110		1014.0	22.8	10.0	16.5	-1.8	30.6	25	2.2	16+	0	0	8.9	66	38	- 97	15	9	6	0	0	4.4	S								
CALIFORNIA																																
BAKERSFIELD	151	998.0	1016.3	25.0	10.6	17.8	0.6	32.2	3	4.4	24	1	0	6.7	50	1	- 18	1	1	0	0	0	3.1	NNW	13.9*	NNW	23+	18	9	3	2.9	
BISHOP	1252	872.3	1012.5	23.9	2.8	13.4	0.8	33.3	3	- 3.3	23+	1	8			T	- 6	T	0	0	T	0						14	13	3	3.8	
BLUE CANYON	1609	838.5	1015.2	12.8	3.3	7.9	0.7	22.8	3	- 6.1	22	0	9			104	- 14	47	7	2	612	533	4.1	ENE	17.0	ENE	4	8	11	11	5.6	
BURBANK	213	988.5	1015.1	23.3	10.6	17.0	1.2	36.1	3	6.7	23	2	0	7.2	59	12	- 19	9	3	0	0	0	3.0	SSE	11.2*	NNW	23	18	7	5	3.0	
EUREKA U	13	1017.6	1020.0	12.8	6.7	9.6	-0.8	17.2	30	2.2	21	0	0			89	15	44	6	0	0	0	3.7	N#	17.4	N	5	8	7	15	6.3	69
FRESNO	101	1003.7	1015.6	24.4	8.3	16.3	-0.1	32.8	3	2.8	24+	1	0	5.0	52	14	- 10	11	2	1	0	0	3.3	WNW	11.2	SW	21	18	10	2	2.9	93
LONG BEACH	10	1014.6	1015.7	22.8	10.0	16.3		33.9	3	6.7	23	1	0	8.3	64	1		1	2	0	0	0	3.5	WNW	14.3*	NW	23	17	9	4	3.3	
LOS ANGELES	30	1012.2	1015.7	19.4	11.1	15.3	0.2	25.0	3	8.3	27+	0	0	8.9	67	1	- 24	1	1	0	0	0	4.1	WSW	14.3*	W	23	19	6	5	3.0	
LOS ANGELES U	95			23.3	12.2	17.8	1.4	34.4	3	9.4	23	2	0	9.4	65	7	- 22	7	1	0	0	0	3.0	W#	12.5	NW	24+	16	10	4	3.4	82
MT SHASTA R	1080	893.0	1017.6	15.6	1.7	8.4	0.3	25.6	16	- 5.0	22+	0	11			47	- 31	33	5	0	234	102						12	11	7	4.8	
OAKLAND	1	1017.3	1017.6	19.4	8.3	14.0	0.9	28.9	3	4.4	24	0	0	7.2	69	24	- 13	12	5	0	0	0	4.9	WNW	14.8*	WNW	12	13	12	5	4.3	
POINT ARGUELLO	112	1002.7	1016.1	16.1	7.2	11.8		24.4	3	3.9	23+	0	0			5		5	1	0	0	0	4.2		13.0*	NW	19	13	11	6	4.4	
RED BLUFF	104	1002.7	1015.5	23.3	8.9	16.1	0.6	31.7	3	1.7	19	0	0	2.8	47	17	- 29	12	3	3	0	0	4.9	N	22.4	SE	21	11	10	9	5.0	89
SACRAMENTO	5	1015.2	1016.2	23.3	7.2	15.3	0.8	30.6	16	1.7	19	0	0	7.2	64	12	- 23	10	3	2	0	0	3.7	SW	15.6	SW	12	16	10	4	3.6	92
SANDBERG R	1377	862.2	1013.9	17.2	5.6	11.3	1.1	28.3	3	- 2.8	24	0	5			2	- 17	2	2	0	8	0	6.3	N	21.5*	N	13	24	3	3	2.3	
SAN DIEGO	4	1012.2	1015.4	21.1	12.2	16.6	0.8	27.8	15+	10.6	28+	0	0	9.4	66	T	- 21	T	0	0	0	0	3.4	WNW	11.2	S	4	18	8	4	3.4	75
SAN FRANCISCO	2	1016.9	1017.7	19.4	8.3	13.9	1.7	26.1	3+	5.6	22	0	0	7.8	71	32	- 1	21	4	0	0	0	4.7	WNW	14.8	S	21	19	7	4	3.5	
SAN FRANCISCO U	16			17.8	10.0	13.8	0.7	26.1	3+	7.2	22	0	0			20	- 18	13	4	0	0	0	4.0	W#	13.4	SE	21					86
SANTA MARIA	73	1008.1	1017.1	20.0	6.1	12.9	-0.3	33.3	3	0.6	20	1	0	7.2	71	6	- 24	6	2	0	0	0	4.1	WNW	13.9*	W	24	21	5	4	3.1	
COLORADO																																
ALAMOSA	2297	767.4	1012.1	13.3	- 3.9	4.8	-0.6	21.7	30	-10.0	15+	0	28			26	12	18	5	1	361	102						9	14	7	4.7	
COLORADO SPRINGS	1882	807.3	1013.6	14.4	- 1.7	6.4	-1.6	25.0	18	- 9.4	15	0	19	- 5.6	52	14	- 21	8	6	0	147	51	5.8	N	15.6*	NNW	11	6	16	8	5.7	
DENVER	1610	833.7	1012.1	15.6	0.0	7.8	-0.8	28.3	19	- 6.1	15	0	17	- 3.9	50	27	- 25	14	10	0	218	76	4.7	SSW	16.5	N	11	7	12	11	5.9	67
GRAND JUNCTION	1478	856.4	1012.1	16.7	3.3	10.2	-0.8	25.6	30	- 3.9	15	0	8	- 7.8	34	22	3	15	3	1	15	0	5.4	ESE	20.1	S	19	7	9	14	6.1	64
PUEBLO	1414	852.4	1010.9	18.9	0.6	9.7	-0.2	28.3	30+	- 7.8	9	0	15	- 4.4	44	2	- 29	1	4	0	13	0	5.1	WNW	32.2	N	8	10	10	10	5.4	80

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C		C.				C.	%	Mm.	Mm	Mm			Mm.	Mm	M p.s		M p.s.							%
CONNECTICUT																																
BRIDGEPORT	2	1008.7	1009.5	12.2	3.9	7.9	0.0	26.1	26	- 0.6	3	0	2	1.7	69	125	37	29	13	4	T	0	5.9	WNW	23.7	E	13	4	12	14	6.6	
HARTFORD	52	1002.5	1008.5	12.8	1.7	7.3	-1.6	24.4	26	- 4.4	4	0	13	- 0.6	62	120	30	29	12	2	36	25	4.6	WNW	16.5	SW	2	3	12	15	7.3	40
NEW HAVEN	2	1008.1		12.2	3.3	7.7	-0.1	24.4	26	- 1.1	21	0	4			142	43	36	13	4	10	0	4.5		14.8	NE	13	5	11	14	6.6	56
DELAWARE																																
WILMINGTON	24	1006.2	1009.6	15.0	3.9	9.4	-1.6	29.4	25	- 1.7	4	0	4	2.2	63	124	31	65	12	4	T	0	5.3	WNW	19.2*	ENE	13	5	13	12	6.3	
DIST.OF COLUMBIA																																
WASHINGTON U	22			16.1	6.7	11.3	-1.3	31.7	25	1.1	13+	0	0			86	4	44	8													
WASH NATL AP	4	1006.3	1010.8	16.1	6.1	11.1	-1.3	31.1	25	0.0	3	0	1	2.2	58	82	5	43	11	2	T	0	5.1	WNW	15.2	WNW	1	6	13	11	6.2	55
FLORIDA																																
APALACHICOLA U	4	1014.0		22.2	13.9	18.0	-1.7	25.6	26	8.9	16	0	0			39	- 69	14	7	3	0	0	4.2		17.4	W	12	13	10	7	4.4	89
DAYTONA BEACH	9	1014.6	1016.4	25.0	12.2	18.7	-1.9	31.1	27+	5.6	5	0	0	11.7	66	55	- 20	23	5	3	0	0	4.8	WSW	16.5*	SSW	12	14	8	8	4.6	
FORT MYERS	5	1015.7		28.3	15.0	21.6	-1.2	32.2	28	10.0	5	1	0			12	- 49	4	4	3	0	0	4.1		13.0*	SSW	12	13	12	5	4.2	
JACKSONVILLE	7	1015.0	1016.3	25.0	12.2	18.6	-1.7	31.7	25	6.7	5	0	0	10.0	62	106	21	39	8	5	0	0	5.1	SW	21.5	SW	12	14	9	7	4.4	76
KEY WEST	2	1014.8	1016.0	27.2	22.2	24.7	-0.3	30.6	10	17.8	5	0	0	18.3	70	44	- 17	43	2	1	0	0	5.4	ENE	14.3	S	1	13	13	4	4.3	77
LAKELAND U	65			26.1	14.4	20.4	-1.6	30.6	25+	10.0	5	0	0			31	- 42	20	6	3	0	0	3.8					13	11	6	4.4	77
MIAMI BEACH	3			27.8	21.1	24.5	0.4	32.8	28+	13.3	5	2	0			6	- 60	3	2		0	0	4.4		13.9	W	16	12	14	4	4.2	76
MIAMI	2	1014.9	1016.1	28.3	18.3	23.4	-0.4	32.8	16	10.6	5	3	0	15.6	65	14	- 87	9	4	1	0	0	4.9	ESE	13.4*	NE	20	8	17	5	5.1	
ORLANDO	32	1011.8	1016.4	27.8	13.9	20.8	-1.2	34.4	15	8.3	5	3	0	12.2	61	7	- 68	5	4	2	0	0	4.6	WNW	11.2*	SW	12	16	9	5	4.2	
PENSACOLA U	4			22.2	13.3	17.6	-1.9	26.1	28	6.7	16	0	0			117	- 8	56	7	2	0	0	5.7		14.8	SE	12+					74
TALLAHASSEE	20	1013.7	1016.3	23.9	9.4	16.7	-2.8	28.9	24	3.3	5	0	0	10.0	69	60	- 54	19	8	4	0	0	5.0	NW	15.6*	W	12	10	12	8	4.5	
TAMPA	6	1015.3	1016.8	26.1	14.4	20.3	-1.6	31.1	28	9.4	5	0	0	12.8	65	37	- 27	29	5	3	0	0	5.6	WNW	16.5*	WNW	4	15	7	8	4.5	72
WEST PALM BEACH	5	1014.9	1016.0	28.3	16.7	22.4	-0.8	33.9	12	10.0	5	4	0	15.0	65	58	- 47	49	6	2	0	0	5.2	WNW	14.3*	WNW	4	9	12	9	5.0	
GEORGIA																																
ATHENS	243	985.4	1014.6	20.0	6.1	13.2	-3.3	27.8	24+	- 0.6	11	0	1	6.1	65	163	46	51	6	3	0	0	4.6	W	13.4*	W	17	11	9	10	5.2	
ATLANTA	297	973.0	1014.9	20.0	7.2	13.6	-2.9	27.8	23	1.1	11	0	0	5.0	59	127	15	38	6	3	0	0	5.9	WNW	20.6*	WSW	17	11	10	9	5.0	66
AUGUSTA	44	1007.4	1014.2	21.7	8.3	15.0	-2.3	30.0	25+	1.1	11	0	0	7.2	62	214	126	70	8	5	0	0	4.5	W	16.5*	SE	9	13	7	10	4.8	
COLUMBUS	117	1001.2		22.2	7.8	15.2	-2.2	29.4	25	1.1	2	0	0			136	29	46	8	5	0	0	4.7		14.3*	WSW	9	12	9	9	4.7	
MACON	109	1001.2	1015.0	22.8	8.9	15.8	-2.9	30.0	25	2.2	11	0	0	6.7	60	135	38	53	7	3	0	0	5.2	WNW	20.1	SE	9	12	9	9	4.8	69
ROME	194	991.5		21.1	5.6	13.1	-2.8	29.4	23	- 1.1	8+	0	5			106	- 11	38	7	5	0	0						10	8	12	5.3	
SAVANNAH	15	1012.8	1015.5	22.8	10.0	16.3	-2.4	31.1	25	3.3	5	0	0	8.3	63	197	134	93	8	5	0	0	4.7	SW	13.9	W	17	13	9	8	4.5	82
THOMASVILLE U	86			24.4	11.1	17.7	-2.0	29.4	25+	6.7	16+	0	0			221	112	96	9	4	0	0										
HAWAII																																
HILO	9	1014.9	1016.2	27.2	18.3	22.5	0.5	28.9	15+	16.1	8+	0	0	17.8	77	140	-197	48	21	2	0	0	4.2	SW	10.7*	ESE	16	2	8	20	8.1	36
HONOLULU	2	1016.3	1016.8	27.8	20.6	24.4	0.9	29.4	28+	16.7	5	0	0	17.2	66	18	- 24	7	9	0	0	0	4.9	NE	17.9	NE	2	6	6	18	7.0	79
LIHUE	35	1011.5	1016.6	27.2	20.6	23.9	1.7	30.6	16	16.1	7	0	0	18.3	73	45	- 32	16	17	0	0	0	5.6	NE	13.0	NE	2	0	7	23	8.3	57
IDAHO																																
BOISE	866	918.7	1015.5	16.7	1.7	8.9	-1.0	25.6	29	- 5.6	5	0	13	- 2.2	49	6	- 22	4	5	2	0	0	3.4	SE	13.0	NW	29+	5	11	14	6.6	68
IDAHO FALLS 42NW R	1460			13.9	- 2.8	5.6	-0.2	23.3	3	-11.7	8	0	25			8	- 7	7	3				4.6	SSW	17.0A	NW	14					
IDAHO FALLS 46W R	1504	845.6	1014.2	13.9	- 2.8	5.4	-0.4	21.7	3	-12.8	5	0	24			14	- 5	8	5	0	76	51	4.5	SW	17.4A	WSW	13					
LEWISTON	431	964.4	1016.3	16.1	3.9	9.8	-0.9	24.4	29	- 3.3	5	0	7			28	- 1	8	10	1	18	0						2	3	25	8.4	
POCATELLO	1355	860.8	1014.7	13.9	0.6	7.2	-0.8	22.8	29	- 6.7	8	0	20	- 3.9	49	22	- 12	11	4	0	155	127	5.8	WSW	23.2	W	13	4	8	18	7.3	71
ILLINOIS																																
CAIRO U	96	999.7		17.2	7.8	12.6	-2.9	28.3	25	0.6	2	0	0			117	17	30	12	5	T	0	4.7	SW#	15.2	SW	25	5	8	17	7.0	62
CHICAGO O HARE	201	986.1	1011.1	11.7	1.1	6.3		24.4	24	- 6.7	2	0	12	0.6	70	63		12	15	1	175	127	5.1	W	16.5*	SSE	20	5	7	18	7.3	
CHICAGO MIDWAY	186	988.5	1011.6	11.1	2.2	6.8	-2.1	22.8	24	- 5.6	2	0	8	0.6	68	83	12	22	18	3	224	102	5.5	NW	15.6	NW	28	5	7	18	7.4	41
MOLINE	177	989.2	1011.8	12.2	1.7	6.8	-3.1	20.6	24+	- 6.1	3	0	14	1.1	70	56	- 21	13	14	5	64	51	5.4	WNW	17.0	NW	16	2	10	18	7.4	46
PEORIA	199	990.2	1012.5	12.2	1.1	6.9	-3.4	23.9	24	- 6.7	2+	0	15	1.1	71	60	- 27	37	13	4	30	0	5.8	WNW	17.9	W	16	5	9	16	7.1	49
ROCKFORD	222	984.1	1011.6	11.1	1.1	6.1	-2.4	20.0	21	- 6.1	2	0	14	0.0	69	73	- 3	14	13	4	112	102	4.6	WNW	12.5*	WNW	16	4	11	15	6.9	
SPRINGFIELD	179	988.5	1012.1	14.4	3.3	8.7	-2.2	27.2	24	- 6.1	2	0	11	2.8	68	100	13	58	13	4	46	25	6.8	NW	24.1	W	16	6	9	15	6.9	45
INDIANA																																
EVANSVILLE	117	996.6	1012.6	17.2	6.1	11.5	-2.4	27.2	25+	- 2.2	2	0	2	3.3	61	112	16	29	12	4	33	0	5.3	W	20.1	SW	16	4	9	17	7.0	57
FORT WAYNE	244	979.3	1011.1	11.7	2.2	6.8	-1.9	22.8	24	- 6.1	2	0	10	2.2	73	113	30	22	15	6	297	76	6.6	WNW	23.2	NW	16	0	11	19	8.1	48
INDIANAPOLIS	242	981.4	1011.6	12.8	2.2	7.6	-2.9	26.1	24	- 6.7	2	0	12	2.8	74	170	72	65	11	3	69	25	5.2	WNW	17.0	NW	28	3	7	20	7.6	67
SOUTH BEND	234	982.4	1010.7	10.6	1.1	5.8	-2.7	22.2	24	- 5.6	8	0	12	1.1	75	125	39	31	20	5	333	203	5.8	NW	13.9*	NW	28	1	10	19	7.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

APRIL 1961

State and Station	Elevation (ground)	Pressure: Station ⌀	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
IOWA																																
BURLINGTON	212	986.8	1012.8	13.3	1.7	7.6	-2.9	23.9	24+	- 6.1	2	0	14	1.1	68	32	- 55	9	14	5	86	0	6.3	WNW	18.8	W	16	6	10	14	7.0	55
DES MOINES	289	982.1	1013.8	12.8	1.7	7.1	-3.2	25.0	20	- 6.1	2	0	14	0.6	68	61	- 2	38	17	3	69	0	6.8	NW	21.5	NW	16+	4	8	18	7.3	43
DUBUQUE	325	986.5	1012.3	10.6	0.6	5.4	-2.8	19.4	22+	- 7.2	2	0	17	- 1.7	63	96	28	40	14	4	135	102						6	7	17	7.0	
SIOUX CITY	334	971.9	1013.6	13.9	1.7	7.7	-1.9	31.1	20	- 5.6	2	0	10	- 1.7	56	45	- 10	15	11	2	23	0	6.9	NW	21.0	NW	5	5	13	12	6.6	53
WATERLOO	265	979.7	1012.5	11.1	0.0	5.4	-3.6	21.1	19	- 6.7	2	0	15	0.6	73	108	48	42	12	3	51	25	5.1	NW	13.9*	SE	20+	3	10	17	7.5	
KANSAS																																
CONCORDIA U	419	962.8		16.1	3.9	9.9	-2.3	31.1	19	- 3.3	16	0	7		55	55	- 2	34	7	2	178	76	4.4	NW#	12.5	NW	3	10	12	8	5.0	70
DODGE CITY	791	924.1	1012.4	18.3	3.3	10.8	-1.3	33.3	19	- 2.8	6	1	11	0.6	56	25	- 32	20	4	0	5	0	7.0	NNW	19.7	SW	13	14	7	9	4.8	72
GOODLAND	1111	884.5	1012.6	15.0	- 0.6	7.1	-1.4	30.6	19	- 8.9	7	0	17	- 1.1	62	32	- 14	13	8	3	203	127	6.6	NNW	17.9*	NW	14	10	10	10	5.7	
TOPEKA	267	976.6	1012.9	16.7	3.9	10.1	-2.4	31.7	23	- 2.8	6+	0	9	2.2	63	67	- 22	34	12	6	15	0	6.8	NNW	23.2	N	22	6	13	11	6.2	62
WICHITA	403	963.1	1012.1	18.9	5.6	12.1	-1.3	33.9	20	- 1.7	6	1	4	3.9	63	51	- 39	23	7	5	T	0	6.6	S	25.0	NW	12	13	5	12	5.2	61
KENTUCKY																																
LEXINGTON	298	976.3	1012.7	14.4	4.4	9.3	-3.2	26.1	24	- 3.3	2	0	6	3.9	71	153	58	47	16	6	74	51	6.0	WNW				3	12	15	7.5	
LOUISVILLE	144	992.6	1012.2	15.0	3.9	9.6	-3.8	27.2	24	- 3.9	2	0	7	3.9	69	123	21	31	14	5	5	0	4.4	WNW	19.2	W	25	4	9	17	7.3	37
LOUISIANA																																
ALEXANDRIA	28	1010.5	1015.3	23.9	9.4	16.4		29.4	27	1.7	7	0	0	10.0	70	52		31	5	3	0	0	4.0	SSW				11	8	11	4.8	
BATON ROUGE	20	1012.5	1015.7	23.9	10.6	17.1	-2.3	28.9	28+	3.9	2	0	0	11.1	74	118	4	55	5	4	0	0	4.9	S				12	10	8	4.8	
LAKE CHARLES	4	1013.5	1015.1	23.3	12.8	18.1	-1.9	30.0	28	6.1	16+	0	0	11.7	71	88	- 20	38	5	5	0	0	3.3	S	11.2*	NNW	15	12	4	14	5.5	
NEW ORLEANS U	3			24.4	14.4	19.4	-1.6	29.4	26	10.0	6+	0	0		67	107	- 31	55	7	2	0	0	3.5		11.2	NE	6	13	15	2	3.9	77
NEW ORLEANS	1	1013.5	1015.8	24.4	11.7	18.2	-2.0	30.0	27	3.9	2	0	0	13.3	74	73	- 64	41	7	1	0	0	4.6	S	11.2*	WNW	12	11	11	8	4.6	
SHREVEPORT	77	1005.4	1014.7	23.9	10.6	17.1	-2.4	30.0	25+	1.1	16	0	0	9.4	64	43	- 73	17	6	3	0	0	6.9	S				10	11	9	5.0	71
MAINE																																
CARIBOU	190	985.3	1010.5	6.7	- 2.2	2.1	0.6	13.9	29	- 8.9	1	0	27	- 2.2	77	74	8	21	18	0	620	610	4.6	NW	13.4	E	17	2	6	22	8.4	
PORTLAND	19	1003.8	1008.0	10.0	0.6	5.5	0.0	18.3	21	- 3.9	21+	0	14	0.6	74	165	69	52	12	0	249	102	5.0	WNW	16.1	NE	13	3	9	18	7.8	50
MARYLAND																																
BALTIMORE	45	1005.8	1010.7	16.1	3.9	10.0	-1.3	31.1	25	- 1.7	3+	0	7	1.7	60	113	19	52	12	3	0	0	5.9	WNW	19.2	NW	26	7	13	10	5.8	76
BALTIMORE U	4			16.1	6.7	11.3	-1.1	31.7	25	1.7	4+	0	0			114	19	45	12													
FREDERICK	90			14.4	2.8	8.7	-2.9	29.4	25	- 3.3	4	0	11			108	19	37	12	0	T	0										
MASSACHUSETTS																																
BLUE HILL OBS R	192	983.4		10.6	1.7	6.0		21.1	25	- 2.8	3	0	11		70	142	41	32	16		89	25	7.6	NNW	21.0	NW	11					41
BOSTON	5	1002.8	1007.6	11.1	3.3	7.4	-1.1	21.7	21	0.0	13+	0	2	0.6	68	167	80	41	14	1	51	25	6.2	WNW	18.8	ENE	13+	5	7	18	7.2	48
NANTUCKET	13	1007.2	1007.8	9.4	2.8	6.1	-0.3	22.8	25	- 1.7	4	0	3			149	62	34	13	2	3	0	7.1	W	17.4	E	13	6	7	17	7.1	52
PITTSFIELD	357			9.4	0.6	4.8	-0.8	17.8	23+	- 5.0	9	0	20			85	- 6	18	19		290	102										
WORCESTER	301	970.3	1007.4	10.0	1.1	5.4	-1.1	18.9	21	- 3.3	3	0	15	- 1.7	66	145	57	29	13	1	241	76	4.9	W	13.0	E	16+	4	12	14	7.2	
MICHIGAN																																
ALPENA	210	985.1		8.9	- 2.8	3.0	-1.8	17.2	22	- 8.3	9	0	24	- 1.7	69	43	- 23	22	10	2	81	25	3.8	NW#	15.6	SE	16	3	6	21	7.9	37
DETROIT	189	983.4	1010.7	10.6	2.2	6.4	-1.6	22.8	24	- 3.9	2	0	8	0.6	71	133	59	50	18	3	94	25	5.1	WNW	16.5	SW	16+	0	9	21	8.3	35
DETROIT M WAYNE CO	192	985.8	1010.1	10.6	1.1	5.9		23.3	24	- 5.0	2	0	13	1.1	74	137		39	16	4	188	51	5.3	WNW				0	9	21	8.5	
DETROIT WILLOW RUN	220	981.4	1010.2	11.1	1.1	6.2	-1.9	22.8	24	- 5.6	2	0	13	0.6	72	144	69	54	16	5	140	102	6.0	WNW	17.9*	SW	16	0	7	23	8.6	
ESCANABA U	181	988.8		7.8	0.0	3.8	0.3	20.0	21	- 6.7	8	0	16		71	67	13	41	10	0	T	0	4.8		20.1	NE	16	3	13	14	7.0	56
FLINT	233	982.4	1010.8	10.0	0.6	5.4	-1.5	21.7	24	- 5.6	8+	0	15	0.6	74	132	66	40	17	4	142	51	4.4	WNW	12.5*	SSW	16	0	6	24	8.4	
GRAND RAPIDS	208	985.1	1010.9	10.6	1.1	5.7	-1.4	20.0	21	- 5.0	2	0	16	- 0.6	69	101	27	44	16	3	396	178	4.8	WNW	12.5	NW	28	3	8	19	7.9	41
LANSING	260	977.7	1010.4	10.6	0.0	5.4	-1.9	22.2	24	- 7.2	2	0	15	- 0.6	71	88	16	28	15	4	168	127	6.3	W	19.2	W	2	0	9	21	7.7	53
MARQUETTE U	206	984.8		6.7	- 0.6	3.1	-0.6	19.4	22	- 5.6	1	0	20		65	75	11	41	12	0	137	127	3.4	NW#	14.3	S	20	2	13	15	7.2	60
MUSKEGON	191	987.8	1011.1	9.4	1.1	5.3	-1.2	17.8	20	- 3.9	8+	0	15	0.0	71	104	44	38	18	2	351	102	4.7	W	12.5*	SW	16	3	12	15	7.1	
SAULT STE MARIE	220	988.2	1011.4	7.8	- 1.1	3.2	0.5	17.2	22	- 6.7	8	0	23	- 2.8	70	22	- 27	5	10	0	74	51	4.5	WNW	11.2*	ESE	16	3	6	21	7.9	49
MINNESOTA																																
DULUTH	429	970.5	1012.9	6.7	- 2.8	1.8	-0.8	16.1	22+	-11.7	1	0	26	- 3.9	70	120	56	37	13	1	620	381	6.2	NW	19.2	W	22	5	5	20	7.2	49
INTERNATIONAL FALLS	359	971.2	1013.7	7.2	- 3.9	1.6	-1.3	14.4	2+	-15.0	1	0	27	- 4.4	69	61	17	19	13	2	343	178	4.1	NW	13.9*	SE	20	6	7	17	6.8	
MINNEAPOLIS	253	978.7	1013.0	8.9	- 1.7	3.6	-4.2	19.4	22	- 9.4	2	0	20	- 2.8	67	61	12	19	11	2	196	152	5.0	NNW	14.8	NW	16+	3	9	18	7.4	48
ROCHESTER	395	963.8	1012.5	7.8	- 1.1	3.3	-3.9	17.8	22	- 7.8	2	0	22	- 1.1	74	45	- 14	18	13	2	114	76	5.9	NW				2	11	17	7.7	
ST CLOUD	315	974.6	1013.4	8.9	- 2.8	2.9	-3.1	19.4	22	-11.1	2	0	23	- 3.9	67	55	6	20	12	2	221	152						6	6	18	7.1	
MISSISSIPPI																																
JACKSON	93	1002.9	1015.2	23.3	8.9	16.1	-2.2	28.9	25	2.2	7	0	0	8.3	64	51	- 72	19	7	5	0	0	3.2	S	14.8	NW	15	12	9	9	4.9	65

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: 25 mm or more	Precipitation: No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No of days (sunrise to sunset): Clear, 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MISSISSIPPI																																
MERIDIAN	89	1001.7	1015.7	23.3	7.8	15.7	-2.2	29.4	25+	1.1	7	0	0	8.9	68	51	- 88	20	8	2	0	0	4.2	SSW	13.0*	SW	9	13	6	11	4.7	
VICKSBURG U	71	1005.8		22.2	11.1	16.7	-2.1	28.3	30	5.0	1	0	0			68	- 55	33	7	4	0	0	4.6		25.0	W	3	10	9	11	5.3	64
MISSOURI																																
COLUMBIA	237	983.1	1012.0	15.0	5.0	9.9	-2.6	28.9	24	- 2.2	2	0	5	3.3	67	119	23	36	13	7	89	25	6.0	NW	17.0	NW	16	5	9	16	6.6	53
KANSAS CITY	226	977.3	1012.7	15.6	5.0	10.1	-3.2	27.2	23+	- 1.7	13+	0	7	1.7	60	107	15	46	12	6	94	51	5.2	NW	17.9	NW	22	6	14	10	6.1	63
ST JOSEPH	247	977.3		15.6	3.9	9.6	-2.9	31.7	23	- 3.3	2	0	7			55	- 30	24	15	4	64	0	6.8	S	19.2*	WNW	16	8	13	9	5.8	
ST LOUIS	163	991.5	1012.6	16.1	4.4	10.0	-3.1	29.4	24	- 5.0	2	0	6	2.2	61	88	- 12	25	14	5	T	0	5.6	WNW	16.5	W	16	6	10	14	6.8	53
ST LOUIS RFC	142			16.1	6.7	11.4	-2.2	30.6	24	- 1.1	2	0	1			71	- 30	23	14		T	0										
SPRINGFIELD	386	964.8	1012.7	17.2	5.0	11.1	-1.9	28.9	19	- 2.8	10	0	9	4.4	67	167	56	57	12	5	T	0	6.4	SSE	19.7	NW	16	9	7	14	5.9	61
MONTANA																																
BILLINGS	1087	888.3	1013.7	11.7	0.0	6.0	-1.9	23.3	18	- 6.1	6	0	17	- 3.9	56	59	33	34	11	1	356	76	5.5	WSW	23.2	NW	3	2	8	20	7.7	59
GLASGOW	694	938.7	1014.2	11.1	- 2.2	4.3	-2.6	24.4	18	- 7.8	16	0	23	- 5.6	55	14	- 11	9	7	0	33	0						3	7	20	7.8	
GREAT FALLS	1116	886.2	1014.4	10.6	- 1.1	4.6	-2.2	18.3	3	-10.0	10	0	20	- 3.9	58	24	0	5	13	1	155	51	5.3	SW	21.0	W	3	3	6	21	8.0	59
HAVRE U	787	924.5	1014.9	11.7	- 3.3	4.1	-3.2	21.1	17	-11.1	6	0	23			34	11	11	9	0	36	25	4.5	SW#	17.9	W	3	4	7	19	7.4	55
HELENA	1187	871.3	1015.1	10.6	- 1.1	4.8	-1.4	17.8	17+	- 7.8	6	0	18	- 3.9	56	23	1	8	10	1	211	102	4.8	WNW	20.1	W	3	0	11	19	8.0	49
KALISPELL	904	909.9	1014.2	10.0	- 0.6	4.7	-1.8	16.7	17	- 6.1	26	0	21			51	25	17	13	2	206	76	3.3					2	6	22	8.2	
MILES CITY	801	928.9	1014.1	12.2	- 1.1	5.6	-2.2	27.2	18	- 8.3	15+	0	19	- 4.4	54	25	- 3	16	8	0	T	0	5.1	NW	17.9*	NW	4	5	8	17	7.1	
MISSOULA	975	901.1	1016.7	11.7	- 0.6	5.7	-1.4	20.0	29	- 6.7	6	0	19	- 1.1	66	39	16	12	16	0	119	76	3.4	NW	13.9	W	13	1	5	24	8.7	37
NEBRASKA																																
GRAND ISLAND	561	946.5	1013.3	15.0	1.1	7.9	-2.6	27.8	23+	- 8.3	7	0	16	- 2.2	55	45	- 11	18	6	0	119	102	7.0	NNW				10	9	11	5.3	
LINCOLN U	351			15.6	2.8	8.9	-2.5	29.4	23+	- 3.3	16+	0	12			42	- 16	24	4	1	20	25	5.5	NW#	21.9	SE	13	6	14	10	6.2	72
NORFOLK	471	956.7	1012.9	13.3	0.6	6.9	-2.2	26.7	23	- 7.8	7	0	16	- 2.8	54	45	- 13	21	8	0	48	25						7	10	13	6.5	
NORTH PLATTE	847	912.6	1012.7	13.3	- 1.7	6.0	-3.3	30.0	19	-10.0	7	0	20	- 3.9	56	63	11	30	9	1	330	127	6.8	NNW	24.1	NW	2	8	7	15	6.1	64
OMAHA	298	972.6	1013.3	14.4	2.8	8.6	-2.6	30.6	20	- 3.9	2	0	7	- 0.6	57	42	- 13	26	8	2	33	0	6.6	NW	22.4	NW	15	4	15	11	6.5	59
OMAHA N OMAHA AP	403	964.4		13.9	1.7	7.7	-2.3	30.0	20	- 5.6	1	0	16			46	- 9	31	8	2	20	25						4	10	16	7.1	
SCOTTSBLUFF	1204	875.7	1012.9	13.3	- 1.7	5.9	-1.9	28.3	19	- 9.4	15	0	19	- 2.8	58	23	- 27	8	9	0	178	102	6.5	WNW	23.2*	W	23	2	9	19	7.5	
VALENTINE	789	921.4		12.8	- 2.8	4.9	-3.1	31.7	19	-12.2	7	0	22		59	14	- 36	7	6	0	25	25	5.9	N#	24.6	N	4	7	9	14	6.0	63
NEVADA																																
ELKO	1547	843.2	1015.0	15.6	- 3.9	5.8	-1.2	25.0	3	-10.0	5	0	27	- 7.8	40	4	- 20	3	4	0	18	0	3.0	W	13.4*	WNW	12	5	15	10	6.5	
ELY	1907	806.6	1013.7	13.9	- 3.9	5.2	-1.3	23.9	3	-11.7	23	0	28	- 7.2	45	20	- 10	12	8	2	185	102	5.1	S	20.1	S	22	7	12	11	5.9	98
LAS VEGAS	659	944.1	1010.8	26.7	10.0	18.4	-0.3	34.4	4	5.6	9	5	0	- 6.7	20	1	- 6	1	1	2	0	0	5.1	SSW	19.7*	NW	10	17	9	4	3.2	90
RENO	1342	861.5	1015.8	18.9	- 2.2	8.3	-0.4	30.0	3	- 7.2	20	0	22	- 4.4	43	7	- 5	3	3	0	15	0	3.2	S	17.9	SE	18	10	12	8	4.9	85
WINNEMUCCA	1310	867.9	1016.6	17.2	- 3.3	7.1	-1.2	26.7	3	-10.6	20	0	24	- 6.7	39	3	- 18	2	3	1	28	25	3.8	W	19.2	W	12	6	9	15	6.3	65
NEW HAMPSHIRE																																
CONCORD	103	997.2	1008.3	11.1	0.6	5.9	-0.2	21.7	21	- 6.1	20	0	15	- 1.7	65	85	7	21	11	1	99	51	3.6	NW	11.6	W	2	5	8	17	7.3	41
MT WASHINGTON OBS	1909	794.2		- 3.3	- 9.4	- 6.4	-0.9	2.8	22	-14.4	19+	0	30		91	272	122	60	25	0	1514	406	13.4	W	57.2Y	W	26	7	0	23	8.0	24
NEW JERSEY																																
ATLANTIC CITY	18	1007.6	1009.9	14.4	4.4	9.5	-0.6	30.6	25	- 1.1	9+	0	4	1.7	62	79	- 5	43	11	2	0	0	6.7	WNW	20.6*	ENE	13	5	13	12	6.4	62
ATLANTIC CITY U	9			12.2	3.9	8.2	-1.4	27.8	25	- 1.1	4	0	3			73	- 14	42	9				7.2		20.6*	E	13					
NEWARK	3	1008.1	1009.4	13.9	5.0	9.2	-0.8	27.8	25	0.6	9+	0	0	1.1	59	134	51	28	14	6	T	0	5.5	WNW	15.6*	NE	26+	3	12	15	6.7	
TRENTON U	17	1001.7		13.9	4.4	9.2	-1.2	29.4	25	0.0	9+	0	3			120	43	43	14	4	T	0	5.2	NW	17.9	NE	13	3	13	14	6.5	58
NEW MEXICO																																
ALBUQUERQUE	1618	844.9	1009.8	21.1	3.9	12.5	-0.6	29.4	30	- 3.3	15	0	4	- 6.1	32	19	5	17	3	2	T	0	4.2	N	20.1	W	14	17	8	5	3.6	82
CLAYTON	1515	841.2	1009.8	18.9	0.6	9.6	-1.0	28.3	30+	- 6.7	15	0	14			23	- 6	19	3	0	58	25						13	8	9	4.6	
RATON	1944	801.9	1010.8	16.7	- 2.2	7.3	-1.0	26.1	30	-10.0	9	0	24			19	- 9	12	5	0	180	51						13	9	8	4.5	
ROSWELL	1101	889.3	1009.5	26.1	2.8	14.4	-0.9	34.4	30+	- 5.6	9	0	6	- 3.9	36	1	- 19	1	2	0	0	0	4.6		20.1	W	11	16	8	6	3.6	
SILVER CITY	1638	831.4	1009.8	23.3	3.9	13.6		28.9	30+	- 1.1	9	0	3			T		0	1	0	0	0						23	5	2	2.0	
NEW YORK																																
ALBANY	84	1005.1	1008.8	11.1	2.2	6.6	-0.7	20.0	21	- 5.6	9	0	10	0.6	68	78	12	23	18	0	157	25	4.6	WNW	16.1	NW	26	3	5	22	8.1	37
BINGHAMTON	485	948.8	1008.5	7.8	0.6	4.3	-1.6	18.3	22	- 4.4	9	0	19	0.6	78	119	37	45	18	1	335	127	5.1	WNW	17.9	E	16	1	5	24	8.5	37
BUFFALO	211	981.5	1010.4	8.3	0.6	4.3	-2.2	18.3	15	- 5.0	9	0	18	0.0	78	150	85	32	22	1	333	51	4.7	WSW	17.0	SW	2	2	3	25	8.6	26
NEW YORK	6	1007.6	1009.2	12.8	5.6	9.2	-0.8	26.7	25	1.7	9+	0	0	1.7	63	187	108	57	14	4	15	0	6.5	WNW	26.4	NE	13	4	15	11	6.5	
NEW YORK U	3	999.1		13.3	5.6	9.4	-0.8	27.8	25	1.1	3+	0	0	0.0	57	129	44	32	13	2	T	0	5.0	NW	20.1	NE	13	8	12	10	6.1	50
ROCHESTER	166	990.7	1010.2	10.0	1.1	5.4	-1.6	18.9	21	- 5.0	9	0	11	1.1	77	103	36	22	16	4	137	25	5.9	WSW	24.6	W	26	3	5	22	8.0	37
SCHENECTADY	66			11.1	2.8	6.9	-0.3	21.7	21	- 2.2	20	0	4			99	22	28	13		91	25						10	11	9	5.2	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

APRIL 1961

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 25 mm or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile or kilometers: Speed	Wind: Fastest mile or kilometers: Direction	Wind: Fastest mile or kilometers: Date	No. of days sunrise to sunset: Clear, 0-3	No. of days sunrise to sunset: Partly cloudy, 4-7	No. of days sunrise to sunset: Cloudy, 8-10	Sky cover tenths, sunrise to sunset	Possible sunshine
	M	Mb	Mb	C.	C	C	C	C		C				C	%	Mm	Mm	Mm			Mm	Mm	M p s		M p s							%
NEW YORK																																
SYRACUSE	129	987.3	1009.6	10.6	1.7	6.1	-1.7	21.7	21	- 3.8	9	0	10	0.6	71	95	16	21	20	2	213	51	5.8	WNW	18.8	W	26+	3	5	22	8.2	26
NORTH CAROLINA																																
ASHEVILLE U	671	933.3		15.6	4.4	10.2	-2.9	30.0	24	- 1.1	8+	0	3	13.9		76	3	39	10	3	T	0	4.9		14.8	NW	2	9	6	15	6.2	49
CAPE HATTERAS R	2	1011.1	1011.9	17.8	9.4	13.6	-1.8	23.9	16	2.8	20	0	0	7.2	66	81	3	25	9	4	0	0	7.4	WSW	27.3	SSW	10	12	8	10	5.1	67
CHARLOTTE	221	984.7	1013.1	17.8	5.6	11.7	-3.7	28.3	24	- 2.2	11	0	6	3.9	61	103	22	43	8	4	0	0	4.3	SW	16.5	SW	29	12	7	11	5.4	43
GREENSBORO	272	981.0	1013.2	17.2	4.4	11.0	-2.9	30.6	24	- 1.7	5	0	3	2.8	61	100	15	32	10	5	T	0	4.5	SW	14.3	NW	28+	10	8	12	5.7	65
RALEIGH	132	999.2	1012.6	18.9	5.0	12.0	-2.7	30.6	24	- 0.6	9	0	3	3.3	58	57	- 33	14	8	2	0	0	4.6	SSW	17.9*	SE	9	10	10	10	5.5	72
WILMINGTON	9	1010.0	1013.1	20.6	8.3	14.4	-2.4	32.8	24	1.7	21	1	0	7.2	66	209	140	89	11	5	0	0	5.8	WSW	21.5	SW	12	14	6	10	4.8	73
WINSTON SALEM	295	977.1	1012.7	17.2	6.1	11.7	-2.4	30.0	24	0.6	8	0	0	1.1	52	97	10	34	8	3	T	0	5.6	NW	18.8*	W	16	11	5	14	5.5	
NORTH DAKOTA																																
BISMARCK	502	952.9	1014.6	11.1	- 1.7	4.6	-1.6	30.0	19	-10.0	1	0	21	- 5.0	55	43	8	19	8	0	165	76	6.7	NW	19.7	E	23	7	9	14	6.5	75
DEVILS LAKE U	448	959.4		7.8	- 3.3	2.1	-2.4	22.2	19	-13.9	1	0	24		62	32	- 4	12	8	0	137	76	5.1	N#	14.8	NW	26	5	10	15	6.9	62
FARGO	274	979.3	1014.7	8.9	- 2.8	3.2	-2.4	22.2	19	-11.1	1	0	23	- 3.3	67	58	10	21	9	0	71	25	8.5	N	23.7	N	16	3	13	14	7.1	49
WILLISTON U	572	945.5	1014.6	9.4	- 2.2	3.7	-2.3	21.1	18	-10.0	16+	0	21	- 4.4	59	61	34	33	10	1	290	76	3.8	NW#	13.0	E	23+	7	7	16	6.7	61
OHIO																																
AKRON	369	972.4	1011.0	10.6	1.7	5.9	-2.4	23.9	24	- 4.4	2	0	13	2.2	79	129	47	21	20	6	401	102	5.7	NW				1	8	21	8.4	
CINCINNATI ORS	232			13.9	4.4	9.2	-2.8	27.2	24	- 5.0	2	0	7			88	- 4	24	15	3	38	25	3.8	W	17.0	SW	25					48
CINCINNATI	265	979.6	1012.0	13.9	4.4	9.1	-2.1	27.2	24	- 5.0	2	0	5	2.2	65	71	- 20	23	15	2	36	25	5.5	WNW	19.2	WSW	16	0	7	23	8.6	
CLEVELAND	240	982.1	1010.4	11.1	1.7	6.3	-2.2	25.0	24	- 4.4	3	0	12	1.7	76	168	99	57	17	5	130	25	5.4	WNW	15.2	S	16	1	7	22	8.3	41
COLUMBUS	248	975.1	1011.6	12.8	3.9	8.4	-1.7	26.7	24	- 4.4	3	0	5	2.8	70	116	29	30	15	5	69	0	4.8	WNW	17.9	NW	28	0	7	23	8.4	41
COLUMBUS U	221			12.2	3.9	8.2	-2.6	25.6	24	- 3.9	2	0	5			118	37	30	15	6	104	25										
DAYTON	305	974.7	1011.4	12.2	2.8	7.6	-2.7	25.6	24	- 6.1	2	0	9	2.2	72	131	53	40	15	5	81	0	6.0	WNW	23.2	W	28	1	7	22	8.6	35
MANSFIELD	395			10.6	1.7	5.9		23.9	24	- 5.6	2	0	15			132		25	17	6	168	51						0	8	22	8.5	
SANDUSKY U	184	987.9		11.1	2.8	7.1	-1.8	25.6	24	- 3.3	2	0	7			183	107	52	16	7	132	102	4.5		25.0	SW	16	3	10	17	7.1	44
TOLEDO	206	985.0	1010.9	11.1	0.0	5.3	-2.7	23.3	24	- 6.1	8+	0	19	1.1	77	125	43	36	16	7	193	76	4.9	WNW	12.5	W	28+	0	10	20	8.5	40
YOUNGSTOWN	359	967.4	1010.6	10.0	1.1	5.6	-2.8	23.3	24	- 6.7	2	0	15	1.7	78	127	34	24	20	5	310	127	4.8	NW	18.3*	WSW	15	1	4	25	8.9	
OKLAHOMA																																
OKLAHOMA CITY	390	969.2	1012.7	22.2	8.3	15.1	-0.6	32.8	20	- 0.6	10	1	1	5.6	57	19	- 62	10	6	3	T	0	7.2	SSE	21.0	W	11	13	8	9	4.9	67
TULSA	205	988.2	1012.6	20.6	8.3	14.2	-1.7	30.0	24	0.6	13	0	0	6.1	61	38	- 70	18	6	4	0	0	5.8	SSE	25.5	NW	30	12	6	12	5.3	53
OREGON																																
ASTORIA	2	1019.3	1019.8	12.2	5.0	8.6	-1.2	16.7	28+	0.0	7+	0	3	5.6	81	139	8	31	20	0	0	0	4.2	WNW	13.4*	WNW	13	2	2	26	8.9	
BURNS U	1265	872.3	1016.4	14.4	- 1.1	6.8	-1.3	23.3	16	- 7.8	23	0	20	- 3.9	49	5	- 15	3	3	0	15	25						5	7	18	6.8	
EUGENE	110	1006.1	1019.8	16.1	3.9	10.1	-0.4	23.9	2	0.0	23	0	1			38	- 27	16	10	0	0	0	4.5		13.0*	N	4	5	7	18	7.2	
MEACHAM	1234			8.3	- 0.6	4.1	-0.9	18.3	16	- 6.1	4	0	20			72	3	18	20	0	185	76						3	6	21	8.0	
MEDFORD	396	970.9	1019.1	18.9	2.2	10.6	-0.7	25.6	16+	- 1.7	19	0	10	2.8	64	24	- 6	17	8	0	81	0	2.3	WNW	8.9*	NNW	3	8	7	15	6.4	
PENDLETON	452	963.1	1017.2	16.1	4.4	10.1	-1.2	23.9	16	- 1.7	5+	0	6	1.1	56	33	7	9	14	2	T	0	5.1	W	19.2*	W	13	6	6	18	7.2	
PORTLAND	6	1013.9	1019.6	15.0	5.6	10.1	-0.9	21.7	28	0.6	22	0	0	5.0	73	91	38	24	18	1	T	0	3.4	NW	11.6	S	29	4	2	24	8.3	41
ROSEBURG	154	1000.7	1019.6	17.8	3.9	10.9	0.1	25.6	2	- 1.1	19	0	4			23	- 31	7	10	0	T	0	2.4	N#	10.7	NE	5	5	8	17	6.8	66
SALEM	59	1012.5	1019.9	15.0	3.9	9.5	-1.3	21.1	2+	- 1.1	7+	0	5	5.0	76	81	20	21	15	0	T	0	3.2	S	9.4*	S	20+	4	5	21	7.8	
SEXTON SUMMIT R	1169	884.5	1018.6	11.1	0.0	5.6	-1.2	20.6	16	- 6.1	19	0	16			45	- 8	16	6	0	234	127	5.1	N				8	4	18	6.6	
PACIFIC AREA																																
CANTON ISLAND	2	1008.5	1008.9	32.2	26.1	29.1	0.4	33.3	25	24.4	15	20	0	23.9	78	23	- 73	6	11	0	0	0	5.9	ENE	11.6*	ENE	13	1	13	16	7.5	
ENIWETOK	4	1009.5	1010.2	30.6	26.1	28.2		31.1	26+	23.9	27+	0	0	23.3	76	31		9	14	0	0	0	9.0									
JOHNSTON	2	1012.9	1013.5	28.3	23.3	25.8		29.4	30+	21.1	25+	0	0	21.1	77	81		46	18	0	0	0	5.3		14.8	NE	2	2	13	15	7.2	61
KOROR R	29	1006.4	1010.2	31.1	24.4	27.8	0.3	32.8	18	23.9	30+	4	0	24.4	83	171	- 52	35	18	2	0	0	3.1	ENE	9.4	NE	27	0	1	29	9.8	77
KWAJALEIN	2	1009.5	1010.4	30.6	25.6	27.8		31.7	9	23.3	21+	0	0	23.9	79	123		46	18	0	0	0	8.0	ENE	13.9*	ENE	23	0	6	24	8.7	
MAJURO	3	1009.8	1010.1	30.0	25.6	27.6		30.6	24+	23.3	8	0	0	23.9	81	216		73	20	1	0	0	5.7	ENE	14.3	E	10	0	2	28	9.4	
PONAPE R	37	1004.1	1009.4	30.6	24.4	27.6	0.1	32.2	15	22.8	13+	1	0	24.4	83	294	-188	68	25	2	0	0	2.8	NE	8.9	E	1	0	2	28	9.5	51
TAGUAC GUAM R	110			30.0	22.8	26.4	0.2	31.1	25+	18.3	21	0	0			109	49	34	21	0	0	0	3.6	E#	11.6	E	28					65
TRUK MOEN ISLAND	2	1009.1	1009.4	30.6	25.0	27.8	0.4	31.1	30+	23.3	16	0	0	24.4	83	287	- 6	62	23	1	0	0	3.1	NNE	11.6	SE	2	0	7	23	8.7	78
WAKE ISLAND	3	1015.9	1016.3	27.8	22.8	25.2	-0.5	29.4	3	20.0	19	0	0	20.0	73	28	- 22	20	11	0	0	0	9.1	ENE	13.9*	ENE	11+	5	18	7	5.8	
YAP R	17	1008.1	1010.1	30.6	25.0	27.8	-0.1	31.1	28+	22.8	13	0	0	24.4	81	121	- 25	41	18	0	0	0	3.0	NE	11.6	NE	5	0	0	30	9.9	65
PENNSYLVANIA																																
ALLENTOWN	115	995.5	1010.0	13.3	2.2	7.7	-1.4	26.1	24	- 4.4	9	0	13	1.1	67	111	25	38	13	3	74	25	6.3	W	22.8*	W	26	3	10	17	6.9	
ERIE	223	983.5	1010.1	9.4	1.7	5.6	-1.3	21.1	24	- 3.3	2	0	12	1.7	79	181	92	61	17	2	226	127	5.5	WSW	17.9*	SSW	16+	1	6	23	8.5	
HARRISBURG	102	996.3	1010.3	13.9	3.9	8.9	-1.6	27.8	24	- 1.1	9	0	3	0.0	58	116	40	38	14	3	64	25	5.1	WNW	14.3	W	26	2	11	17	7.4	63

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
PENNSYLVANIA	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm			Mm.	Mm.	M.p.s.		M.p.s							%
PHILADELPHIA	2	1004.9	1009.4	15.0	4.4	9.9	-1.0	28.9	25	0.0	4	0	1	1.7	60	122	37	52	14	3	T	0	5.3	NW	17.4	E	13	4	11	15	6.8	52
PHILADELPHIA U	11			15.0	6.1	10.6	-0.9	30.0	25	1.7	4+	0	0																			
PITTSBURGH	351	980.4	1011.2	11.7	1.7	6.7	-2.7	25.0	24	- 4.4	3	0	15	1.1	69	132	51	27	20	5	150	25	5.1	WNW	15.6*	WSW	16	1	7	22	8.5	33
PITTSBURGH U	228			12.2	3.9	8.1	-2.9	25.6	24	- 2.2	2	0	2			140	61	36	21		71											25
READING U	81	998.0		14.4	4.4	9.3	-1.4	28.3	24	- 1.1	4	0	3			121	38	36	13	3	20	25	6.7		25.5	N	16	4	10	16	7.0	53
SCRANTON	287	975.0	1009.9	10.0	1.1	5.6	-2.8	24.4	24	- 6.1	9	0	17	0.0	71	63	- 20	19	15	5	213	76	4.7	NW	15.6	E	16	3	7	20	7.9	40
WILLIAMSPORT	161	990.7		12.2	2.8	7.4	-2.1	23.9	24	- 3.9	9	0	9			139	49	43	16		201	76						2	5	23	8.1	
RHODE ISLAND																																
BLOCK ISLAND	34	1005.2		10.0	2.8	6.4	-0.7	19.4	25	- 0.6	5	0	3			158	73	38	11	3	T	0						6	11	13	6.5	
PROVIDENCE	17	1001.8	1008.1	12.2	2.8	7.4	-0.3	23.9	26	- 1.1	20	0	7	0.0	65	186	100	54	11	4	8	0	6.1	NNW	17.9	SW	2	5	9	16	6.8	47
SOUTH CAROLINA																																
CHARLESTON	12	1012.1	1014.2	21.7	8.9	15.4	-2.6	31.1	25	2.8	5	0	0	8.3	66	147	75	58	10	5	0	0	5.1	WSW	22.8	S	9	16	7	7	4.3	
CHARLESTON U	3			20.6	11.7	16.1	-2.6	28.3	25+	6.7	8	0	0			130	68	47	11		0	0	5.8		21.9	SE	9					
COLUMBIA	66	1000.9	1013.8	21.7	7.8	14.8	-2.7	31.7	24	1.1	5	0	0	5.6	58	140	50	57	11	5	0	0	4.8	SW	17.9*	W	17	16	4	10	4.5	71
FLORENCE	45	1007.1	1012.9	21.1	7.8	14.5	-2.9	31.1	25+	2.2	8	0	0	6.1	60	142	49	41	10	5	0	0	4.4	SW	13.4*	WSW	17	14	8	8	4.6	
GREENVILLE	310	976.0	1013.4	20.6	6.7	13.6	-2.1	30.6	26	0.6	8	0	0	2.8	54	123	26	43	10	4	0	0	4.5	WSW	16.5	SW	17	12	7	11	5.2	69
SPARTANBURG	244	983.1	1013.0	18.9	6.7	12.9	-2.9	28.9	26+	1.1	14+	0	0	3.3	57	125	35	58	8	3	0	0	3.9	SW	13.4*	SW	17	12	6	12	5.2	
SOUTH DAKOTA																																
HURON	391	966.1	1014.2	12.2	- 3.9	4.2	-3.8	28.9	19	-14.4	12	0	24	- 3.3	62	12	- 37	4	8	2	30	0	6.7	NW	21.0	NW	20	6	8	16	6.8	69
RAPID CITY	965	898.4	1014.2	12.8	- 1.7	5.4	-1.5	29.4	19	- 8.9	7	0	20	- 5.6	53	39	- 12	13	13	1	132	76	5.5	NNW	21.9	NW	4	4	13	13	6.8	60
SIOUX FALLS	433	961.1	1013.3	11.7	- 1.1	5.5	-2.5	27.2	19	- 8.3	1	0	18	- 3.3	57	26	- 33	10	5	2	T	0	6.3	NW	17.9*	WNW	20	4	14	12	6.6	
TENNESSEE																																
BRISTOL	463	958.2	1012.9	16.1	5.0	10.6	-2.7	28.3	24	- 1.7	8	0	4	2.2	61	69	- 13	23	13	4	5	0	4.6	WSW	17.9*	SW	16	6	6	18	7.3	
CHATTANOOGA	204	986.2	1014.1	20.6	7.2	13.7	-1.7	29.4	23	- 1.1	7	0	1	4.4	58	76	- 39	34	11	3	0	0	4.7	S	20.1	W	28	8	9	13	6.1	58
KNOXVILLE	290	978.1	1013.9	17.2	6.1	11.5	-3.5	26.1	24+	- 0.6	7	0	2	3.9	64	64	- 29	18	12	6	T	0	5.2	SW	21.0	SW	17	7	9	15	6.9	57
MEMPHIS	80	999.0	1014.1	20.6	8.9	14.6	-2.0	27.8	30+	1.1	7	0	0	6.1	60	118	- 4	55	9	4	0	0	5.3	SSW	15.6	NW	15	12	7	11	5.1	70
MEMPHIS U	83			19.4	10.0	14.7	-2.1	27.2	30+	3.3	15	0	0			101	- 19	50	10		0	0										
NASHVILLE	176	993.1	1013.3	18.9	6.1	12.5	-2.9	28.9	23	- 1.1	11	0	2	4.4	61	114	21	36	13	6	0	0	4.2	NW	17.9	W	16	7	10	13	6.2	58
OAK RIDGE	276	980.1		17.8	6.1	12.2	-2.1	27.2	24+	- 1.7	11	0	4			92	- 12	34	11	6	0	0	2.8					8	6	16	6.6	
TEXAS																																
ABILENE	536	950.9	1011.5	26.7	10.6	18.6	0.5	35.6	24	1.1	1	5	0	5.0	46	T	- 63	T	0	1	0	0	6.2	SSE	19.2	SW	11	18	6	6	3.5	85
AMARILLO	1094	885.2	1010.4	22.2	4.4	13.4	0.3	32.8	19	- 3.3	9	4	5	- 0.6	47	6	- 31	3	5	0	8	0	6.8	SW	19.2	NE	14	15	9	6	3.8	80
AUSTIN	187	991.2	1013.3	26.7	12.8	19.7	-0.2	34.6	14	2.8	16	3	0	10.0	60	3	- 98	1	3	2	0	0	5.4	SSE	13.9	S	21+	12	6	12	4.8	65
BROWNSVILLE	5	1010.8	1013.5	27.2	17.8	22.4	-0.7	32.2	25	10.6	16	1	0	16.7	73	68	28	53	3	3	0	0	6.3	SSE	19.7	SE	30	6	12	12	5.9	57
CORPUS CHRISTI	13	1012.5	1013.9	26.1	16.1	21.2	-0.9	31.7	14	7.2	2+	0	0	15.0	71	96	52	85	5	3	0	0	6.0	SE	18.8	S	30	9	8	13	6.1	63
DALLAS	147	994.6	1013.4	24.4	11.7	18.2	-0.8	30.6	24+	2.8	1	0	0	8.3	56	42	- 56	31	5	5	0	0	6.5	S	25.9	N	30	16	6	8	4.2	70
DEL RIO U	292			28.9	14.4	21.7	0.0	36.1	27	5.6	16	8	0			33	- 4	33	2	3	0	0										
EL PASO	1194	883.2	1009.9	26.7	9.4	17.8	0.6	32.8	30	1.7	9	2	0	- 8.3	19	T	- 7	0	1	0	0	0	6.7	WSW	25.5	NW	8	21	6	3	2.6	96
FORT WORTH	166	992.6	1013.5	24.4	11.1	17.8	-1.1	31.7	27	2.2	16	0	0	8.3	57	57	- 41	39	4	5	0	0	7.2	S	16.5*	N	30	16	4	10	4.2	
GALVESTON U	2			21.7	16.7	19.1	-1.4	27.8	3	8.4	6+	0	0			57	- 21	41	5		0	0	6.4		25.5	NW	8					73
GALVESTON	2	1012.9	1015.3	22.2	16.1	19.1	-1.5	27.8	3	9.4	16	0	0	13.8	68	82	- 4	51	6	4	0	0	5.7	SE				10	12	8	5.2	
HOUSTON U	12			23.3	15.0	19.2	-1.7	29.4	27	7.2	1	0	0			119	32	71	5		0	0										
HOUSTON	15	1012.2	1015.1	25.6	14.4	20.0	-0.2	31.1	27	3.9	16	0	0	13.9	72	61	- 17	33	6	3	0	0	4.7	SSE				10	6	14	5.7	
LAREDO	152	996.6	1012.1	31.1	16.7	23.7	-0.7	36.7	22	8.9	16	16	0	11.7	55	35	- 6	24	3	3	0	0	6.0	SE	16.5*	NNW	15	9	12	9	5.1	
LUBBOCK	988	900.1	1011.1	25.0	6.7	15.7	0.4	33.9	30	- 1.1	12+	6	3	0.6	42	3	- 26	3	1	0	T	0	8.0	S	22.4*	N	14	18	7	5	3.4	
MIDLAND	870	912.3	1010.3	27.2	8.9	18.0	-0.1	35.0	2	0.6	9	9	0	1.1	39	1	- 35	1	1	0	0	0	5.7	S	19.7*	WNW	11	17	8	5	3.5	
PORT ARTHUR	5	1013.2	1014.9	24.4	12.8	18.6	-1.4	31.1	28	2.8	16	0	0	12.8	73	71	- 29	44	6	4	0	0	5.4	S	25.0	NW	11	12	4	14	5.3	51
SAN ANGELO	580	944.8	1011.6	28.9	10.6	19.5	-0.2	37.8	24	0.6	1	10	0	5.0	43	7	- 48	7	3	2	0	0	7.2	S	22.8*	WNW	11	17	7	6	3.5	
SAN ANTONIO	241	988.5	1013.5	27.2	13.3	20.3	-0.2	35.0	14	1.7	16	4	0	11.0	63	8	- 69	8	2	2	0	0	5.1	SSE	18.3	NW	15	13	6	11	4.8	68
VICTORIA	34	1008.8	1013.9	25.6	14.4	20.0	-1.4	32.8	27	5.6	16	1	0	13.3	68	60	- 2	34	5	2	0	0	6.5	SSE	23.7Y	NNW	12	10	7	13	5.7	
WACO	152	992.2	1013.4	26.1	12.2	18.9	-0.4	32.8	27	1.1	16	2	0	9.4	60	27	- 74	22	4	2	0	0	7.7	S	23.2*	SSW	8	13	7	10	4.4	
WICHITA FALLS	303	975.3	1012.0	24.4	8.9	16.7	-0.3	34.4	20	0.6	16	2	0	6.7	55	43	- 16	39	3	1	0	0	6.6	S	28.6*	NNE	30	17	5	8	3.9	
UTAH																																
MILFORD	1533	841.9	1013.5	17.2	- 0.6	8.2	-0.6	26.1	3	- 7.2	6	0	22			31	11	13	7	1	97	51						8	15	7	5.4	
SALT LAKE CITY	1286	865.9	1013.7	17.2	2.8	10.1	0.0	27.2	29	- 4.4	6	0	6	- 2.2	46	24	- 21	11	9	0	20	25	4.9	SSE	21.0	SW	22	5	13	12	6.2	56
WENDOVER	1291	868.6	1012.2	17.2	4.4	10.9		26.7	3	- 0.6	23	0	4			2		2	2	0	T	0						10	12	8	5.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

APRIL 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
VERMONT	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
BURLINGTON	101	993.7	1008.6	8.3	- 1.1	3.6	-2.1	19.4	21	- 6.1	20	0	23	- 1.1	76	101	34	23	16	1	178	51	3.4	N	12.5	S	16	3	4	23	8.5	30
VIRGINIA																																
LYNCHBURG	289	986.7		15.6	5.0	10.4	-2.6	28.9	25+	0.0	5	0	1			69	- 10	34	11	2	T	0	4.7		19.2	S	16	9	8	13	6.3	57
NORFOLK	8	1010.6	1011.9	18.3	7.8	13.1	-0.4	31.7	25	- 0.6	3	0	1	3.9	57	70	- 11	27	11	4	0	0	5.9	SW	18.8	SE	10	8	13	9	5.4	68
RICHMOND	49	1005.7	1012.0	18.3	5.0	11.7	-1.7	32.8	25	- 2.2	3	1	5	2.2	55	44	- 38	17	11	3	0	0	4.3	WSW	14.8	NW	28	7	12	11	6.3	53
ROANOKE	358	969.4	1012.0	15.6	5.6	10.6	-2.5	30.0	24	- 0.6	20	0	1	0.6	55	98	23	34	12	2	T	0	5.8	SW				9	4	17	6.6	
WASHINGTON																																
OLYMPIA	58	1012.2	1019.3	13.3	3.3	8.3	-0.8	19.4	7	- 3.3	5	0	10	4.4	78	84	24	22	18	1	T	0	3.5	WSW	11.2*	WSW	16	3	3	24	8.5	
SEATTLE TACOMA	122	1005.1	1019.4	12.2	4.4	8.3	-1.2	17.8	28+	- 1.1	20	0	1	3.9	76	60	6	11	17	0	0	0	3.8	SW	12.5*	SW	13	1	5	24	8.4	
SEATTLE	4	1017.7	1018.8											5.0	74								3.5	S								
SEATTLE U	4			13.3	7.2	10.2	-0.8	18.9	16+	1.1	20	0	0			51	2	11	19		0	0			17.0	SW	21+					30
SPOKANE	718	946.2	1015.7	13.3	1.7	7.3	-0.7	21.1	29	- 3.9	14+	0	12	- 0.6	62	24	- 1	14	10	1	3	0	4.6	SSW	18.8	SW	12	2	6	22	8.0	42
STAMPEDE PASS R	1206	878.8	1019.1	3.9	- 1.7	1.1	-1.8	10.0	16	- 7.2	20	0	24			251	111	60	24	0	1295	2794						3	1	26	8.9	
TATOOSH ISLAND	31	1015.6	1018.9	10.0	5.0	7.5	-1.1	12.8	30+	0.6	18	0	0	5.0	81	147	14	30	18	0	T	0	6.2	W	21.9	S	16+	2	3	25	8.4	33
WALLA WALLA U	289	980.4	1016.3	16.1	6.1	11.1	-1.1	23.9	16	0.6	5+	0	0			35	3	18	9	2	T	0	3.2	SE#	15.6	W	13	4	6	20	7.6	50
YAKIMA	323	977.7	1016.9	17.2	2.8	9.8	-0.9	23.3	27	- 3.9	19	0	7	0.0	53	22	11	15	4	2	T	0	4.3	WNW	20.6*	WNW	13	6	7	17	6.8	
WEST INDIES																																
SAN JUAN P.R. U	14			29.4	22.2	25.8	1.0	33.3	20	20.6	18	5	0			62	- 35	13	13	2	0	0										
SAN JUAN P.R.	5	1013.0	1015.9	30.6	21.1	25.8	1.2	33.3	5	18.9	19+	7	0	20.6	76	72	- 28	30	15	1	0	0	2.7	ENE	10.3*	E	29+	4	17	9	5.9	58
SWAN ISLAND	9	1011.3		30.6	25.6	27.9	0.7	31.7	19	22.8	23	0	0			14	- 13	6	5		0	0						13	12	5	4.4	
WEST VIRGINIA																																
CHARLESTON	290	976.4	1012.1	15.0	5.0	9.8	-2.9	29.4	24	- 2.8	3	0	4	1.7	60	82	- 13	15	16	4	13	0	4.2	WSW	14.3*	WNW	28+	3	3	24	8.1	
HUNTINGTON U	173			15.6	5.0	10.2	-3.8	31.7	24	- 1.7	3	0	5			104	17	22	14		T	0										
PARKERSBURG U	187			13.9	4.4	9.0	-3.1	29.4	24	- 2.8	3+	0	4			137	59	42	16	3	36	25	3.6		16.1	W	28					30
WISCONSIN																																
GREEN BAY	210	988.5	1011.8	10.0	0.6	5.2	-0.2	19.4	22+	- 5.6	2	0	13	- 1.7	65	42	- 21	13	11	2	38	25	5.4	NW	16.5	NE	16	3	10	17	7.4	42
LA CROSSE	199	987.1	1012.2	10.6	0.6	5.4	-2.7	19.4	22	- 6.7	2	0	14	- 1.1	68	34	- 25	11	12	1	107	76	5.1	NW	15.6*	NW	16	5	8	17	7.3	
MADISON	262	975.6	1011.5	10.0	- 0.6	4.8	-2.8	20.0	22	- 6.7	2	0	19	- 0.6	71	34	- 29	7	13	2	81	76	5.1	WNW	14.3	SE	20+	4	9	17	7.3	44
MILWAUKEE	204	988.5	1012.2	9.4	1.1	5.1	-1.7	18.3	21	- 6.1	2	0	12	0.6	73	99	38	29	14	5	178	76	5.3	WNW	15.6	N	16	5	7	18	7.1	45
WYOMING																																
CASPER	1621	833.1	1011.9	11.7	- 1.7	5.0	-1.1	22.8	19	- 8.3	8+	0	21	- 5.0	57	24	- 25	14	12	1	122	51	6.2	WSW	20.6*	N	30+	3	7	20	7.7	
CHEYENNE	1869	807.3	1012.0	11.7	- 2.2	4.8	-0.2	25.0	19	- 7.8	7	0	22	- 5.0	56	21	- 33	7	12	0	198	76	7.2	WNW	24.6	NW	14	2	16	12	7.1	57
LANDER	1696	831.4	1012.0	12.8	- 2.2	5.4	-0.2	23.3	29	- 8.3	5	0	23	- 6.7	48	22	- 40	6	9	0	333	76	3.7	W#	29.1	W	23	7	12	11	6.2	75
SHERIDAN	1202	881.8	1014.6	11.7	- 1.7	4.9	-1.5	25.0	18	- 7.2	7	0	21	- 2.2	63	30	- 27	7	15	0	104	25	4.6	NW	21.9	NW	23	2	14	14	7.2	58

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.
A Maximum hourly average.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
\# Wind direction to 8 compass points only.
Y Peak Gust.

Data in this table is obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	199	2773	2750
Huntsville	261	3206	
Mobile	131	1760	1612
Montgomery	170	2438	2137
ALASKA			
Anchorage	865	9441	9852
Annette	618	5738	6279
Barrow	2172	18938	17629
Barter Island	2253	18353	
Bethel	1319	12209	11733
Cold Bay	951	8431	8317
Cordova	843	8055	8459
Fairbanks	1189	13348	13419
Juneau	746	7351	7988
King Salmon	1018	10358	10133
Kotzebue	1598	14049	14403
McGrath	1187	13405	13431
Nome	1402	12508	12540
St. Paul	1093	9708	9210
Shemya	864	8136	
Yakutat	806	7577	8216
ARIZONA			
Flagstaff	619	6270	6848
Phoenix (U)	6	987	1492
Phoenix	6	1371	1698
Prescott	317	4003	4352
Tucson	41	1665	1776
Winslow	308	4812	4550
Yuma	0	598	951
ARKANSAS			
Ft. Smith	238	3323	3164
Little Rock	200	3244	2964
Texarkana	166	2554	2362
CALIFORNIA			
Bakersfield	93	2334	2094
Bishop	265	3770	4044
Blue Canyon	556	4610	5120
Burbank	110	1103	1701
Eureka (U)	467	3957	3975
Fresno	138	2699	2489
Long Beach	126	1351	
Los Angeles (U)	74	798	1364
Los Angeles	156	1349	1838
Mt. Shasta (R)	530	4917	5382
Oakland	234	2668	2832
Point Arguello (R)	347	3117	
Red Bluff	145	2560	2495
Sacramento (U)	151	2484	2510
Sacramento	172	2569	2712
Sandberg (R)	382	3623	3926
San Diego	100	993	1434
San Francisco (U)	241	2743	2641
San Francisco	231	2671	2993
San Jose (U)	185	2077	2227
Santa Maria	290	2611	2553
COLORADO			
Alamosa	728	7963	8016
Colorado Springs	634	5964	5872
Denver	560	5670	5781
Grand Junction	434	5135	5628
Pueblo	460	5198	5479
CONNECTICUT			
Bridgeport	552	5583	5609
Hartford	589	6583	5907
Middletown	625	6481	
New Haven	567	5812	5713
DELAWARE			
Wilmington	486	5241	4794
DIST. OF COLUMBIA			
Washington (U)	398	4349	4178
Washington	399	4512	4246
FLORIDA			
Apalachicola (U)	70	1331	1307
Daytona Beach	47	968	868
Fort Myers	2	353	405
Jacksonville	59	841	1243
Key West	0	84	77
Lakeland (U)	14	663	649
Miami	1	181	178
Miami Beach	0	113	123
Orlando	9	645	650
Pensacola (U)	98	1471	1435
Tallahassee	119	1593	1519
Tampa	15	616	674
West Palm Beach	1	249	248
GEORGIA			
Athens	291	3138	2785
Atlanta	276	3026	2806
Augusta	202	2654	2138
Columbus	190	2488	2396
Macon	166	2364	2049
Rome	297	3543	3111
Savannah	143	1984	1710
Thomasville (U)	86	1538	1472
IDAHO			
Boise	500	5078	5549
Idaho Falls 46W (R)	689	7414	7994
IDAHO (Cont'd.)			
Idaho Falls 42NW (R)	683	7661	8344
Lewiston	452	4888	5193
Pocatello	596	6212	6523
ILLINOIS			
Cairo (U)	337	3924	3709
Chicago (Midway)	612	5699	6023
Chicago (O'Hare)	640	6160	
Moline	614	6095	6120
Peoria	612	6034	5854
Rockford	654	6424	
Springfield	521	5420	5490
INDIANA			
Evansville	384	4531	4264
Ft. Wayne	618	6002	6008
Indianapolis	580	5636	5405
South Bend	666	6126	6214
IOWA			
Burlington	573	5776	5888
Des Moines	600	6081	6200
Dubuque	693	6813	6928
Sioux City	568	6385	6730
Waterloo	688	6959	6845
KANSAS			
Concordia (U)	464	4962	5157
Dodge City	420	4678	4908
Goodland	605	5544	6068
Topeka	460	4954	5057
Wichita	376	4464	4463
KENTUCKY			
Lexington	490	4734	4824
Louisville	477	4773	4340
LOUISIANA			
Alexandria	163	2238	
Baton Rouge	129	1849	1595
Lake Charles	100	1580	1543
New Orleans (U)	45	1187	1175
New Orleans	88	1508	1317
Shreveport	148	2238	2117
MAINE			
Caribou	872	9183	9460
Greenville (U)	872	9039	
Portland	688	7314	7170
MARYLAND			
Baltimore (U)	398	4323	4130
Baltimore	457	4949	4667
Frederick	522	5589	4748
MASSACHUSETTS			
Blue Hill Obs. (R)	658	6286	
Boston	587	5651	5513
Nantucket	655	5659	5569
Pittsfield	723	7338	7253
Worcester	685	6840	
MICHIGAN			
Alpena	819	7988	7501
Detroit (City AP)	638	5964	6093
Detroit (M. Wayne Co.)	668	6155	
Detroit (Willow Run)	649	6040	6170
Escanaba (U)	780	7640	8020
Flint	694	6727	6761
Grand Rapids	675	6352	6695
Lansing	692	6603	
Marquette (U)	812	7628	7863
Muskegon	702	6430	6622
S. Ste. Marie	810	8349	8752
MINNESOTA			
Duluth	883	8670	9285
Internat. Falls	900	9438	9992
Minneapolis	788	7783	7514
Rochester	804	7599	7705
St. Cloud	825	7955	8456
MISSISSIPPI			
Jackson	172	2398	2202
Meridian	182	2502	2324
Vicksburg (U)	146	2228	2000
MISSOURI			
Columbia	465	4752	4964
Kansas City	457	4625	4769
St. Joseph	481	5163	5195
St. Louis (RFC)	385	4299	4368
St. Louis	455	4813	4587
Springfield	409	4456	4559
MONTANA			
Billings	660	5648	6683
Butte	884	8066	8874
Glasgow	753	7468	8265
Great Falls	732	6049	7030
Havre	759	6869	7775
Helena	726	6671	7654
Kalispell	730	7173	7449
Miles City	678	6467	7459
Missoula	679	7191	7332
NEBRASKA			
Grand Island	555	5764	6077
Lincoln (U)	509	5474	5661
Norfolk	612	6395	6754
North Platte	660	6112	6244
Omaha	528	5658	5953
Omaha N. Omaha AP	574	6062	
Scottsbluff	661	6278	6455
Valentine	719	6582	6704
NEVADA			
Elko	673	6490	6774
Ely	702	6612	6825
Las Vegas	63	2376	2425
Reno	531	5356	5553
Tonopah	447	5045	5130
Winnemucca	603	5804	5959
NEW HAMPSHIRE			
Concord	665	7225	7214
Mt. Washington Obs. (R)	1334	12662	
NEW JERSEY			
Atlantic City	540	4977	
Atlantic City (U)	478	5122	4528
Newark	487	5040	5093
Trenton (U)	492	5137	4924
NEW MEXICO			
Albuquerque	308	4256	4319
Clayton	467	4968	4930
Raton	589	5995	6038
Roswell	234	4063	3396
Silver City	248	3723	
NEW YORK			
Albany	627	6882	6666
Binghamton	748	7106	7131
Buffalo	749	6750	6451
New York (U)	473	4933	4879
New York (LaGuardia)	490	4825	4838
Rochester	692	6600	6520
Schenectady	610	6611	6777
Syracuse	656	6620	6236
NORTH CAROLINA			
Asheville (U)	444	4129	3962
Cape Hatteras (R)	262	2710	2367
Charlotte	376	3410	3176
Greensboro	410	4013	3760
Raleigh	367	3674	3328
Wilmington	243	2670	2316
Winston-Salem	374	3817	3672
NORTH DAKOTA			
Bismarck	733	7708	8562
Devils Lake (U)	871	8865	9409
Fargo	811	8382	8835
Grand Forks CAA	824	8789	
Pembina	839	9030	
Williston (U)	781	7562	8570
OHIO			
Akron	664	6126	5918
Cincinnati (U)	451	4428	4424
Cincinnati	497	4885	5023
Cincinnati Obs.	497	4829	4725
Cleveland	640	6186	5737
Columbus	536	5381	5404
Columbus (U)	544	5246	5102
Dayton	580	5542	5379
Mansfield	668	6076	
Sandusky (U)	605	5699	5601
Toledo	698	6251	6089
Youngstown	681	6258	5878
OKLAHOMA			
Oklahoma City	247	3502	3604
Tulsa	281	3532	3540
OREGON			
Astoria	520	4277	4416
Burns (U)	619	6208	6410
Eugene	436	4112	4384
Meacham	761	6692	7034
Medford	411	4146	4271
Pendleton	434	4600	4956
Portland (U)	395	3565	3874
Portland	442	3975	4297
Roseburg	396	3805	4182
Salem	473	4051	4234
Sexton Summit (R)	680	5396	5497
PENNSYLVANIA			
Allentown	568	6005	5691
Erie	681	6115	6156
Harrisburg	509	5471	5116
Philadelphia (U)	424	4524	4430
Philadelphia	452	5282	4762
Pittsburgh (U)	551	5124	4898
Pittsburgh	627	5930	5674
Reading (U)	488	5202	4926
Scranton	684	6614	5816
Williamsport	581	6259	5692
RHODE ISLAND			
Block Island	634	5536	5412
Providence	581	5913	5809
SOUTH CAROLINA			
Charleston (U)	143	1926	1769
Charleston	181	2247	1973
Columbia	227	2735	2435
Florence	234	2693	2307
Greenville	287	3119	3028
Spartanburg	316	3279	3018
SOUTH DAKOTA			
Huron	758	7866	7543
Pierre	686	6780	
Rapid City	690	6164	7030
Sioux Falls	689	7155	7492
TENNESSEE			
Bristol	423	4236	4053
Chattanooga	279	3586	3339
Knoxville	377	3774	3540
Memphis (U)	241	3136	2986
Memphis	249	3324	3113
Nashville	336	3795	3470
Oak Ridge (U)	350	3871	3970
TEXAS			
Abilene	114	2635	2657
Amarillo	303	4158	4246
Austin	80	1797	1713
Brownsville	14	727	617
Corpus Christi	35	1088	1011
Dallas	115	2319	2272
Del Rio (U)	33	1543	
El Paso	97	2820	2641
Ft. Worth	132	2446	2356
Galveston (U)	55	1280	1211
Galveston	57	1316	1233
Houston (U)	59	1344	1276
Houston	61	1328	1388
Laredo	13	1059	781
Lubbock	210	3649	3551
Midland	124	2783	2565
Port Arthur	99	1552	1517
San Angelo	85	2345	2107
San Antonio	63	1552	1579
Victoria	57	1341	1126
Waco	101	2086	2025
Wichita Falls	167	2924	3009
UTAH			
Milford	540	5705	6099
Salt Lake City	440	5249	5552
Wendover	397	5345	
VERMONT			
Burlington	788	8044	7486
VIRGINIA			
Lynchburg	439	4350	4066
Norfolk	318	3603	3395
Richmond	390	4110	3889
Roanoke	433	4282	4071
WASHINGTON			
Olympia	534	4849	4980
Seattle (U)	438	3814	4085
Seattle	441	4133	4398
Seattle-Tacoma	531	4505	4813
Spokane	592	6033	6376
Stampede Pass (R)	926	8011	8075
Tatoosh Island (R)	580	4822	4957
Walla Walla	416	4471	
Walla Walla (U)	382	4219	4639
Yakima	452	5427	5587
WEST VIRGINIA			
Charleston	471	4671	4299
Huntington (U)	451	4427	3983
Parkersburg (U)	507	4693	4618
WISCONSIN			
Green Bay	703	7371	7805
La Crosse	688	6923	7326
Madison	726	7028	7063
Milwaukee	708	6785	6745
WYOMING			
Casper	714	6574	7111
Cheyenne	722	6569	6927
Lander	692	7083	7744
Sheridan	721	6480	7355

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

APRIL 1961

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
Alabama	2	2	0	2	5	0	0	1	0	0	0	5	0																
Alaska *																													
Arizona *																													
Arkansas						0	0	5	6	0	14	6	3																
California														0	0	3	0									0	0	0	6
Colorado										0	2	4	4																
Connecticut	1	1	0	0	3																					0	0	5	0
Delaware	1	1	0	0	4																								
Florida	3	2	0	3	5					0	0	5	0																
Georgia	11	4	0	7	5	0	0	6	6	0	0	4	4													0	0	0	6
Hawaii																										0	0	6	5
Idaho										0	3	4	0																
Illinois	2	2	0	4	6	0	3	7	5	0	0	6	0	0	0	5	0	5	14	5	0								
Indiana	2	2	0	7	6	0	0	3	0	0	0	4	0					0	?	4	0								
Iowa	2	1	0	8	7	0	0	6	0	2	13	6	0																
Kansas	3	3			5			4			1	4			1	4											1		
Kentucky								4			1	4	2																
Louisiana	1	1	0	0	5																								
Maine *																													
Maryland	1	1	0	0	3																								
Massachusetts										0	0	4	0	1	11	4	0	0	0	4	0	0	0	4	0	0	0	D4	0
Michigan								4								4													
Minnesota														1	0	0	0												
Mississippi						0	0	4	0	0	0	4	0																
Missouri	7	5	0	1	4																					0	2	6	5
Montana																		0	0	4	0								
Nebraska										0	0	5	5																
Nevada *																													
New Hampshire *																													
New Jersey										0	0	5	0																
New Mexico *																													
New York										5		6				5				5								5	
North Carolina	1	1	0	0	4	0	0	4	3	0	0	5	0																
North Dakota																		0	0	5	0								
Ohio	4	3	2	F	6																					0	0	5	0
Oklahoma	12	6	0	2	4	0	0	6	6	0	0	5	0																
Oregon *																													
Pennsylvania	1	1	0	0	5					0	0	5	0	0	0	3	0												
Puerto Rico *																													
Rhode Island	1	1	0	0	0																								
South Carolina	3	1	1	0	5					0	12	5	0	0	1	0	0												
South Dakota												°4	C																
Tennessee	1	1	0	2	4	0	0	4	?	0	0	4	0	0	1	0	0												
Texas	15	7	1	7	5	0	0	6	0	0	25	6	0	0	0	4	0												
Utah											6	4																	
Vermont *																													
U.S.Virgin Is. *																													
Virginia *																													
Washington *																													
West Virginia	1	1	0	0	?					0	0	?	0																
Wisconsin														0	1	0	0												
Wyoming										0	5	4	5																

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
D Dust devil and rain.
F Few.
° Includes crop damage.
C Crop damage.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

APRIL 1961

Severe flooding occurred on Canaseraga Creek in New York during April. This flood was described by some as the worst flood they have ever witnessed. In western New York State, the worst flash flooding in over 30 years was reported at Salamanca, N. Y. Considerable flooding occurred in streams in the Wabash Basin. The previous highest stage of record was equaled on the White River at Centerton, Ind. Flooding reported elsewhere was mostly light to moderate.

ST. LAWRENCE DRAINAGE

Lake Erie. --There were two separate periods of flooding on the St. Marys River in Indiana and on the St. Joseph River in Ohio during April. Damage was very light along the St. Marys River at Decatur, Ind., with some flooding of county roads. There was no damage along the St. Joseph River. The Maumee River at Ft. Wayne, Ind., was in flood from April 23 to May 1. Flooding was mainly in low-lying park areas in the city and low farm ground near the river. Damage was light, but considerable clean-up and removal of debris was required after water receded. Minor flooding occurred along the Blanchard River at Findlay and Ottawa, Ohio. Winter wheat in lowlands suffered the most damage.

The Sandusky River reached bankfull stage on the 27th at Upper Sandusky, Ohio, and slightly over bankfull stage at Fremont, Ohio, on the 26th. No damage was reported.

Lake Ontario. --Heavy rainfall during the afternoon and evening of the 24th over the southern and eastern portions of the Genesee Valley in New York resulted in flooding on Canaseraga Creek, Oatka Creek, and Genessee River in New York. The greatest flooding occurred in the Canaseraga Creek Valley. Flooding began on the downstream outskirts of the village of Dansville, extending from there to the Genessee River. A complicating factor was the presence of considerable obstructing material in the channel below Groveland. This, along with the excessive rainfall, produced flooding described by some as the worst they had ever witnessed there, and by some as twice the flood water of any other consequence. In the Genesee River above Mt. Morris, damage was more severe in this flood than in the flood of late February 1961, although stages were somewhat lower in the headwaters area. Stages in the lower part of this reach were higher due to local inflow.

ATLANTIC SLOPE DRAINAGE

Minor flooding occurred on the Charles River at Charles River Village, Mass., from the 18th to the 21st due to rainfall from the 10th through the 17th. Flooding was confined to marshes and lowlands and no damage was reported.

Minor flooding along the Connecticut River in Connecticut from the 24th to the 30th was due to snowmelt and rainfall. No damage resulted.

Heavy precipitation (about 2 inches) over central and northern New Jersey on the 13th caused light flooding on the Passaic, Millstone, and Raritan Rivers on the 14th. Moderate to heavy showers on the 16th, added to conditions already existing over the Passaic Basin, caused shallow flooding at Chatham, N. J., on the 17th, and at Little Falls, Patterson, N. J., from the 17th through the 20th. No damage of consequence was experienced.

A slight overflow occurred on the Chemung River at Chemung, N. Y., on the 16th and 17th due to continued rains and snows. Rainfall on the 10th and 11th caused a slight rise and left the soil with a high moisture content. Wet snows were added on the 13th and 14th with a water content of about 1 inch. This snow cover melted rapidly on the 16th when temperatures in the middle and upper 60's occurred. The additional rainfall of 0.35 inch on the 17th caused the river at Chemung to overflow slightly. No damage resulted from this overflow. Slight to moderate overflows occurred on the Susquehanna River at Conklin and Vestal, N. Y., and at Towanda and Wilkes-Barre, Pa., between the 24th and 27th, due to moderate to heavy showers. Rainfall over the southern half of the Susquehanna Basin averaged less than 0.25 inch, while amounts ranging from 0.50 inch to 3.00 inches were reported in the northern half. A slight overflow occurred on the Chemung in the Elmira, N. Y., area and a moderate overflow at Chemung, N. Y. There was widespread minor damage on the North Branch of the Susquehanna above Sunbury, Pa. This was mostly in the form of basement flooding through seepage and the inundation of some farm land.

Heavy rains (1 to 2 inches) on the night of the 12th and early morning of the 13th over most of the James River Basin caused a 3-foot overflow of the Rivanna River at Palmyra, Va., and light flooding along the James at Columbia and near Richmond, Va., between the 13th and 15th. No damage was reported along the James and none of any consequence along the Rivanna.

Minor flooding occurred on the Neuse and lower Cape Fear Rivers early in the month due to moderate rain (1 to 1 1/2 inches) on March 31. Additional rains, averaging about 1 to 2 inches, on the 9th and 10th caused moderate rises on all rivers and streams in eastern North Carolina with stages generally remaining within bankfull. On the upper Roanoke at Randolph, Va., near-flood stage was reached on the 11th. Light flooding resulted on the lower Neuse and on the lower Cape Fear Rivers.

The Pee Dee River at Peedee, S. C., continued in flood from March 24 to April 9. Heavy rains of 1 to 2 inches on April 1 prolonged the flooding in the Pee Dee and resulted in light flooding on the Saluda at Pelzer, S. C., the Broad at Blair, S. C., and the North Fork of the Edisto at Orangeburg, S. C., on the 1st. The latter stream continued in flood until the 7th. General rains of 1 to 2 inches on the 10th followed by rain of more than 1 inch on the 12th and 13th caused additional light flooding on the Pee Dee, the Saluda, the Broad, and the Edisto. These rains caused the Waccamaw at Conway, S. C., and the Black at Kingstree, S. C., to go over their banks on the 14th and continue in flood at Conway until the 30th and at Kingstree until the 21st. Although the Wateree did not reach flood stage at Camden, S. C., there was some lowland flooding below Camden with some pasture damage and disruption of logging operations. Principal areas of damage were along the Congaree below Columbia and along the upper and lower Santee. There was delay in bridge construction work on the Pee Dee at Cheraw and road construction near Peedee, S. C. Camp sites on the lower Edisto had to be abandoned.

The Savannah and Ogeechee Rivers in Georgia overflowed their banks at various points during the month due to heavy rains. During the 2-day period ending the 1st, the rainfall

averaged 3 inches. Additional rainfall of 1 inch was reported on the morning of the 10th and again on the 13th. On the 15th and 16th, 1.75 inches was reported in the Savannah drainage and 2.50 inches in the Ogeechee drainage. No flood damage was reported. Monetary losses resulted due to work stoppage and the extra cost of feeding cattle and hogs.

Rainfall during the first half of the month caused the Ocmulgee, the Oconee, the Altamaha, and Satilla Rivers in Georgia to overflow their banks. The rainfall occurred at intervals of 1 to 2 days, with most of it occurring on the 1st and on the 13th to the 16th. There was considerable flooding of lowlands given over to logging, grazing, and some farming. No damage was reported in any of the towns.

EAST GULF OF MEXICO DRAINAGE

The heavy rains of March 31 to April 1 caused the Chattahoochee River to rise to near bankfull stages, with flood stages slightly exceeded over that part of the river between and including Eufaula and Fort Gaines, Ga. The Flint River was similarly affected, with flood stage exceeded only at Albany, Ga. The Apalachicola River rose slightly above flood stage at Chattahoochee, Fla., and to 6.5 feet above flood stage at Blountstown, Fla. Moderately heavy rains on the 12th resulted in a general rise in the rivers. These rains were followed by heavier rains on the 15th and 16th. The most substantial rises occurred on the Flint River with flood stages closely approached in the areas above Albany, Ga., and 1 to 3 feet above flood stage from Albany downstream. The Apalachicola River, still high from an earlier rise, again rose to about the same levels reached earlier in the month, or 2 to 6 feet above flood stages. Damage from the flooding was small and limited mostly to bottom lands or wooded areas. The high waters, especially in the Apalachicola River, prevented some operations involving losses in wages due to suspension of business.

Light to moderate flooding occurred on the Alabama, Cahaba, Choctawhatchee, and Tallapoosa Rivers in Alabama during the first half of April due to 2 to 3 periods of rather heavy rainfall. Most of these rivers were at rather high levels from the record February and March floods. No great amount of damage resulted from these floods.

Heavy rains near the end of March caused minor flooding on the Warrior and Tombigbee Rivers in Alabama and Mississippi. Stages on the lower rivers were still high as the heavy flooding of March had not completely receded. Very little damage resulted from this flooding.

Heavy rains during the last week in March resulted in flooding in the Pascagoula and Pearl River Basins in Mississippi during the latter part of March and in April. The rainfall averaged between 4 and 6 inches over the Pearl River Basin above Jackson and from 6 to 11 inches over the middle reaches of these basins. Runoff was very heavy over the middle reaches of the Pearl River at and above Monticello and Columbia. Substantial flooding occurred over all lowland pastures and woodlands, and some low residential areas were adversely affected. The floods substantially curtailed gravel mining on the lower Bogue Chitto and timber harvests on the lower Pearl River through most of April.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--The spring snowmelt over the extreme Upper Mississippi River upstream from Minneapolis was not of consequence this year. The mixed snow and rain of the 14th to the 17th and again on the 18th and 19th did produce slight runoff when it melted. The Mississippi River at Fort Ripley, Minn., rose from a stage of 3.8 feet on the 19th to 5.2 feet on the 24th, remaining steady through the 30th.

The Lake Superior shipping season opened at Duluth-Superior on the 12th.

The Wapsipinicon River at DeWitt, Iowa, crested at 11.35 feet (flood stage 10 feet) on the 5th. No damage resulted.

The flooding which began on the Des Moines, Cedar, and Iowa Rivers in Iowa during March continued on the lower reaches during the first part of April. Crests were reached on the Iowa and Cedar Rivers at Marshalltown and Cedar Rapids during March. Crests on the lower Des Moines, at Tracy, Eddyville, and Ottumwa were reached on the 2d with above-flood-stage readings continuing to the 5th. Flood damages during April were mostly minor, confined principally to low-lying farm land.

The flooding on the Sangamon River at Riverton, Ill., beginning on March 25 and continuing through April was due to heavy rain from the 22d to the 25th. No damage resulted from the flooding. The heavy rain on April 8 caused the Big Muddy to overflow at Murphysboro, Ill., from the 13th to the 22d.

The main stem of the Mississippi began flooding at Keithsburg, Ill., on March 31 and continued in the reach from Muscatine, Iowa, to Winfield, Mo., to April 11.

Missouri Basin.--Heavy precipitation on the 8th and 9th caused the Grand and Blackwater Rivers in Missouri and the Marais des Cygnes and Wakarusa Rivers in Kansas to overflow between the 9th and 15th. The flooding on the Grand River was not as extensive as during March. Flooding on the Blackwater was quite extensive, but most cropland had not been seeded. The greatest loss was due to delay in soil preparation for the 1961 crop.

Moderate overflows of 2 to 4 feet above flood stage occurred on the upper Marais des Cygnes River downstream to La Cygne, Kans., from the 9th to the 12th. Minor flooding developed on the Wakarusa River and also continued downstream below La Cygne on the lower Marais des Cygnes River. Locally heavy thunderstorms on the 24th and 25th also brought another within-bank rise on the Marmaton River at Fort Scott, Kans. Due to recent overflows in March there was little additional loss on the Marais des Cygnes and Wakarusa Rivers, except that incurred by delay to farming operations. Relatively minor agricultural damage resulted from a brief overflow on the Marmaton River.

Ohio Basin.--Moderate to heavy showers and thundershowers on the 24th and 25th over the headwater areas of the Allegheny River Basin resulted in flooding on the tributaries in western New York State and northwestern Pennsylvania. Rainfall amounts varied from 1.00 to 2.60 inches in a 12-hour period. Flood stages on the Allegheny were exceeded at Olean, N. Y., by 4 feet. Flood damages in western New York State were believed to be mostly confined to agricultural lands with Salamanca, N. Y., reporting the worst

flash flooding in over 30 years. Streets, sidewalks, and highways were damaged by washouts.

Light to moderate showers and thundershowers on the evening of the 26th, varying from 0.50 to 2.00 inches, occurred over the Monongahela and upper Ohio River Basins, resulting in flash flooding on some tributary streams, but no flood stages were reached on the main river or major tributaries.

The Ohio River at Pittsburgh, Pa., crested at 22.4 feet on the 26th, 2.6 feet below flood stage and 5.4 feet above normal pool limit of 17 feet.

The Hocking River was in flood at Enterprise, Ohio, on the 26th, cresting on the same date 0.8 foot above flood stage. Damage from the flooding was negligible.

There were two periods of flooding along Paint Creek and Scioto River in Ohio. The first flooding occurred between the 14th and the 17th and the second between the 22d and 29th. Flood damage was limited mostly to a prolonged delay in setting up farm operations in the lowlands.

Considerable flooding occurred on streams in the Wabash Basin during the last half of the month. The most significant aspect of this flooding was its long duration due to the number of days with appreciable rainfall amounts. Precipitation totaling about 0.75 to 1.00 inch on the 9th and 10th was fairly general and was followed in many areas by light rainfall during the next 2 days. Again on the 16th and 17th, rainfall averaged 1.00 to 1.25 inches for the 2-day period. Scattered showers occurred on the 21st and 22d, and most areas in the northern one-third of the Wabash and White Basin received daily rainfall amounts from the 21st through the 26th averaging more than 0.50 inch. As a result of this continued runoff, rising stages persisted through the end of the month. The Wabash crested more than 10 feet above flood stage at Montezuma, Ind. At Centerton, on the White, a crest of 608.6 feet (above sea level) was equal to the previous highest of record, although somewhat below the high water mark of 1913. Downstream at Spencer, Ind., about a dozen families were evacuated as water began to creep up near the level of the first floor. Crop damage was at a minimum because of the time of the year. Damage was mostly confined to washouts along roads, bridges, etc. Some erosion damage to fields and damage due to deposits of sand and gravel also occurred. Many state roads were closed, but the main highways remained open. In rural areas, access to some farmhomes was by boat only.

The Tennessee River at Gilbertsville, Ky., continued above flood stage from February 23 to April 3, cresting on March 10 nearly 17 feet above flood stage. Light flooding occurred again at this point from the 18th to the 20th.

There was some flooding along the main stem of the Ohio in the lower portion at the beginning of the month. Minor rises developed about midmonth and again at the close of the month, but resulted in only minor overflow in some areas. There was no additional damage over that experienced in March.

White Basin.--Flooding on the White and Black Rivers in Arkansas during April was due to heavy rainfall which occurred in March. The Black continued above flood stage at Black Rock, Ark., from March through April 24th, cresting 5.5 feet above flood stage on April 2. The Little Red rose briefly in early April to levels of 3 to 5 feet above flood stage. Along middle reaches of the White, crests up to 2.4 feet over flood stages were measured from Augusta to Des Arc, Ark., on the 4th and 5th. Overflow continued until the 22d at Des Arc. Crests were near 3 feet over flood stage in lower reaches downstream at Clarendon and St. Charles, Ark., on the 8th and 9th. Overflow remained at these points past the close of April. Damage from this flooding was confined to the loss of the use of pasturelands adjacent to the streams and to delay in timber operations.

Arkansas Basin.--Heavy rainfall over the central and lower Caney River Basin on the evening of April 21 produced minor overflow. At Copan, Okla., the crest was nearly 2 feet above flood stage, but at Bartlesville, Okla., the peak was about 2.5 feet below flood stage. Minor lowland flooding developed over the Neosho Basin from the 10th through the 13th from near Emporia, Kans., downstream through Iola, Kans. No significant damage was reported.

Red Basin.--Moderate to locally heavy rains fell over the Ouachita drainage during the closing week of March. Tributary streams, the Little Missouri and Caddo, crested a little over bankfull on March 31 and April 1. The Ouachita went above flood stage at Arkadelphia, Ark., on March 31, cresting 5 feet over flood stage on that date and then fell rapidly. At Camden the stream was above flood stage from the previous month through the 18th, cresting at 36.1 feet, or 10.1 feet over flood stage, on the 4th. Downstream at Monroe, La., flood stage was reached on the 14th and overflow prevailed through the 27th, cresting at 40.7 feet, or 0.7 foot over flood stage, on the 20th and 21st. The Black at Jonesville, La., reached flood stage on the 3d and continued in flood until the 23d, cresting at 1.2 feet over flood stage on the 13th and 14th. Flooding developed on the Red River tributaries, the Little, Sulphur, and Cypress at the end of March and during the first 2 days of April. Damage from the flooding in the Red drainage was confined mostly to the loss of use of pasturelands adjacent to the streams and to a delay in timber operations on lowlands.

Lower Mississippi Basin.--Minor lowland overflow developed along the St. Francis River in southern Missouri and Arkansas during mid-April. In the Yazoo River system light overflow continued on the Coldwater River at Sarah, Miss., until April 2. The Tallahatchie River, also above flood stage from rains in March, crested 2.4 feet above flood stage at Swan Lake, Miss., and remained over flood stage until the 15th. Lowland flooding was reported along the Sunflower during the first half of April. The Yazoo River remained above flood stage at Yazoo City, Miss., and downstream to the mouth of the river throughout the month. The principal flood damages were to farm and pasturelands and a few farm buildings, and in the Long Lake housing area near Vicksburg, Miss., in the backwater area. The Big Black River continued to fall after the first week of the month, and at Pickens, Miss., the stage dropped below flood stage on the 11th. At Bovina, Miss., the river fell below flood stage on the 18th. The highest stages since June 1957 were recorded on the Mississippi River below Natchez, Miss., but the river failed to reach flood stage.

Atchafalaya Basin.--Gradual but persistent rises continued in the Atchafalaya River from March and crests were reached during the second week of April. The crest

remained below flood stage at all stations, except Atchafalaya, La., where flood stage was exceeded by 0.1 foot on the 12th, and Morgan City, La., also on the 12th. Strong onshore winds were a factor increasing the crest height at Morgan City.

WEST GULF OF MEXICO DRAINAGE

Portions of the upper and middle Calcasieu and the Sabine Rivers at Bon Wier and Deweyville, Tex., were above flood stage at the beginning of the month. The Sabine was between bankfull and flood stage at Milam, Tex. These streams crested by April 6. Only minor flooding occurred during the beginning of the month and no damages resulted. Minor flooding developed along the East Fork of the Trinity River in north-central Texas on April 7 and continued through the 13th at Rockwall, and through the 17th in the lower portions of the East Fork. No appreciable damage was reported. Heavy local rains up to 8 inches on April 5 in southern Texas caused minor flooding on the lower Frio from the 6th to the 8th, with flood stage exceeded at Tilden by 5 feet on the 7th.

FLOOD STAGE DATA

(All dates in April unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From-	Above flood stages -dates To-	Crest* Stage	Crest* Date
ST. LAWRENCE DRAINAGE	Ft.			Ft.	
Lake Erie					
St. Marys: Decatur, Ind.	13	17	21	15.6	19
		23	May 2	20.1	27
St. Joseph: Montpelier, Ohio	10	18	21	10.6	19
		23	30	12.1	24
				13.6	27
Maumee: Ft. Wayne, Ind.	15	23	May 1	16.9	25
				18.1	27
				18.6	28
Sandusky: Upper Sandusky, Ohio	13	27	27	13.0	27
Freemont, Ohio	10	26	26	10.4	26
Lake Ontario					
Canaseraga Creek: Groveland, N. Y.	11	24	26	13.6	25
Oatka Creek: Garbutt, N. Y.	5	25	27	6.4	26
Genesee: Scio, N. Y.	8	24	26	9.7	25
Portageville, N. Y.	19	25	26	19.9	25
ATLANTIC SLOPE DRAINAGE					
Charles: Charles River Village, Mass.	4	18	21	4.0	20
Connecticut: Hartford, Conn.	16	24	29	17.6	25
Middletown, Conn.	9	25	30	10.6	26
Passaic: Chatham, N. J.	5	14	14	6.1	14
Little Falls, N. J.	126	17	21	126.6	18-19
Millstone: Blackwells Mills, N. J.	8	14	14	9.0	14
Raritan: Manville, N. J.	12	14	14	12.6	14
Bound Brook, N. J.	8	14	14	9.6	14
Chemung: Chemung, N. Y.	12	16	17	14.2	17
		25	27	18.3	26
Elmira, N. Y.	10	25	26	13.6	25
Susquehanna: Conklin, N. Y.	11	24	26	14.3	25
Vestal, N. Y.	18	25	26	20.2	25
Towanda, Pa.	16	25	27	20.0	26
Wilkes-Barre, Pa.	22	26	27	24.7	26
Rivanna: Palmyra, Va.	E15	13	14	17.9	13
James: Columbia, Va.	18	13	14	19.0	14
Richmond, 7WNW, Va.	12	14	15	12.6	14
Neuse: Neuse, N. C.	14	2	4	14.9	3
Smithfield, N. C.	13	2	6	15.25	4
Goldsboro, N. C.	14	1	10	15.6	7
		17	19	14.6	17
Kinston, N. C.	14	1	5	14.8	2
		8	12	14.35	10
Cape Fear: Lock No. 2, Elizabethtown, N. C.	20	2	6	24.8	3
		12	17	21.8	12
Waccamaw: Conway, S. C.	7	14	30	7.5	19-23
Pee Dee: Peedee, S. C.	19	Mar. 24	9	20.7	5
		12	24	22.0	17
Black: Kingstree, S. C.	12	14	21	13.0	18
Saluda: Pelzer, S. C.	5	13	14	6.7	13
Chappells, S. C.	13	1	1	14.6	1
		12	13	13.4	13
Broad: Blair, S. C.	14	1	1	14.4	1
		11	14	16.0	14
		16	18	16.6	17
North Fork Edisto: Orangeburg, S.C.	8	1	7	9.3	2
		12	22	9.6	17
		27	30	8.65	28
Edisto: Givhans Ferry, S. C.	10	7	30	13.4	15
				14.0	20
Savannah: Millhaven, Ga.	15	5	11	17.0	9
		17	1/	17.6	24-25
Clyo, Ga.	11	6	1/	15.6	13
				16.2	24-26
Ogeechee: Dover, Ga.	7	7	28	8.3	10
				10.4	20
Midville, Ga.	6	5	6	6.85	5
		14	21	7.8	17

River and station	Flood stage	Above flood stages -dates From-	Above flood stages -dates To-	Crest* Stage	Crest* Date
ATLANTIC SLOPE DRAINAGE (Cont'd.)	Ft			Ft	
Ocmulgee: Macon, Ga.	18	1	3	20.4	2
Abbeville, Ga.	12	6	11	14.0	8
		16	24	13.6	21
Oconee: Milledgeville, Ga.	20	1	2	27.4	1
		16	16	23.7	16
Dublin, Ga.	21	18	20	22.6	19
Mt. Vernon, Ga.	16	7	11	17.4	8
		18	25	18.3	21
Altamaha: Charlotte, Ga.	15	9	29	18.8	23
Satilla: Waycross, Ga.	16	18	25	19.4	20
Atkinson, Ga.	13	7	30	19.2	23
EAST GULF OF MEXICO DRAINAGE					
Chattahoochee: Eufaula, Ala.	40	2	3	41.7	3
Flint: Albany, Ga.	20	4	8	24.6	6
		16	19	23.8	17
Bainbridge, Ga.	25	18	21	26.2	19
Apalachicola: Blountstown, Fla.	15	2	30	21.5	5
				21.5	18,19
Choctawhatchee: Geneva, Ala.	23	16	18	25.5	17
Caryville, Fla.	12	5	5	12.1	5
		14	21	14.4	18
Tallapoosa: Milstead, Ala.	40	1	1	41.0	1
Cahaba: Centreville, Ala.	23	Mar. 31	1	27.5	Mar. 31
Alabama: Montgomery, Ala.	35	2	4	39.0	3
Millers Ferry, Ala.	40	1	8	47.5	5
Claiborne, Ala.	40	2	10	44.4	7
Black Warrior: Tuscaloosa Lock & Dam, Ala.	47	Mar. 31	2	53.8	1
Warrior Lock & Dam, Ala.	30	1	6	36.6	4
Tombigbee: Amory, Miss.	20	Mar. 29	4	25.3	1
Fulton, Miss.	16	Mar. 30	2	16.7	1
Macon, Miss.	20	Mar. 31	7	27.5	2
Tibbie, Miss.	23	Mar. 31	3	26.8	1
Aberdeen, Miss.	34	2	3	38.5	2
Columbus, Miss.	29	2	5	31.6	3
Gainesville, Ala.	36	1	13	44.3	8
Demopolis Lock & Dam, Ala.	48	1	14	58.3	5
Jackson Lock & Dam, Ala.	43	Feb. 19	20	53.2	9,10
Chickasawhay: Enterprise, Miss.	20		3	31.0	1
Shubuta, Miss.	30	Mar. 31	7	38.6	3
Waynesboro, Miss.	35		6	38.8	4
Leaf: Hattiesburg, Miss.	22	Mar. 30	4	26.6	1
Beaumont, Miss.	20	Mar. 30	7	29.0	3
Pascagoula: Merrill, Miss.	22	Mar. 31	12	26.4	4
Bogue Chitto: Franklinton, La.	11	Mar. 29	3	15.1	2
Pearl: Edinburg, Miss.	20	2	6	23.9	3
Jackson, Miss.	18	Feb. 20	20	30.2	7
Monticello, Miss.	19	Mar. 18	18	28.5	1
Columbia, Miss.	17	Mar. 29	17	24.6	2
Bogalusa, La.	15	Feb. 18	25	20.5	4
Pearl River, La.	12	Feb. 20	26	16.7	3
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Minnesota: Carver, Minn.	18	Mar. 31	4	18.6	2
Wapsipinicon: DeWitt, Iowa	10		8	11.35	5
Pecatonica: Shirland, Ill.	E10	Mar. 24	4	12.35	29
Rock: Joslin, Ill.	10	Mar. 31	1	10.2	Mar. 31
Cedar: Cedar Rapids, Iowa	13	Mar. 30	2	19.7	Mar. 31

FLOOD STAGE DATA

(All dates in April unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From-	Above flood stages -dates To-	Crest* Stage	Crest* Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Upper Mississippi Basin (Cont'd.)					
Iowa: Marshalltown, Iowa	13	Mar. 28	2	14.8	Mar. 31
Wapello, Iowa	10	1	7	16.9	3
West Fork Des Moines: Humbolt, Iowa	8	Mar. 26	2	11.5	Mar. 29
Raccoon: Jefferson, Iowa	10	Mar. 24		13.2	Mar. 28
Des Moines: Des Moines, Iowa (Scott St)	13	Mar. 29		15.0	Mar. 31
Tracy, Iowa	14	Mar. 28	5	17.7	2
Eddyville, Iowa	15	Mar. 27	5	18.7	2
Ottumwa, Iowa	9	Mar. 28	5	11.6	3
Sangamon: Riverton, Ill.	13	25	1/	18.55	28
Big Muddy: Murphysboro, Ill.	16	13	22	18.9	18
Mississippi: Muscatine, Iowa	16	3	5	16.5	4
Keithsburg, Ill.	12	Mar. 31	10	15.1	4
Burlington, Iowa	15	4	7	16.3	5
Keokuk, Iowa	16	4	7	17.25	5
Gregory Landing, Mo.	15	3	8	17.5	5
Quincy, Ill.	17	4	9	19.5	6
Hannibal, Mo.	16	4	11	19.2	6
Louisiana, Mo.	15	3	11	17.95	7
Clarksville, Mo.	25	4	11	27.5	7
Winfield, Mo.	26	5	11	27.9	[illegible]
Missouri Basin					
Wakarusa: Lawrence, Kans.	23	9	10	24.5	[illegible]-10
Grand: Pattonsburg, Mo.	25	12	12	25.5	12
Chillicothe, Mo.	24	12	14	28.1	13
Sumner, Mo.	26	10 12 22	10 15 26	26.5 30.95 29.0	10 14 23
Brunswick, Mo.	12	13	15	13.0	14
Blackwater: Blue Lick, Mo.	25	[illegible]	15	30.0	13
Wakenda: Carrollton, Mo.	15	22	22	18.1	22
Marmaton: Ft. Scott, Kans.	38	21	21	39.8	21
Sac: Stockton, Mo.	18	23	23	18.0	23
Marais des Cygnes: Quenemo, Kans.	28	[illegible]	11	32.1	10
Ottawa, Kans.	E21	9	11	22.7	11
Osawatomie, Kans.	28	10	12	31.3	11
La Cygne, Kans.	25	10	14	28.7	13
Trading Post, Kans.	24	12	14	24.9	14
Osage: Schell City, Mo.	25	10 25	18 28	29.5 26.7	15 26
Ohio Basin					
French Creek: Meadville, Pa.	57	26	27	57.1	27
Conewango Creek: Russell, Pa.	8	26	30	9.2	27
Allegheny: Olean, N. Y.	10	25	28	14.0	26
Salamanca, N. Y.	1370	25	27	1371.6	26
Warren, Pa.	14	25	26	15.0	25
Lock 5, Freeport, Pa.	21	26	27	21.4	26
Hocking: Enterprise, Ohio	12	26	26	12.8	26
Paint Creek: Bourneville, Ohio	10	16 26	16 26	11.7 12.4	16 26
Scioto: La Rue, Ohio	11	14 22	14 27	11.4 13.0	14 26
Prospect, Ohio	10	27	28	10.3	27
Circleville, Ohio	14	27	28	17.4	27
Chillicothe, Ohio	16	28	28	16.1	28
Piketon, Ohio	16	17 26	17 29	17.55 20.0	17 27
Eel: Bowling Green, Ind.	17	26	27	19.0	26

River and station	Flood stage	Above flood stages -dates From-	Above flood stages -dates To-	Crest* Stage	Crest* Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Ohio Basin (Cont'd.)					
Muscatuck: Austin, Ind.	T16	13 26	15 26	18.3 16.7	14 26
East Fork: Columbus, Ind.	10	27	28	12.15	27
Seymour, Ind.	14	27	29	17.0	28
White: Anderson, Ind.	10	26	27	12.3	26
Noblesville, Ind.	14	27	27	14.5	27
Ravenswood, Ind.	T7	27	28	7.5	27
Centerton, Ind.	T603	26	29	608.6	26
Spencer, Ind.	14	24	1/	21.3	27
Elliston, Ind.	18	25	1/	25.8	29
Edwardsport, Ind.	15	25	1/	22.3	30
Petersburg, Ind.	16	21 26	21 1/	21.0	21
Skillet Fork: Wayne City, Ill.	15	23	24	16.3	23
Wabash: Bluffton, Ind.	10	24	28	13.4	26
Wabash, Ind.	12	17	21	16.2	19
Lafayette, Ind.	11	18	1/	20.6	26
Covington, Ind.	16	19	1/	24.5	27
Montezuma, Ind.	14	19	1/	25.5	27
Terre Haute, Ind.	14	21	1/	21.3	28
Hutsonville, Ind.	20	26	1/	24.5	30
Riverton, Ind.	18	26	1/		
Vincennes, Ind.	16	28	1/		
New Harmony, Ind.	15	30	1/		
Saline: Harrisburg, Ill.	13	10	18	17.1	13
Tennessee: Gilbertsville, Ky.	320	Feb. 23 18	3 20	336.6 320.2	Mar. 10 19,20
Ohio: Dam 47, Newburgh, Ind.	38	20 29	24 1/		
Shawneetown, Ill.	33	Mar. 1 19	1 1/	46.2	Mar. 14
Dam 50, Fords Ferry, Ky.	34	Feb. 28 18	2 1/	49.4 38.0	Mar. 14 24
Cairo, Ill.	40	Mar. 6 28	5 30	49.8	Mar. 18
White Basin					
Black: Black Rock, Ark.	14	Mar. 7	24	17.4 19.6 19.5	Mar. 8 Mar. 13 2
Little Red: Greers Ferry Dam, Ark.	24	1	1	28.6	1
Judsonia, Ark.	30	1	3	33.8	3
White: Augusta, Ark.	32	3	7	32.3	4
Georgetown, Ark.	21	2	16	23.4	4
Des Arc, Ark.	24		22	26.4	5
Clarendon, Ark.	26	Mar. 15		29.3	9
St. Charles, Ark.	25	Mar. 19		27.6	8
Arkansas Basin					
Neosho: Emporia, Kans.	22	10	10	24.1	10
Neosho Rapids, Kans.	22	10	11	22.5	11
Burlington, Kans.	27	12	12	27.0	12
Red Basin					
Caddo: Glenwood, Ark.	10	Mar. 31	1	11.25	Mar. 31
Little Missouri: Broughton, Ark.	20	1	1	20.9	1
Ouachita: Arkadelphia, Ark.	17	Mar. 31	1	22.0	Mar. 31
Camden, Ark.	26	Mar. 30	18	36.1	4
Monroe, La.	40	14	28	40.7	20,21
Black: Jonesville, La.	50	3	23	51.2	13,14
Little: Haratio, Ark.	27	1	1	27.26	1
White Cliffs, Ark.	25	Mar. 31	4	26.4	2
Sulphur: Naples, Tex.	22	Mar. 30	9	29.1	2

FLOOD STAGE DATA

(All dates in April unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest*	
		From–	To–	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Red Basin (Cont'd.)					
Cypress: Jefferson, Tex.	18	Mar. 31	1	18.15	1
Lower Mississippi Basin					
St. Francis: Fisk, Mo.	20	14	21	21.0	17-18
St. Francis, Ark.	18	1 16	2 24	18.8	20-21
Coldwater: Sarah, Miss.	18	Mar. 31	2	21.0	Mar. 31
Tallahatchie: Swan Lake, Miss.	26	Mar. 31	15	28.4	2
Sunflower: Sunflower, Miss.	25	E	7	25.7	4
Anguilla, Miss.	45	Mar. 31	15	46.2	3
Yazoo: Yazoo City, Miss.	29	Mar. 4	1/	35.1	12
Big Black: Pickins, Miss.	16	Mar. 30	11	18.7	2
Bovina, Miss.	28	Feb. 21	18	33.9 34.3	Mar. 7 4

River and station	Flood stage	Above flood stages -dates		Crest*	
		From–	To–	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft			Ft.	
Atchafalaya Basin					
Atchafalaya: Atchafalaya, La.	29	3	13	29.1	6-12
Morgan City, La.	7	9 11	9 12	7.0 7.4	9 12
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	Mar. 30	5	14.7	2
Kinder, La.	16	1	4	17.9	2
Sabine: Bon Wier, Tex.	17	1	11	18.4	3,4
Deweyville, Tex.	14	Mar. 21	18	15.0 14.6	Mar. 23 6
East Fork Trinity: Rockwall, Tex.	10	7	13	10.6	12-13
Frio: Tilden, Tex.	12	6	8	17.0	7

1/ Continued at end of month
* Provisional
E Estimated
T Tentative

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	ALBANY, N. Y. (996 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ALBUQUERQUE, N. MEX. (836 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	86	3.9	79	285	4.1	30	1,619	5.7	48	138	1.4
1,000--	30	73			307	4.9	30	118				
950----	30	181	2.3	74	294	6.0	30	548				
900--	30	924	.0	74	312	6.4	30	997				
850----	30	1,681	- 2.2	74	313	7.8	30	1,478				
800----	30	1,861	- 4.1	70	295	10.3	30	1,977	7.3	38	269	5.6
750--	30	2,369	- 6.0	67	284	11.7	30	2,499	4.1	40	283	11.7
700	30	2,907	- 8.3	65	281	12.2	30	3,063	.1	43	290	17.9
650----	30	3,479	-11.4	57	283	17.5	30	3,645	- 3.8	43	283	22.5
600 - -	30	4,090	14.5	49	279	18.3	30	4,281	- 7.8	40	276	28.4
550-- -	30	4,741	-18.6	46	277	17.7	30	4,943	-12.4		274	31.1
500	30	5,449	-23.5	41	274	19.8	30	5,675	-16.9		279	39.1
450----	30	6,207	-28.7	39	273	23.9	30	6,450	-22.2		276	40.4
400----	30	7,047	-34.7		273	28.4	30	7,315	-28.1		277	42.4
350--	30	7,967	-41.0		277	32.1	30	8,258	-35.3		280	42.0
300----	30	9,001	-47.1		276	37.7	30	9,315	-43.1		278	47.2
250----	30	10,197	-50.8		269	42.7	30	10,522	-51.3		285	49.9
200----	30	11,645	-52.1		271	43.5	30	11,947	-57.4		280	56.7
175	30	12,413	-51.1		274	41.0	30	12,789	-57.7		280	57.5
150----	30	13,315	-51.8		271	38.7	29	13,762	-58.6		278	50.5
125----	30	14,695	-53.4		271	33.4	29	14,902	-61.2		274	50.9
100----	30	16,127	-54.3		269	28.2	29	16,276	-64.8		273	42.4
80-----	30	17,553	-55.4		266	21.4	26	17,640	-64.8		278	31.7
70 - -	30	18,408	-55.6		262	14.8	26	18,458	-63.6		283	18.3
60-- - -	30	19,386	-55.6		254	9.3	26	19,405	-62.8		285	9.9
50----	29	20,549	-55.8		259	5.6	26	20,533	-60.2		293	7.0
40-----	29	21,973	-54.7		220	1.4	24	21,934	-57.8		237	1.7
30-----	28	23,815	-53.6		100	3.9	23	23,768	-54.6		101	2.7
25-----	28	24,991	-52.3		101	6.0	23	24,938	-53.0		120	2.3
20-----	26	26,440	-51.1		96	6.8	23	26,382	-50.9		83	2.7
15-----	17	28,311	-48.2		107	4.9	18	28,270	-47.2		8	.8
10-----												

Standard pressure surface (mb.)	AMARILLO, TEXAS (889 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ANCHORAGE, ALASKA (1008 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,095	5.9	70	221	4.5	30	30	0.4	68	324	1.9
1,000--	30	115					30	96			352	1.0
950----	30	542					30	500	- 1.6	63	36	2.1
900--	30	994					30	935	- 4.0	65	119	2.9
850----	30	1,462	9.1	47	256	11.3	30	1,384	- 6.6	68	154	4.1
800----	30	1,964	8.0	36	269	14.2	30	1,854	- 9.3	69	200	5.1
750--	30	2,486	4.8	38	274	16.1	30	2,348	-12.0	68	202	6.8
700	30	3,050	1.1	38	274	20.0	30	2,875	-14.9	68	223	7.0
650----	30	3,637	- 3.0	35	272	24.9	30	3,427	-18.1	59	235	8.5
600 - -	30	4,274	- 7.2	33	271	29.0	30	4,026	-21.3	52	247	8.2
550-- -	30	4,937	-11.5		271	31.9	30	4,656	-24.8	45	272	13.8
500	30	5,672	-16.6		274	35.8	30	5,350	-29.2	43	271	16.1
450----	30	6,447	-22.2		276	39.4	30	6,092	-33.7		268	21.0
400----	30	7,312	-28.4		275	45.3	30	6,915	-39.0		260	25.6
350--	30	8,255	-35.5		274	51.7	30	7,820	-44.5		263	31.3
300----	30	9,310	-43.3		274	60.0	30	8,842	-49.2		258	30.3
250----	30	10,515	-51.7		274	66.1	29	10,029	-50.8		260	29.7
200----	29	11,934	-57.3		273	74.6	29	11,482	-50.7		260	24.9
175	29	12,777	-57.7		273	71.9	29	12,353	-49.8		258	22.2
150----	29	13,749	-58.3		272	67.6	29	13,363	-49.3		262	18.3
125----	29	14,889	-61.1		270	59.8	29	14,558	-49.8		255	14.0
100----	27	16,260	-63.6		272	47.6	29	16,016	-50.2		256	10.1
80-----	25	17,622	-64.7		276	30.7	29	17,470	-50.9		247	7.6
70 - -	25	18,441	-64.0		272	21.6	29	18,342	-51.3		248	5.8
60-- - -	25	19,382	-62.7		267	15.0	29	19,339	-51.4		246	2.5
50----	23	20,513	-60.6		277	6.2	29	20,519	-52.0		332	3.1
40-----	23	21,909	-58.2		293	4.1	28	21,957	-52.5		30	1.4
30-----	22	23,733	-55.2		295	1.6	27	23,808	-53.1		72	3.9
25-----	21	24,901	-53.4		198	1.0	25	24,981	-53.1		70	4.7
20-----	19	26,344	-51.1		231	.6	22	26,415	-52.4		85	5.6
15-----	16	28,217	-47.9		274	10.7	10	28,243	-51.2			
10-----	5	30,890	-44.1									

Standard pressure surface (mb.)	ANNETTE, ALASKA (1011 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ATHENS, GA. (986 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	37	4.8	83	167	1.6	30	246	7.6	85	256	3.9
1,000--	30	127	4.7	79	191	1.2	30	129				
950----	30	541	2.3	75	215	4.5	30	551	9.3	63	273	10.3
900--	30	980	- .6	73	221	6.8	30	1,002	7.7	59	279	14.2
850----	30	1,434	- 3.4	73	227	8.2	30	1,472	5.8	56	281	21.2
800----	30	1,912	- 5.6	70	232	9.5	30	1,968	4.1	50	281	23.9
750--	30	2,413	- 8.3	67	243	12.0	30	2,487	2.0	49	277	28.4
700	30	2,949	-11.1	56	251	12.8	30	3,046	- .5	46	279	33.4
650----	30	3,511	-14.2	51	258	14.0	30	3,631	- 3.8	44	278	36.9
600 - -	30	4,118	-17.9	51	268	18.5	30	4,264	- 7.4	43	276	47.6
550-- -	30	4,758	-22.1	47	273	19.4	30	4,930	-11.8	41	274	49.4
500	29	5,456	-26.9	46	284	21.4	30	5,661	-16.3	37	270	50.1
450----	29	6,202	-32.0	44	286	24.3	30	6,439	-21.6		271	56.5
400----	29	7,033	-37.6		311	26.2	30	7,305	-27.5		272	61.4
350--	29	7,943	-43.6		308	27.8	30	8,252	-34.5		275	65.3
300----	29	8,967	-49.0		322	31.9	30	9,313	-41.7		275	69.8
250----	29	10,151	-53.4		320	30.5	30	10,530	-49.1		276	78.9
200----	29	11,582	-54.1		320	26.8	30	11,974	-54.9		276	86.5
175	28	12,444	-52.9		315	22.7	30	12,824	-56.5		277	83.5
150----	28	13,440	-52.4		324	20.0	30	13,801	-57.7		278	72.1
125----	27	14,613	-53.1		333	12.2	30	14,945	-60.5		276	65.3
100----	27	16,049	-53.5		330	11.5	30	16,325	-63.7		277	49.0
80-----	26	17,485	-53.6		353	6.4	30	17,689	-64.8		273	38.7
70 - -	25	18,347	-54.1		5	6.6	30	18,507	-64.1		275	26.4
60-- - -	24	19,337	-54.5		27	6.8	30	19,453	-61.7		276	16.9
50----	24	20,504	-54.6		30	6.6	30	20,588	-59.7		273	9.1
40-----	20	21,934	-54.9		40	6.8	30	21,990	57.4		275	2.7
30-----	18	23,783	-54.1		54	7.8	30	23,820	-54.6		124	1.7
25-----	18	24,953	-53.6		56	7.4	30	24,988	53.0		83	2.7
20-----	7	26,379	-52.5				30	26,425	-50.6		244	2.9
15-----							14	28,320	-46.4		268	14.2
10-----												

Standard pressure surface (mb.)	BARROW, ALASKA (1023 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BARTER IS., ALASKA (1022 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	8	-23.5	62	82	5.2	29	15	-24.9	61	271	1.4
1,000--	30	174	-20.6	63	82	9.3	29	172	-22.0	66	50	1.4
950----	30	557	-17.5	58	86	11.1	29	553	-19.3	64	354	2.7
900----	30	962	-16.7	52	89	10.3	29	957	-17.4	59	347	4.7
850----	30	1,391	-17.1	44	84	8.5	29	1,384	-17.5	54	339	4.3
800----	30	1,845	-18.1	42	69	7.0	29	1,838	-18.3	51	315	4.9
750----	30	2,323	-19.5	42	57	6.2	29	2,318	-19.4	50	327	5.6
700----	30	2,837	-21.3	42	41	4.9	29	2,829	-21.2	51	322	6.6
650----	30	3,376	-23.8	41	17	2.7	29	3,368	-23.6	51	314	7.6
600----	30	3,962	-26.8	40	345	3.3	29	3,954	-26.7	49	296	10.1
550----	30	4,579	-30.4		331	4.1	29	4,571	-30.3	48	298	11.7
500----	30	5,257	-34.6	42	307	4.3	29	5,249	-34.5		293	12.0
450----	30	5,979	-39.2		318	7.4	29	5,973	-39.1		289	14.2
400----	30	6,786	-44.3		308	9.7	29	6,776	-44.0		291	16.9
350----	30	7,672	-48.8		301	13.0	29	7,665	-48.1		291	20.4
300----	30	8,678	-51.0		295	11.9	29	8,675	-50.1		290	22.7
250----	30	9,867	-49.7		295	11.7	29	9,870	-48.8		289	18.8
200----	30	11,338	-46.4		285	9.9	29	11,347	-45.9		281	14.4
175----	30	12,225	-45.9		287	8.2	29	12,237	-45.7		277	12.4
150----	30	13,252	-45.8		267	6.4	29	13,264	-45.7		276	9.5
125----	30	14,465	-46.3		264	5.8	29	14,476	-46.4		266	6.6
100----	28	15,943	-47.3		269	4.3	29	15,954	-47.5		260	3.5
80-----	28	17,415	-48.1		240	2.3	28	17,425	-48.4		257	3.1
70-----	28	18,291	-48.7		211	1.4	28	18,302	-48.9		286	1.2
60-----	28	19,306	-49.2		133	1.2	28	19,313	-49.5		16	.6
50-----	28	20,500	-49.8		147	1.6	28	20,505	-50.1		354	.8
40-----	28	21,956	-50.6		114	1.7	27	21,962	-50.6		47	2.1
30-----	25	23,835	-51.5		93	3.5	25	23,841	-51.3		27	2.3
25-----	25	25,018	-51.7		92	4.3	22	25,027	-51.5		37	3.5
20-----	21	26,460	-51.1		84	5.1	20	26,464	-51.3		48	4.1
15-----	14	28,343	-49.8				14	28,361	-49.9			
10-----	5	30,999	-45.7									

Standard pressure surface (mb.)	BETHEL, ALASKA (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BISMARCK, N. DAK. (954 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	- 7.5	84	262	2.3	29	505	0.0	72	319	3.3
1,000--	30	112	- 6.6	79	311	1.4	29	123				
950----	30	515	- 6.5	74	207	3.7	29	534			311	4.3
900----	30	934	- 7.9	73	207	6.0	29	969	- .8	57	324	8.2
850----	30	1,378	- 9.0	68	225	6.2	29	1,424	- 3.2	57	323	11.7
800----	30	1,846	-10.6	64	237	7.6	29	1,903	- 5.0	55	313	13.4
750----	30	2,342	-12.5	60	249	8.9	29	2,403	- 7.5	49	313	16.1
700----	30	2,866	-14.8	54	249	8.4	29	2,940	-10.6	47	310	16.9
650----	30	3,422	-17.8	50	249	11.3	29	3,503	-14.1	41	305	18.5
600----	30	4,018	-20.9	47	245	15.2	29	4,114	-17.6	39	306	21.4
550----	30	4,658	-24.4	45	242	15.0	29	4,754	-21.6		302	23.5
500----	30	5,346	-28.5		250	18.7	29	5,457	-26.5		296	27.0
450----	30	6,094	-33.3		252	19.0	29	6,202	-31.7		294	31.7
400----	30	6,913	-38.4		256	20.4	29	7,038	-37.9		288	34.0
350----	30	7,820	-43.8		260	26.8	29	7,942	-44.5		288	36.5
300----	30	8,844	-48.6		261	25.3	29	8,959	-50.7		286	43.1
250----	30	10,037	-50.7		257	26.8	29	10,138	-53.3		286	42.6
200----	29	11,479	-50.9		258	23.9	28	11,578	-52.0		281	40.6
175----	29	12,351	-49.5		251	16.1	28	12,444	-51.4		281	37.9
150----	28	13,362	-49.7		258	13.6	28	13,443	-51.6		280	33.4
125----	28	14,553	-50.3		250	11.5	28	14,626	-52.6		287	26.8
100----	27	16,014	-50.5		237	9.3	27	16,064	-54.2		287	19.6
80-----	26	17,465	-50.8		225	5.4	27	17,492	-55.8		286	13.2
70-----	25	18,333	-50.7		217	4.5	27	18,346	-55.6		289	9.3
60-----	24	19,335	-51.1		173	2.7	27	19,326	-55.5		293	7.2
50-----	23	20,516	-51.9		119	3.9	27	20,490	-55.1		331	4.3
40-----	22	21,964	-52.2		86	3.1	27	21,918	-54.2		48	4.3
30-----	21	23,815	-52.9		97	5.1	23	23,750	-53.4		90	6.4
25-----	17	24,995	-52.9		83	5.4	21	24,935	-52.7		85	6.8
20-----	15	26,438	-52.4		100	5.8	19	26,369	-51.8		86	7.0
15-----	5	28,318	-51.8				12	28,242	-49.0		71	5.2
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Standard pressure surface (mb.)	BOISE, IDAHO (916 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BROWNSVILLE, TEX. (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	868	3.7	66	161	1.7	30	7	18.9	85	133	5.2
1,000--	30	143					30	114	19.5	81	141	7.8
950----	30	566					30	549	17.6	75	155	15.3
900----	30	1,008	6.1	53	307	2.1	30	1,017	16.3	62	168	14.2
850----	30	1,476	4.9	47	317	8.0	30	1,504	15.7	46	190	13.2
800----	30	1,967	1.4	50	312	9.7	30	2,018	14.4	37	211	8.9
750----	30	2,482	- 2.5	54	303	12.2	30	2,555	12.0	33	239	7.8
700----	30	3,028	- 6.4	56	297	15.7	30	3,135	8.5	33	266	11.1
650----	30	3,600	-10.1	53	292	19.2	30	3,739	4.5	28	272	15.9
600----	30	4,217	-13.6	46	289	21.0	30	4,391	.0	28	269	22.7
550----	30	4,873	17.5	45	290	26.2	30	5,074	- 5.0	30	265	26.8
500----	30	5,582	-22.0	42	290	28.6	30	5,825	- 9.9		268	29.9
450----	30	6,348	-27.2	40	293	31.3	30	6,628	-15.7		268	35.4
400----	30	7,190	-33.3	40	296	34.8	30	7,509	-21.8	37	263	44.1
350----	30	8,114	-40.4		297	39.2	30	8,479	-28.5		260	50.5
300----	29	9,153	-47.9		292	42.0	30	9,565	-36.3		261	57.1
250----	29	10,336	-54.8		296	49.9	30	10,804	-45.7		264	66.1
200----	29	11,750	-58.4		291	48.2	30	12,255	-56.1		265	74.8
175----	29	12,593	-56.6		293	42.6	30	13,097	-59.9		265	77.5
150----	29	13,574	-56.0		290	35.6	29	14,050	-64.0		263	71.1
125----	29	14,732	-56.8		292	30.5	29	15,154	-69.2		264	57.9
100----	29	16,142	-57.9		293	23.9	27	16,467	-73.6		264	42.7
80-----	29	17,545	-58.9		285	17.3	26	17,763	-74.9		265	29.1
70-----	29	18,390	-58.7		292	17.1	25	18,556	-72.8		265	17.5
60-----	29	19,353	-58.4		302	9.9	25	19,462	-67.1		265	8.5
50-----	28	20,499	-58.0		320	4.9	23	20,576	-62.3		265	5.6
40-----	27	21,907	-56.9		19	1.4	21	21,958	-59.8		269	1.7
30-----	26	23,735	-55.6		54	4.3	21	23,774	-55.4		85	3.3
25-----	24	24,890	-55.0		50	4.9	20	24,938	-52.7		89	4.5
20-----	21	26,317	-53.2		64	7.2	19	26,388	-48.8		132	2.1
15-----	14	28,191	-50.2		55	8.2	11	28,308	-42.7			

Standard pressure surface (mb.)	BUFFALO, N. Y. (984 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BURRWOOD, LA. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	218	2.0	84	233	3.7	30	3	16.8	85	64	0.6
1,000--	30	87					30	132	17.0	77	141	1.7
950----	30	499	1.5	77	241	6.2	30	569	14.9	62	190	5.1
900----	30	936	- .5	75	259	6.4	30	1,025	13.2	48	220	7.2
850----	30	1,391	- 2.3	71	261	8.9	30	1,505	12.7	36	247	10.1
800----	30	1,871	- 4.4	69	275	12.6	30	2,012	10.5	36	259	14.0
750----	30	2,375	- 6.6	66	278	14.4	30	2,546	8.1	31	264	18.8
700----	30	2,915	- 9.5	59	287	15.0	30	3,113	4.8	30	269	22.7
650----	30	3,480	-12.2	51	284	17.7	30	3,712	1.1	31	269	26.4
600----	30	4,094	-15.5	47	281	18.5	30	4,352	- 2.9	29	271	29.9
550----	30	4,740	-19.4	46	274	19.6	30	5,031	- 6.9		267	33.8
500----	30	5,449	-23.8	42	265	23.3	30	5,773	-11.8		268	39.6
450----	30	6,204	-28.9	39	268	24.9	30	6,567	-17.2		267	45.1
400----	30	7,044	-34.9		270	27.8	30	7,446	-23.2		270	53.2
350----	30	7,964	-41.1		271	34.4	30	8,410	-30.1		270	61.2
300----	30	8,998	-46.9		269	39.1	30	9,490	-37.8		270	71.9
250----	30	10,195	-50.6		268	46.2	30	10,722	-46.7		272	84.3
200----	30	11,644	-51.6		270	48.2	30	12,170	-56.0		275	91.3
175----	30	12,509	-51.9		272	43.1	30	13,015	-58.5		277	87.0
150----	30	13,510	-51.7		269	35.6	30	13,978	-61.6		276	83.7
125----	30	14,690	-52.9		268	31.3	28	15,100	-66.0		275	66.5
100----	30	16,126	-54.4		266	23.5	27	16,441	-70.5		274	52.8
80-----	30	17,553	-55.5		266	17.3	26	17,758	-71.5		275	32.4
70-----	30	18,402	-56.1		268	15.0	26	18,558	-69.8		273	22.9
60-----	30	19,383	-56.0		268	11.3	25	19,476	-66.0		273	15.5
50-----	25	20,549	-55.5		290	4.9	25	20,594	-61.6		265	6.6
40-----	23	21,970	-54.6		283	1.9	25	21,990	-58.3		285	2.1
30-----	23	23,817	-53.1		67	4.5	23	23,818	-54.3		102	2.1
25-----	23	24,994	-52.4		74	4.7	21	24,992	-51.5		127	1.9
20-----	21	26,438	-51.4		69	4.9	19	26,447	-48.4		179	1.0
15-----	14	28,322	-48.5		79	7.0	13	28,359	-43.5		255	6.4

Standard pressure surface (mb.)	CAPE HATTERAS, N. C. (1011 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	11.6	74	310	5.4
1,000--	30	97	11.5	66	312	7.0
950----	30	522	10.1	58	289	12.8
900----	30	973	7.5	58	282	15.3
850----	30	1,442	5.1	54	271	20.0
800----	30	1,936	2.7	50	268	23.7
750----	30	2,455	- .5	46	269	30.3
700----	30	3,008	- 1.7	36	270	35.8
650----	30	3,590	- 4.9		272	39.4
600----	30	4,220	- 8.3		271	42.4
550----	30	4,886	-12.2		269	46.4
500----	30	5,614	-17.1		268	51.7
450----	30	6,391	-22.5		268	54.0
400----	30	7,251	-28.8		270	61.6
350----	30	8,194	-35.5		271	66.8
300----	30	9,251	-42.8		270	70.7
250----	30	10,461	-49.8		274	74.4
200----	30	11,903	-53.3		277	73.4
175----	29	12,760	-54.8		275	70.7
150----	29	13,745	-55.5		278	63.3
125----	29	14,900	-58.2		277	54.8
100----	28	16,294	-61.5		268	45.5
80-----	28	17,674	-62.2		268	30.3
70-----	28	18,503	-62.0		269	22.7
60-----	28	19,457	-59.8		274	13.6
50-----	28	20,599	-58.4		273	7.2
40-----	27	22,006	-56.5		246	2.5
30-----	25	23,837	-54.4		48	2.1
25-----	21	24,994	-53.2		88	4.1
20-----	18	26,450	-50.5		75	2.7
15-----	5	28,273	-47.9			
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	CARIBOU, ME. (986 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CHARLESTON, S. C. (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	191	- 0.5	86	4	4.1	30	13	11.4	81	287	4.1
1,000--	30	76					30	125	12.2	70	291	5.4
950----	30	486	- .3	74	39	7.8	30	551	11.4	56	286	14.4
900----	30	918	- 2.2	70	55	10.9	30	1,006	9.6	46	286	16.3
850----	30	1,371	- 4.1	71	64	10.1	30	1,480	7.6	44	278	21.4
800----	30	1,848	- 5.9	67	49	7.0	30	1,977	5.4	42	273	24.9
750----	30	2,353	- 8.0	61	24	5.1	30	2,499	3.1	39	272	30.1
700----	30	2,886	-10.2	56	14	4.9	30	3,061	.6	39	271	30.9
650----	30	3,455	-12.6	49	21	5.8	30	3,647	- 2.7		272	40.2
600----	30	4,063	-15.7	47	11	7.0	29	4,283	- 6.4		272	45.3
550----	30	4,711	-19.7	46	1	8.0	29	4,940	-10.7		273	49.2
500----	30	5,416	-24.0	44	344	7.4	29	5,686	-15.2		273	55.0
450----	30	6,171	-29.2	45	337	7.6	29	6,465	-21.0		274	57.5
400----	30	7,011	-35.1	43	306	7.6	29	7,336	-27.4		278	60.0
350----	30	7,929	-41.9		295	8.5	29	8,285	-33.7		279	64.7
300----	30	8,956	-49.2		269	12.8	29	9,351	-41.2		280	71.5
250----	30	10,140	-53.0		268	25.5	26	10,583	-49.2		286	76.0
200----	30	11,584	-51.7		274	20.8	24	12,027	-55.8		290	81.0
175----	29	12,449	-50.5		271	23.9	23	12,877	-57.2		289	81.6
150----	28	13,457	-50.4		264	19.2	20	13,846	-58.2		295	60.0
125----	28	14,644	-51.5		265	18.1	18	14,991	-61.8		391	52.1
100----	28	16,091	-52.4		261	14.0	18	16,364	-64.2		292	41.6
80-----	27	17,527	-53.7		261	9.9	17	17,727	-64.9		290	30.5
70-----	27	18,387	-54.0		261	8.5	17	18,548	-63.9		298	16.5
60-----	27	19,375	-54.2		266	6.8	17	19,496	-60.6		307	9.3
50-----	26	20,543	-54.1		250	2.7	17	20,638	-58.4		319	4.3
40-----	26	21,978	-53.5		97	1.4	16	22,051	-56.0		285	6.2
30-----	24	23,835	-52.5		100	5.1	16	23,893	-53.3		70	8.4
25-----	23	25,020	-51.8		104	7.0	16	25,073	-51.3		77	6.4
20-----	20	26,466	-50.6		93	7.6	16	26,533	-48.2		99	12.2
15-----	11	28,380	-47.6				11	28,441	-43.2			
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Standard pressure surface (mb.)	COLD BAY, ALASKA (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	COLUMBIA, MO. (983 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	27	- 0.4	86	234	2.9	30	258	5.7	80	335	1.0
1,000--	30	131	- .9	83	262	4.9	30	98				
950----	30	540	- 2.7	78	264	8.5	30	520	6.4	66	310	3.9
900----	30	967	- 4.1	74	268	11.3	30	962	4.6	66	291	8.2
850----	30	1,417	- 5.2	66	270	11.3	30	1,427	2.4	64	292	14.8
800----	29	1,888	- 6.7	54	269	12.8	30	1,915	.3	58	290	20.0
750----	29	2,391	- 8.3	47	256	16.7	30	2,432	- 1.5	54	289	24.9
700----	29	2,924	-10.6	42	273	17.1	30	2,978	- 4.4	51	292	28.6
650----	29	3,488	13.3	40	267	17.7	30	3,557	- 7.9	54	293	32.1
600----	29	4,096	-16.6		259	20.6	30	4,176	-11.8	56	292	35.8
550----	29	4,742	-20.5		257	21.6	30	4,837	-16.1	53	288	38.9
500----	29	5,445	-24.8	42	254	22.3	30	5,549	-20.3	45	283	42.6
450----	29	6,197	29.8	44	255	25.5	30	6,318	-25.5	41	281	46.0
400----	29	7,034	-35.5		258	27.0	30	7,166	-31.7	37	281	49.9
350----	29	7,952	-41.7		255	29.0	30	8,098	-38.0		278	50.5
300----	29	8,983	-47.7		256	32.3	30	9,144	-45.1		272	56.5
250----	29	10,172	-52.5		257	28.2	29	10,348	-51.1		272	63.5
200----	29	11,606	-53.9		256	29.0	29	11,789	-53.8		274	66.3
175----	29	12,465	-53.2		251	23.3	29	12,646	-54.4		275	64.7
150----	29	13,459	-52.7		249	20.6	29	13,631	-55.3		278	60.6
125----	28	14,627	-53.1		250	16.3	29	14,792	-56.0		276	51.9
100----	27	16,066	-52.8		248	11.9	28	16,200	-58.2		275	38.7
80-----	27	17,507	-52.5		275	7.6	28	17,601	-59.8		277	27.4
70-----	27	18,377	-52.3		259	6.2	28	18,434	-59.7		278	22.7
60-----	27	19,367	-52.3		274	5.6	28	19,402	-58.7		282	14.4
50-----	26	20,544	-52.7		284	4.1	28	20,548	-58.2		284	8.7
40-----	25	21,986	-53.8		327	2.3	27	21,959	-56.6		280	1.7
30-----	25	23,831	-54.6		47	3.1	27	23,792	-54.7		63	5.2
25-----	24	24,997	-54.6		70	4.1	25	24,969	-53.2		71	6.0
20-----	19	26,425	-53.8		86	4.9	22	26,408	-51.4		78	2.7
15-----	7	28,257	-52.5				13	28,255	-49.6			
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Standard pressure surface (mb.)	DAYTON, OHIO (976 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DENVER, COLO. (834 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	297	4.1	75	291	2.5	30	1,611	2.3	65	255	1.9
1,000--	30	99					30	122				
950----	30	519	4.1	73	251	6.2	30	544				
900----	30	957	2.3	72	269	14.0	30	989				
850----	30	1,418	- .1	74	275	17.5	30	1,457				
800----	30	1,902	- 2.5	71	279	19.8	30	1,951	3.6	53	274	4.7
750----	30	2,411	- 4.8	65	281	23.1	30	2,471	.7	51	291	7.0
700----	30	2,954	- 7.2	61	281	26.6	30	3,024	- 2.9	51	303	11.3
650----	30	3,525	-10.3	57	279	28.6	30	3,603	- 6.9	50	297	17.1
600----	30	4,142	-13.6	51	278	31.5	30	4,227	-11.4	51	289	22.7
550----	30	4,794	-17.2	46	276	35.6	30	4,884	-15.7	48	285	27.6
500----	30	5,510	-21.4	45	277	41.2	30	5,600	-20.1	44	278	31.3
450----	30	6,273	-26.6	41	276	44.5	30	6,372	-25.5	42	273	37.7
400----	30	7,122	-32.5		275	48.6	30	7,220	-32.1	41	271	41.2
350----	30	8,052	-38.6		279	52.8	30	8,149	-39.3		270	46.2
300----	30	9,096	-45.3		275	56.3	30	9,188	-46.7		270	55.4
250----	30	10,298	-50.6		274	61.8	30	10,378	-53.6		268	59.8
200----	30	11,743	-53.0		274	63.7	30	11,801	-56.5		268	59.5
175----	30	12,605	-52.9		276	61.0	30	12,646	-57.4		267	59.3
150----	30	13,599	-53.6		277	52.8	30	13,623	-56.2		273	51.1
125----	29	14,770	-55.1		274	43.7	29	14,778	-57.7		269	48.2
100----	29	16,190	-57.1		273	34.8	30	16,183	-58.7		270	36.3
80-----	29	17,598	-58.5		271	23.1	30	17,581	-59.8		271	23.7
70-----	29	18,439	-58.3		272	18.1	30	18,423	-60.6		270	19.0
60-----	29	19,407	-57.9		272	12.6	30	19,377	-60.0		273	14.8
50-----	29	20,558	-57.5		269	6.6	30	20,519	-58.7		273	8.0
40-----	29	21,971	-56.1		290	1.4	30	21,927	-57.1		282	7.0
30-----	29	23,807	-54.4		15	1.2	30	23,755	-55.6		266	.6
25-----	27	24,977	-53.4		52	1.4	30	24,920	-54.2		310	1.0
20-----	25	26,417	-51.7		64	2.5	30	26,358	-52.3			.0
15-----	22	28,300	-49.0		70	2.3	28	28,232	-49.4		305	2.5
10-----	8	30,955	-44.3				20	30,926	-45.4		256	3.7
7------							7	33,362	-42.2			

Standard pressure surface (mb.)	DODGE CITY, KANS. (921 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	EL PASO, TEX. (880 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	792	4.5	74	268	2.7	30	1,197	11.5	32	272	5.2
1,000--	30	118					30	106				
950----	30	541					30	543				
900----	30	984	6.4	56	250	5.2	30	1,007				
850----	30	1,454	7.0	47	269	11.9	30	1,487	13.3	25	281	8.2
800----	30	1,951	5.5	40	285	15.3	30	1,994	10.5	25	278	15.0
750----	30	2,474	2.3	42	291	19.0	30	2,526	6.9	26	271	19.6
700----	30	3,029	- 1.7	43	287	21.0	30	3,091	2.8	29	264	22.7
650----	30	3,611	- 5.9	45	284	23.3	30	3,681	- 1.0		264	25.3
600----	30	4,237	- 9.8	44	279	27.8	30	4,320	- 5.2		263	26.2
550----	30	4,900	-14.6	42	280	32.4	30	4,990	- 9.8		262	32.3
500----	30	5,618	-19.4	34	279	33.2	30	5,728	-14.6		265	34.2
450----	30	6,388	-24.9		279	37.5	30	6,510	-20.0		268	37.9
400----	30	7,241	-31.4		280	42.4	30	7,384	-26.2		267	42.0
350----	30	8,174	-38.0		276	45.9	30	8,336	-33.3		265	42.2
300----	30	9,220	-45.3		277	51.9	30	9,401	-41.3		264	47.8
250----	30	10,417	-52.7		274	58.3	30	10,616	-50.0		265	57.1
200----	30	11,846	-55.8		271	64.7	30	12,048	-57.5		264	71.9
175----	30	12,695	-56.5		271	66.1	30	12,887	-59.6		263	75.6
150----	29	13,675	-57.3		271	59.3	30	13,849	-60.9		261	69.8
125----	29	14,825	-58.6		273	49.9	30	14,976	-63.9		265	59.7
100----	28	16,225	-60.8		273	35.2	30	16,336	-66.7		263	46.6
80-----	26	17,613	-61.6		279	26.0	30	17,677	-68.5		265	32.3
70-----	26	18,447	-61.3		278	20.4	30	18,479	-68.7		269	23.3
60-----	26	19,400	-60.3		275	14.0	29	19,408	-65.7		273	14.6
50-----	25	20,543	-58.9		280	8.4	29	20,524	-62.1		280	8.5
40-----	25	21,947	-57.3		293	2.9	28	21,915	-58.9		222	.6
30-----	25	23,777	-54.5		6	2.3	26	23,727	-56.3		324	1.7
25-----	22	24,952	-53.3		66	3.3	23	24,888	-54.3		271	3.7
20-----	22	26,396	-50.9		71	2.1	21	26,335	-50.8		348	1.9
15-----	19	28,276	-46.6		79	1.8	18	28,226	-46.2		259	6.0
10-----	8	30,989	-42.2				6	31,168	-39.4			
7------												

Standard pressure surface (mb.)	ELY, NEV. (807 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FAIRBANKS, ALASKA (997 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,908	- 1.2	59	177	5.1	29	135	- 6.5	68	344	2.9
1,000--	30	158					29	111			345	3.3
950----	30	578					29	509	- 6.2	58	43	2.7
900----	30	1,016					29	935	- 7.8	63	240	2.5
850----	30	1,489					29	1,378	- 9.9	65	252	8.4
800----	30	1,978	1.8	55	190	2.9	29	1,844	-12.1	67	254	10.3
750----	30	2,495	1.1	46	293	3.3	29	2,331	-14.4	65	253	12.4
700----	30	3,051	- 2.7	47	308	9.5	29	2,855	-17.6	65	257	13.2
650----	30	3,629	- 6.8	48	288	14.8	29	3,399	-20.7	61	261	19.4
600----	30	4,255	-11.0	47	292	16.9	29	3,995	-24.2	60	263	16.5
550----	30	4,915	-14.7	35	292	20.8	29	4,620	-28.0	52	265	17.3
500----	30	5,632	-19.1		288	25.1	29	5,304	-32.1	42	275	20.4
450----	30	6,404	-24.6		280	31.3	29	6,037	-36.7		273	22.5
400----	30	7,258	-31.1		284	32.4	29	6,849	-41.9		288	23.5
350----	30	8,192	-38.0		297	30.1	29	7,743	-46.7		276	25.1
300----	30	9,238	-45.8		301	34.4	29	8,758	-49.6		267	29.7
250----	30	10,432	-53.5		306	42.0	29	9,948	-50.7		267	25.6
200----	30	11,847	-59.1		303	43.7	29	11,410	-48.2		272	19.4
175----	30	12,685	-58.5		294	41.6	28	12,288	-47.2		272	15.7
150----	30	13,655	-57.9		291	36.7	28	13,300	-47.5		273	13.8
125----	30	14,807	-58.4		282	31.5	28	14,513	-47.9		267	11.1
100----	29	16,211	-60.2		282	24.1	28	15,983	-48.6		273	7.6
80-----	29	17,598	-61.1		288	18.5	26	17,440	-49.7		284	5.6
70-----	29	18,431	-61.2		283	10.5	24	18,316	-50.2		278	4.3
60-----	29	19,385	-60.1		298	5.4	23	19,326	-50.8		299	2.9
50-----	29	20,525	-59.3		328	2.9	23	20,511	-51.3		355	3.1
40-----	28	21,928	-57.9		53	1.6	21	21,969	-51.6		26	4.5
30-----	25	23,752	-55.8		70	5.2	18	23,832	-52.5		53	4.9
25-----	22	24,919	-54.0		109	4.3	11	25,057	-52.7		45	7.2
20-----	20	26,361	-51.7		102	1.7	8	26,506	-52.6			
15-----	18	28,241	-48.5		312	1.6	5	28,380	-51.3			
10-----	6	30,997	-41.1									
7------												

Standard pressure surface (mb.)	FLINT, MICH. (982 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FORT WORTH, TEXAS (993 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	234	2.2	83	245	1.2	30	180	12.7	74	218	3.3
1,000--	30	88					30	118				
950----	30	505	2.2	73	279	2.7	30	554	13.3	64	210	11.3
900----	30	939	.4	72	303	5.1	30	1,005	12.5	53	234	13.4
850----	30	1,396	- 1.7	72	308	6.8	30	1,483	11.3	39	253	14.0
800----	30	1,877	- 4.0	70	299	8.7	30	1,988	9.1	37	270	14.6
750----	30	2,387	- 6.5	65	300	10.3	30	2,517	6.0	37	277	15.7
700----	30	2,922	- 9.3	63	294	13.6	30	3,081	2.4	38	279	19.2
650----	30	3,490	-12.1	55	291	16.1	30	3,672	- 1.4	36	278	23.9
600----	30	4,100	-15.6	50	288	19.6	30	4,308	- 6.1	39	277	28.0
550----	30	4,752	-19.6	45	285	22.2	30	4,975	-10.8	38	276	34.0
500----	30	5,455	-23.6	43	281	22.5	30	5,709	-15.4		275	38.5
450----	30	6,214	-28.7	40	279	26.4	30	6,494	-20.5		273	43.3
400----	30	7,052	-34.4		278	29.9	30	7,359	-26.7		272	50.1
350----	30	7,973	-40.8		276	34.2	30	8,310	-33.4		271	59.1
300----	30	9,007	-47.1		274	41.0	30	9,376	-41.1		268	67.6
250----	30	10,201	-51.6		272	45.3	30	10,593	-49.1		270	76.9
200----	30	11,647	-52.3		272	48.8	30	12,033	-56.1		271	86.5
175----	30	12,513	-51.6		277	43.1	30	12,877	-58.1		273	88.8
150----	30	13,512	-52.0		274	36.1	30	13,846	-59.1		271	80.1
125----	29	14,691	-53.0		273	31.1	30	14,980	-62.6		270	67.2
100----	29	16,126	-54.4		270	27.0	30	16,345	-66.0		272	56.2
80-----	29	17,552	-55.6		271	16.5	30	17,695	-67.1		269	35.6
70-----	29	18,404	-56.2		266	13.8	30	18,510	-66.4		270	26.4
60-----	29	19,382	-56.0		269	9.5	30	19,439	-64.0		273	17.7
50-----	28	20,549	-55.7		266	5.8	30	20,567	-60.4		271	7.2
40-----	27	21,969	-54.6		297	1.4	27	21,967	-57.9		252	2.3
30-----	26	23,815	-53.5		79	2.9	27	23,794	-55.2		20	1.2
25-----	26	24,990	-52.6		82	4.9	27	24,963	-53.4		72	3.3
20-----	25	26,441	-51.1		78	5.2	26	26,411	-50.2		90	3.5
15-----	22	28,324	-48.2		85	5.8	21	28,305	-46.1		281	2.5
10-----	9	31,000	-44.9				7	31,080	-39.4			

Standard pressure surface (mb.)	GLASGOW, MONT. (933 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GRAND JUNCTION, COLO. (849 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	696	- 0.6	71	348	2.7	30	1,474	6.0	44	112	6.6
1,000--	30	132					30	113				
950----	30	548					30	540				
900----	30	982	.9	59	312	6.4	30	993				
850----	30	1,439	- 1.5	57	312	10.7	30	1,468			110	9.1
800----	30	1,920	- 4.5	58	311	12.6	30	1,965	5.7	37	180	5.2
750----	30	2,424	- 7.7	59	305	15.5	30	2,487	2.0	40	258	7.8
700----	30	2,960	-10.9	59	304	17.5	30	3,042	- 2.3	45	268	12.4
650----	30	3,522	-14.5	59	303	21.6	30	3,622	- 6.9	51	271	16.5
600----	30	4,128	-18.3	57	303	23.5	30	4,245	-11.4	55	285	20.0
550----	30	4,772	-22.5	53	300	25.6	30	4,904	-15.8	54	285	23.5
500----	30	5,467	-27.1	49	294	29.5	30	5,619	-20.5	48	278	28.4
450----	30	6,213	-32.5	50	295	32.1	30	6,386	-25.9	45	277	34.2
400----	30	7,039	-38.5		295	33.4	30	7,235	-31.7	44	279	39.1
350----	30	7,945	-44.7		296	39.1	30	8,165	-38.6		288	42.6
300----	30	8,962	-50.8		301	42.0	30	9,207	-46.0		289	49.4
250----	30	10,138	-54.4		298	41.2	30	10,400	-53.3		288	52.7
200----	30	11,573	-52.5		294	36.3	30	11,820	-57.8		288	55.4
175----	29	12,435	-51.7		292	33.2	30	12,666	-56.4		285	50.7
150----	29	13,435	-51.7		291	29.5	29	13,645	-56.2		280	42.2
125----	29	14,616	-52.4		290	23.8	29	14,799	-58.1		276	39.2
100----	29	16,054	-54.1		291	18.1	29	16,200	-60.2		278	33.8
80-----	29	17,482	-55.3		298	14.0	29	17,584	-61.4		280	25.5
70-----	29	18,337	-55.6		306	11.3	29	18,415	-61.4		279	16.5
60-----	29	19,315	55.6		324	8.4	29	19,368	-60.8		279	12.4
50-----	29	20,478	-55.1		1	3.5	29	20,503	-59.8		279	7.4
40-----	28	21,905	-54.4		58	3.9	28	21,904	-58.3		281	3.3
30-----	26	23,752	-54.0		80	5.2	26	23,724	-55.9		25	1.2
25-----	24	24,913	-53.7		81	7.2	23	24,886	-54.6		48	1.2
20-----	22	26,349	-52.3		91	8.7	21	26,316	-53.0		91	.8
15-----	18	28,203	-49.4		76	7.6	13	28,199	-49.3		228	3.7
10-----	7	30,899	-45.6									
7------												

Standard pressure surface (mb.)	GREAT FALLS, MONT. (885 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,123	0.8	71	224	5.2
1,000--	30	132				
950----	30	552				
900----	30	992				
850----	30	1,452	.9	57	259	9.9
800----	30	1,936	- 2.3	60	276	10.5
750----	30	2,440	- 5.7	63	288	12.6
700----	30	2,985	- 9.5	66	288	15.5
650----	30	3,548	-13.2	65	289	17.5
600----	30	4,160	-17.4	65	289	19.8
550----	30	4,802	-21.4	58	292	24.1
500----	30	5,504	-26.2	56	289	27.4
450----	30	6,252	-31.3	50	291	31.5
400----	30	7,086	-37.3		294	36.5
350----	30	7,996	-43.3		301	40.6
300----	30	9,019	-49.9		302	44.3
250----	30	10,196	-54.9		300	42.7
200----	30	11,621	-54.5		294	38.9
175----	30	12,480	-53.1		294	32.1
150----	30	13,475	-52.7		295	28.4
125----	30	14,651	-53.6		292	20.8
100----	29	16,066	-55.1		289	18.1
80-----	29	17,489	-55.5		288	13.6
70-----	29	18,338	-56.1		291	14.6
60-----	29	19,318	-56.2		302	9.1
50-----	29	20,477	-55.6		324	4.1
40-----	29	21,899	-55.0		52	3.1
30-----	29	23,741	-54.1		77	5.8
25-----	28	24,912	-53.4		76	6.6
20-----	26	26,358	-51.3		83	7.2
15-----	23	28,243	-48.7		81	7.2
10-----	11	30,921	-44.6			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

APRIL 1961

Standard pressure surface (mb)	GREEN BAY, WIS. (986 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREENSBORO, N. C. (981 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	210	1.5	78	350	4.3	30	273	6.7	70	254	3.9
1,000	30	92					30	116				
950	30	510	1.0	66	3	5.2	30	538	8.1	59	272	11.3
900	30	939	- .9	62	360	6.4	30	984	6.1	57	282	14.8
850	30	1,394	- 3.1	64	336	7.0	30	1,451	3.8	54	286	17.5
800	30	1,872	- 5.8	60	321	8.7	30	1,942	1.3	50	285	21.4
750	30	2,375	- 7.9	54	312	11.5	30	2,460	- .9	46	279	27.0
700	30	2,909	-10.5	51	302	13.2	30	3,008	- 3.4	41	274	31.5
650	30	3,473	-13.6	49	294	15.9	30	3,587	- 6.4	45	270	34.2
600	30	4,082	-16.9	48	290	16.7	30	4,213	-10.1	43	268	38.5
550	30	4,727	-20.7	45	286	19.6	30	4,875	-13.9	44	269	45.3
500	30	5,429	-25.5	42	283	22.3	30	5,598	-18.5	39	270	50.7
450	30	6,181	-30.9	41	282	25.3	30	6,372	-23.8		269	53.4
400	30	7,011	-36.8		278	28.4	30	7,226	-29.9		276	56.9
350	30	7,924	-42.8		274	32.3	30	8,165	-36.3		276	62.2
300	30	8,931	-48.4		272	39.2	30	9,219	-43.3		276	71.1
250	30	10,140	-52.0		268	44.9	29	10,428	-50.0		279	73.3
200	30	11,589	-51.9		274	44.5	29	11,873	-54.0		277	74.4
175	30	12,440	-51.4		279	40.4	29	12,728	-54.7		275	75.0
150	30	13,490	-51.9		276	33.8	29	13,713	-55.5		278	70.9
125	30	14,630	-52.6		281	28.8	29	14,868	-58.4		276	56.5
100	30	16,066	-54.3		274	20.2	29	16,260	-61.4		275	40.8
80	30	17,491	-55.7		275	16.7	29	17,640	-62.5		276	26.2
70	30	18,345	-55.7		278	13.8	29	18,469	-62.0		272	20.6
60	30	19,322	-55.7		279	9.9	29	19,421	-60.6		277	15.7
50	30	20,483	-55.3		277	6.0	29	20,560	-59.1		290	12.2
40	30	21,909	-54.5		302	.8	29	21,963	-57.5		61	4.9
30	28	23,757	-53.1		79	3.3	28	23,791	-55.0		93	4.7
25	26	24,928	-52.4		84	6.6	27	24,962	-53.7		77	3.9
20	25	26,372	-51.0		87	8.7	26	26,404	-51.7		65	5.8
15	11	28,230	-48.7				25	28,283	-48.1		63	1.4
10							14	30,990	-41.5			

Standard pressure surface (mb)	HILO, HAWAII (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	INTERNAT. FALLS, MINN. (970 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	JACKASS FLATS, NEV. (889 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	11	19.7	87	228	5.2	30	360	- 2.9	79	325	1.1	30	1,100	9.7	29	35	5.1
1,000	30	148	21.1	78	205	4.7	30	113					30	112				
950	30	591	18.0	82	127	5.6	30	320	- 1.7	71	349	2.1	30	543				
900	30	1,053	14.9	84	116	6.6	30	951	- 2.6	65	318	2.5	30	1,001				
850	30	1,536	11.8	85	113	5.2	30	1,403	- 4.6	62	287	3.1	30	1,481	11.8	24	101	2.3
800	30	2,043	9.9	71	90	3.7	30	1,878	- 6.5	56	317	5.2	30	1,985	8.4	25	186	1.4
750	30	2,581	9.2	40	80	2.9	30	2,379	- 9.3	51	306	6.4	30	2,509	4.6	30	313	3.7
700	30	3,149	7.2	33	53	2.9	30	2,911	-12.1	48	308	8.4	30	3,073	.7	31	295	7.4
650	30	3,755	4.2	28	58	2.7	30	3,473	-15.4	43	304	10.7	30	3,654	- 3.7	34	279	11.1
600	30	4,403	.8	26	255	1.6	30	4,075	-18.6	42	300	12.0	30	4,291	- 7.5		282	16.1
550	30	5,091	- 4.1	29	239	5.2	30	4,715	-22.5	42	298	13.4	30	4,953	-11.5		282	19.8
500	30	5,843	- 8.9	31	245	9.1	30	5,413	-27.2	42	298	15.3	30	5,687	-16.6		282	22.9
450	30	6,645	-14.9	33	257	14.0	30	6,156	-32.7	43	296	16.5	30	6,462	-22.7		279	27.2
400	30	7,533	-21.3	32	261	15.5	30	6,984	-38.7		294	21.0	30	7,323	-29.5		273	30.7
350	30	8,504	-28.5		264	19.2	30	7,890	-44.6		290	22.5	30	8,262	-36.4		275	35.9
300	30	9,590	-37.1		274	23.3	30	8,908	-50.4		283	25.5	30	9,315	-43.9		281	41.4
250	30	10,826	-46.7		278	40.4	30	10,091	-51.9		279	28.6	30	10,518	-52.1		286	43.7
200	30	12,270	-57.3		286	53.2	30	11,543	-50.0		280	28.8	30	11,938	-59.0		286	48.0
175	30	13,103	-62.6		286	55.4	30	12,416	-49.8		277	23.9	30	12,774	-59.7		284	44.9
150	30	14,045	-66.6		282	48.4	30	13,425	-49.8		283	24.3	30	13,739	-59.2		279	44.7
125	29	15,143	-70.0		280	35.9	30	14,614	-51.1		288	19.4	30	14,880	-60.3		276	39.4
100	29	16,462	-72.2		281	22.5	30	16,061	-52.3		281	14.4	30	16,266	-62.1		276	38.1
80	28	17,776	-70.6		277	4.7	30	17,500	-53.8		287	10.7	29	17,643	-63.2		278	25.6
70	27	18,570	-69.0		54	1.4	30	18,360	-53.9		294	8.4	29	18,466	-63.2		280	18.8
60	27	19,494	-67.1		93	6.2	29	19,347	-53.7		304	5.2	29	19,413	-62.5		285	12.2
50	26	20,604	-64.3		100	8.4	28	20,518	-53.6		345	2.5	29	20,541	-61.5		290	6.2
40	23	21,980	-60.4		89	4.3	28	21,955	-52.9		78	2.5	29	21,931	-59.3		302	2.7
30	23	23,796	-55.5		98	2.1	27	23,810	-52.5		87	5.2	29	23,743	-56.8		346	1.9
25	23	24,965	-51.7		98	1.4	26	24,989	-51.9		79	6.6	28	24,898	-55.7		15	3.1
20	23	26,427	-47.4		262	4.7	25	26,438	-50.7		91	8.7	26	26,323	-53.6		321	2.1
15	16	28,356	-43.9				23	28,329	-48.0		89	10.7	23	28,171	-51.0		215	2.9
10													7	30,800	-47.2			

Standard pressure surface (mb)	JACKSON, MISS. (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	JACKSONVILLE, FLA. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	101	11.2	82	195	1.2	30	6	13.1	86	259	3.9
1,000	30	123			137	1.4	30	140	14.5	72	267	5.1
950	30	551	11.6	61	225	6.2	30	570	13.7	59	279	7.4
900	30	1,005	10.5	49	260	10.3	30	1,029	11.9	51	267	11.5
850	30	1,480	8.9	46	267	13.2	30	1,506	10.3	41	268	17.7
800	30	1,979	7.0	38	273	18.7	30	2,009	8.4	36	273	22.2
750	30	2,511	4.8	34	279	23.7	30	2,537	5.9	29	273	26.0
700	30	3,066	1.3	34	276	31.3	30	3,103	3.1	30	272	29.0
650	30	3,656	- 1.9	36	277	30.7	30	3,695	- .2	29	272	33.2
600	30	4,292	- 5.9	40	280	32.1	30	4,337	- 3.9	27	271	39.2
550	30	4,964	-10.3		279	36.5	30	5,010	- 8.3	27	271	44.3
500	30	5,696	-14.0		277	40.0	30	5,752	-13.4		269	50.1
450	30	6,482	-20.1		275	47.2	30	6,539	-18.6		272	56.3
400	30	7,348	-26.3		276	49.9	30	7,417	-24.5		276	59.1
350	30	8,301	-33.2		280	56.3	30	8,377	-30.9		278	64.9
300	30	9,367	-40.9		285	59.5	30	9,453	-38.9		279	72.9
250	30	10,587	-48.6		284	73.4	30	10,683	-47.2		285	77.3
200	30	12,031	-55.4		290	77.5	30	12,130	-55.7		287	86.9
175	30	12,880	-57.5		293	85.1	30	12,976	-58.4		289	92.7
150	29	13,849	-59.4				30	13,939	-60.8		286	83.4
125	29	14,983	-62.6				30	15,064	-64.3		284	69.8
100	29	16,350	-66.1				30	16,420	-67.5		284	49.9
80	28	17,692	-67.3				29	17,762	-69.0		282	29.7
70	28	18,512	-66.5				29	18,365	-67.6		281	22.5
60	27	19,439	-63.4				29	19,499	-64.2		277	13.2
50	27	20,567	-60.3				29	20,625	-60.7		280	7.2
40	27	21,966	-57.8		45	3.5	29	22,024	-58.1		84	1.6
30	26	23,794	-54.5		79	5.4	28	23,855	-54.3		75	3.7
25	26	24,966	-52.6				25	25,016	-52.6		104	3.9
20	26	26,417	-49.3				21	26,468	-49.5		105	3.3
15	20	28,306	-45.3				13	28,386	-44.6			
10	6	31,015	-37.5									

Standard pressure surface (mb)	JOHNSTON IS., PACIFIC AREA (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	KING SALMON, ALASKA (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	KOTZEBUE, ALASKA (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	3	24.9	79	73	10.3	30	15	- 2.5	82	269	2.1	30	5	-13.3	78	102	4.7
1,000	29	124	24.0	79	78	11.9	30	106	- 2.0	76	278	2.9	30	119	-11.0	69	99	7.6
950	29	570	20.7	80	90	14.4	30	509	- 3.7	71	284	3.9	30	513	-10.0	70	114	9.1
900	29	1,039	17.7	80	95	15.2	30	938	- 5.6	70	272	5.4	30	930	-11.0	68	141	6.6
850	29	1,527	14.9	77	96	12.4	30	1,386	- 7.2	65	278	7.4	30	1,368	-12.2	66	161	4.3
800	29	2,039	12.2	66	95	10.9	30	1,857	- 8.7	59	277	9.1	30	1,831	-13.7	59	171	4.5
750	29	2,574	10.0	53	98	7.0	30	2,353	-10.7	60	272	11.5	30	2,317	-15.6	57	183	4.7
700	29	3,150	7.4	43	149	1.7	30	2,885	-12.8	56	273	12.2	30	2,836	-18.1	53	205	4.7
650	29	3,751	4.1	36	245	3.7	30	3,444	-15.7	52	272	13.8	30	3,384	-20.8	50	237	4.9
600	29	4,406	.7	34	259	8.0	30	4,048	-19.0	44	275	15.3	30	3,976	-24.0	48	243	6.2
550	28	5,090	- 3.2		265	11.1	30	4,684	-22.8	41	274	19.2	30	4,601	-27.7	47	247	8.5
500	28	5,848	- 8.2		266	16.1	30	5,386	-26.6	42	274	23.3	30	5,286	-32.1	45	249	8.5
450	28	6,649	-13.6		264	18.8	30	6,132	-31.7		270	22.0	30	6,020	-36.9		242	12.6
400	28	7,545	-20.1		267	24.9	30	6,965	-37.2		268	28.8	30	6,829	-42.4		244	15.2
350	28	8,522	-27.0		272	32.3	30	7,876	-42.9		268	26.6	30	7,721	-47.1		258	21.2
300	28	9,616	-35.2		269	42.9	30	8,904	-48.1		267	31.9	30	8,733	-50.5		252	26.8
250	27	10,862	-44.7		268	59.8	30	10,098	-51.1		269	33.0	30	9,923	-49.9		259	28.0
200	26	12,319	-56.0		271	65.9	30	11,543	-52.2		269	25.8	29	11,393	-48.2		249	20.6
175	26	13,157	-62.1		275	73.1	30	12,409	-51.4		269	24.5	29	12,274	-47.5		251	16.1
150	26	14,097	-67.9		273	67.2	30	13,410	-50.9		272	22.0	29	13,294	-47.4		257	12.8
125	24	15,185	-72.8		274	55.8	29	14,601	-51.4		271	18.1	27	14,493	-47.5		232	10.5
100	23	16,484	-75.5		271	31.7	28	16,057	-51.5		274	13.6	27	15,966	-48.3		216	7.0
80	17	17,768	-73.9		274	11.9	26	17,506	-51.9		269	8.5	26	17,433	-49.1		217	5.2
70	17	18,552	-70.6		283	2.9	22	18,393	-52.4		267	7.6	26	18,309	-49.4		189	2.7
60	15	19,477	-67.0		87	8.4	16	19,413	-52.4		269	3.7	26	19,317	-50.1		165	2.5
50	12	20,582	-64.9		91	9.9	15	20,596	-52.6		228	1.4	25	20,506	-50.6		147	2.7
40	10	21,973	-61.0		90	14.6	14	22,031	-53.0		304	4.3	23	21,959	-51.3		144	4.1
30	10	23,783	-55.3				12	23,894	-53.7		26	3.9	21	23,827	-52.0		108	4.5
25	8	24,948	-51.5				12	25,065	-53.8		63	3.9	21	25,007	-52.1		105	5.4
20	8	26,412	-47.1				9	26,532	-53.6				19	26,449	-51.9		75	6.0
15	6	28,333	-43.5				5	28,388	-51.0				10	28,320	-50.8			
10																		

Standard pressure surface (mb)	LAKE CHARLES, LA. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LANDER, WYO. (825 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	13.7	89	127	0.8	30	1,696	0.1	65	266	1.7
1,000	30	129	15.2	75	159	2.5	30	126				
950	30	562	13.8	67	213	6.6	30	544				
900	30	1,019	13.1	45	224	8.5	30	1,018				
850	30	1,499	12.2	33	250	9.9	30	1,458				
800	30	2,005	10.2	30	265	13.8	30	1,945	.9	52	295	4.3
750	30	2,540	7.7	28	276	15.5	30	2,461	- 1.6	48	296	6.6
700	30	3,104	4.5		283	21.8	30	3,008	- 5.6	50	297	11.7
650	30	3,702	.9		280	26.4	30	3,582	- 9.5	52	290	16.5
600	30	4,342	- 3.5		274	32.1	30	4,199	-13.9	52	286	21.6
550	30	5,020	- 8.1		275	36.1	30	4,849	-18.4	47	285	25.5
500	30	5,758	-12.8		272	40.8	30	5,561	-23.0	40	287	29.9
450	30	6,554	-17.8		269	46.0	30	6,316	-28.6	37	290	32.8
400	30	7,426	-24.1		269	53.2	30	7,160	-34.7	38	288	36.5
350	30	8,387	-31.0		268	61.2	30	8,079	-41.3		288	42.7
300	30	9,464	-38.5		267	74.0	30	9,110	-48.2		279	48.0
250	30	10,693	-47.4		269	84.9	30	10,295	-54.2		289	52.8
200	30	12,139	-55.6		271	97.2	30	11,719	-55.2		287	50.3
175	30	12,984	-58.3		272	89.6	30	12,573	-54.8		283	44.9
150	30	13,948	-60.9		274	84.3	30	13,558	-54.6		279	38.3
125	30	15,070	-64.9		273	70.3	30	14,724	-56.1		278	30.5
100	30	16,419	-68.0		275	54.6	30	16,140	-57.7		277	24.3
80	28	17,748	-70.1		273	35.6	29	17,543	-58.5		277	17.1
70	28	18,553	-69.2		273	27.0	28	18,380	-58.6		278	14.6
60	27	19,468	-65.6		274	17.9	27	19,345	-58.3		277	8.5
50	27	20,591	-61.6		278	9.7	26	20,498	-57.8		278	3.5
40	27	21,983	-58.2		279	5.6	23	21,911	-56.8		318	2.5
30	27	23,807	-55.2		353	1.4	20	23,754	-55.0		74	5.1
25	26	24,980	-53.1		336	1.2	18	24,919	-53.6		81	4.3
20	26	26,425	-50.1		306	1.0	13	26,364	-52.1		71	6.8
15	22	28,320	-45.4		265	7.0						
10	11	31,019	-40.1									

Standard pressure surface (mb)	LAS VEGAS, NEV. (936 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LIHUE, HAWAII (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LITTLE ROCK, ARK. (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	660	12.8	28	246	4.5	30	36	22.0	78	57	4.9	30	79	11.1	78	243	2.3
1,000	30	99					30	147	21.4	78	63	7.2	30	114			228	2.9
950	30	532					30	591	17.9	83	82	9.7	30	540	10.6	62	251	8.4
900	30	991	15.6	21	303	7.4	30	1,051	14.4	86	82	8.4	30	992	8.3	62	266	14.0
850	30	1,476	12.7	22	307	8.2	30	1,533	11.3	86	90	6.6	30	1,464	7.4	49	268	19.0
800	30	1,981	9.0	25	301	8.2	30	2,038	10.2	60	119	5.4	30	1,962	5.1	43	272	21.0
750	30	2,507	4.9	27	292	7.2	30	2,577	8.6	53	134	4.3	30	2,486	2.7	41	280	24.7
700	30	3,069	.8	30	290	7.2	30	3,143	5.6	49	201	1.7	30	3,043	- .1	42	288	28.4
650	30	3,653	- 3.4	35	285	11.3	30	3,742	2.1	49	247	4.9	30	3,624	- 4.0	44	286	33.6
600	30	4,289	- 7.3	33	286	17.3	30	4,388	- 2.1	43	247	8.0	30	4,259	- 8.3	41	285	34.4
550	30	4,953	-11.6	28	284	20.0	30	5,071	- 5.7	41	248	11.7	30	4,923	-12.6	37	282	40.2
500	30	5,686	-16.2	28	283	25.1	30	5,816	-10.4	42	246	14.0	30	5,652	-17.3		283	43.7
450	30	6,461	-22.0	30	281	30.3	30	6,615	-15.9	41	250	17.9	30	6,428	-22.9		281	50.1
400	30	7,326	-28.7	31	278	35.8	30	7,499	-22.0	41	258	22.3	29	7,287	-29.3		279	52.5
350	30	8,269	-35.7		277	41.8	30	8,467	-29.5	39	258	28.2	29	8,228	-35.5		279	63.0
300	30	9,323	-43.7		277	44.3	30	9,549	-37.7		265	34.0	29	9,287	-42.3		276	67.4
250	30	10,526	-51.9		275	49.5	30	10,781	-47.5		276	46.4	28	10,499	-49.5		278	76.7
200	30	11,947	-58.9		278	53.2	29	12,222	-58.0		278	71.5	28	11,940	-55.4		276	80.6
175	30	12,781	-59.4		275	51.7	29	13,054	-62.5		278	71.5	27	12,789	-57.0		275	78.3
150	30	13,744	-59.1		272	49.4	29	13,997	-66.1		277	66.1	25	13,753	-57.8		278	61.4
125	30	14,885	-60.8		271	43.5	29	15,094	-68.9		272	48.2	25	14,897	-59.8		277	60.4
100	29	16,271	-62.8		268	37.5	28	16,423	-70.6		262	29.5	25	16,283	-62.8		277	44.5
80	29	17,643	-63.7		271	24.3	26	17,751	-69.0		252	11.7	25	17,650	-64.6		279	29.1
70	29	18,466	-63.4		268	18.3	25	18,551	-67.9		235	5.2	25	18,470	-64.0		278	24.3
60	29	19,411	-62.2		268	11.5	25	19,478	-66.9		126	1.7	23	19,412	-62.2		278	19.8
50	29	20,540	-60.8		267	5.8	24	20,589	-64.4		103	6.0	22	20,538	-59.9		272	10.1
40	29	21,935	-58.4		283	1.9	23	21,964	-60.8		89	5.2	22	21,938	-57.6		281	5.2
30	29	23,753	-56.0		65	.8	19	23,769	-56.1		83	5.1	18	23,764	-54.7		254	1.9
25	29	24,917	-54.0		61	1.2	18	24,932	-52.6		67	4.1	17	24,938	-52.9		264	2.1
20	28	26,359	-51.3		63	.8	18	26,389	-48.0		320	2.5	17	26,384	-50.3		261	3.7
15	20	28,243	-48.1		203	1.7	9	28,285	-44.6				14	28,295	-46.5			
10																		

See reference note at end of table

RAWINSONDE DATA

Average monthly values

McGRATH, ALASKA
(1002 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	103	-6.1	76	270	1.4
1,000--	30	115			303	1.9
950----	30	522	-6.4	65	335	.6
900----	30	940	-8.0	65	191	3.9
850----	30	1,377	-9.7	62	206	5.6
800----	30	1,850	-11.5	58	215	6.4
750----	30	2,344	-13.6	55	215	7.4
700----	30	2,865	-16.0	55	228	8.4
650----	30	3,422	-18.9	56	244	10.3
600----	30	4,013	-22.5	56	250	12.0
550----	30	4,646	-26.2	53	253	16.1
500----	30	5,331	-30.5	52	254	17.9
450----	30	6,069	-35.3	48	259	20.0
400----	30	6,887	-40.0		265	23.1
350----	30	7,789	-45.1		264	27.6
300----	30	8,810	-48.8		266	31.3
250----	30	10,003	-50.4		271	30.9
200----	30	11,461	-49.6		273	25.5
175----	30	12,337	-48.8		269	20.8
150----	30	13,352	-48.7		270	18.8
125----	28	14,548	-49.1		268	12.4
100----	28	16,011	-49.5		270	7.6
80-----	28	17,471	-50.2		265	5.8
70-----	28	18,346	-50.6		269	3.7
60-----	28	19,346	-50.9		262	3.5
50-----	28	20,532	-51.2		310	.6
40-----	28	21,981	-51.6		339	.6
30-----	24	23,837	-52.2		43	3.3
25-----	24	25,016	-52.2		61	3.3
20-----	18	26,444	-51.5		70	1.[illegible]
15-----	7	28,305	-51.3			

MEDFORD, OREG.
(972 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	401	4.8	81	248	0.6
1,000--	30	168				
950----	30	589	6.5	69	283	2.5
900----	30	1,032	5.0	66	243	1.2
850----	30	1,496	2.6	66	236	2.7
800----	30	1,985	.4	60	272	3.5
750----	30	2,499	-2.4	53	290	7.6
700----	30	3,046	-5.3	48	288	12.0
650----	30	3,619	-8.2	45	283	15.7
600----	30	4,242	-11.9	42	282	18.7
550----	30	4,895	-16.0	41	279	21.4
500----	30	5,616	-20.8	40	282	23.3
450----	30	6,377	-26.1	41	280	26.4
400----	30	7,227	-32.5	45	284	29.0
350----	30	8,156	-39.1		288	30.9
300----	30	9,197	-46.7		283	34.0
250----	30	10,388	-53.5		286	39.4
200----	30	11,806	-58.4		288	42.7
175----	30	12,647	-57.9		282	42.2
150----	30	13,622	-57.0		282	36.7
125----	30	14,777	-57.5		280	29.9
100----	30	16,182	-59.1		284	21.4
80-----	30	17,577	-59.5		280	16.9
70-----	29	18,414	-59.6		287	13.6
60-----	29	19,380	-59.0		293	8.2
50-----	28	20,524	-58.4		301	4.7
40-----	27	21,930	-57.7		348	2.1
30-----	27	23,751	-56.3		56	6.2
25-----	25	24,911	-55.2		88	6.6
20-----	22	26,340	-53.9		84	6.0
15-----	18	28,192	-50.9		69	5.4

MIAMI, FLA.
(1016 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	4	19.8	79	58	0.6
1,000--	30	139	20.0	73	85	1.9
950----	30	581	18.1	70	164	2.9
900----	30	1,043	15.5	66	208	2.5
850----	30	1,527	13.5	57	248	6.8
800----	30	2,036	11.4	46	256	10.[illegible]
750----	30	2,576	9.3	33	260	13.2
700----	30	3,144	6.5	29	270	15.3
650----	30	3,744	3.1		273	18.8
600----	30	4,393	-.6		273	22.3
550----	30	5,076	-4.8		276	27.8
500----	30	5,827	-9.5		274	33.4
450----	30	6,627	-15.3		273	38.1
400----	30	7,514	-21.7		276	42.4
350----	30	8,484	-28.3		277	49.5
300----	30	9,571	-36.4		276	55.0
250----	30	10,807	-46.5		279	57.3
200----	30	12,253	-56.8		283	65.7
175----	30	13,093	-59.9		282	67.2
150----	30	14,046	-64.0		282	62.4
125----	30	15,150	-68.6		278	55.0
100----	29	16,469	-73.6		278	40.2
80-----	29	17,768	-74.6		277	23.3
70-----	29	18,559	-72.2		271	14.2
60-----	29	19,468	-66.9		277	8.0
50-----	29	20,581	-63.0		279	4.7
40-----	29	21,965	-59.7		34	2.1
30-----	27	23,783	-54.9		91	4.3
25-----	26	24,957	-51.8		108	5.8
20-----	22	26,420	-48.2		224	3.7
15-----	13	28,325	-42.2			

MIDLAND, TEX.
(914 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	27	871	10.1	58	187	2.5
1,000--	27	111				
950----	27	547				
900----	27	998	12.9	49	186	1.9
850----	27	1,479	13.7	35	226	10.1
800----	27	1,988	11.4	31	265	12.6
750----	27	2,521	8.0		276	15.3
700----	27	3,090	1.1	28	279	18.5
650----	27	3,683	-.1	28	274	21.4
600----	27	4,324	-4.6		270	26.2
550----	27	4,998	-9.2		268	30.9
500----	27	5,735	-14.1		270	35.0
450----	27	6,521	-19.7		273	41.6
400----	27	7,390	-26.1		270	46.4
350----	27	8,344	-32.7		269	52.1
300----	27	9,411	-40.9		266	60.2
250----	27	10,629	-49.4		268	70.3
200----	27	12,065	-57.2		265	83.4
175----	27	12,906	-58.6		268	85.1
150----	27	13,872	-60.2		266	70.7
125----	26	15,002	-63.9		268	62.8
100----	26	16,357	-67.5		268	45.7
80-----	24	17,693	-68.7		272	33.6
70-----	22	18,512	-67.7		273	21.8
60-----	22	19,431	-65.1		275	8.5
50-----	22	20,550	-61.6		282	3.7
40-----	22	21,941	-58.6		351	.6
30-----	22	23,763	-55.4		314	.6
25-----	21	24,930	-53.8		77	1.2
20-----	17	26,387	-50.8		108	1.9
15-----	11	28,324	-45.7		121	.8

MONTGOMERY, ALA.
(1009 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	61	10.4	84	285	1.4
1,000--	30	132	11.[illegible]	71	292	2.1
950----	30	562	11.5	61	262	8.2
900----	30	1,013	9.7	56	276	13.2
850----	30	1,487	8.1	19	274	19.8
800----	30	1,987	6.7	42	275	24.1
750----	30	2,516	1.2	40	277	29.[illegible]
700----	30	3,073	1.1	40	276	33.8
650----	30	3,662	-2.1	36	273	37.9
600----	30	4,297	-6.9	39	275	41.6
550----	30	4,971	-10.2		276	42.0
500----	30	5,702	-14.6		276	47.4
450----	30	6,488	-19.9		276	49.7
400----	30	7,356	-25.7		274	60.1
350----	30	8,310	-32.8		275	67.4
300----	30	9,378	-40.4		271	77.9
250----	30	10,600	-48.5		274	88.4
200----	30	12,042	-55.6		277	90.9
175----	28	12,893	-57.7		279	91.3
150----	27	13,868	-59.5		281	81.8
125----	27	15,002	-62.3		281	65.9
100----	26	16,367	-66.4		278	50.9
80-----	25	17,713	-67.1		273	34.2
70-----	25	18,533	-66.6		273	23.9
60-----	25	19,457	-63.5		272	14.6
50-----	25	20,583	-61.0		277	8.5
40-----	25	21,978	-58.4		10	1.7
30-----	22	23,802	-54.9		88	3.7
25-----	21	24,967	-53.2		94	2.1
20-----	17	26,398	-51.0		118	3.1
15-----	11	28,260	-46.9			

NANTUCKET, MASS.
(1006 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	14	5.0	79	309	5.4
1,000--	30	66			297	6.8
950----	30	481	4.2	69	300	10.7
900----	30	922	2.1	67	297	10.9
850----	30	1,382	-.1	68	274	13.6
800----	30	1,866	-2.2	65	274	17.9
750----	30	2,376	-4.3	59	277	17.5
700----	30	2,919	-6.8	55	276	23.1
650----	30	3,490	-9.9	50	276	24.5
600----	30	4,108	-13.7	45	278	30.3
550----	30	4,760	-17.5	42	271	25.3
500----	30	5,472	-22.1	40	275	29.5
450----	30	6,233	-27.4	38	262	31.1
400----	30	7,078	-33.3		266	36.9
350----	30	8,003	-39.7		273	36.1
300----	30	9,043	-46.0		273	39.4
250----	30	10,245	-49.9		266	51.9
200----	30	11,699	-51.5		270	54.0
175----	30	12,566	-51.[illegible]		275	47.2
150----	30	13,564	-52.4		272	37.9
125----	30	14,739	-53.8		269	36.1
100----	30	16,169	-55.3		268	29.5
80-----	29	17,591	-56.8		272	17.9
70-----	28	18,441	-56.6		274	13.2
60-----	28	19,413	-56.3		269	9.9
50-----	28	20,571	-55.9		282	3.5
40-----	26	21,992	-55.0		263	.8
30-----	25	23,838	-53.4		91	4.5
25-----	23	25,022	-52.0		87	5.6
20-----	23	26,471	-50.3		92	6.2
15-----	18	28,375	-46.7		79	5.6
10-----						

NASHVILLE, TENN.
(992 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	177	8.1	78	245	2.7
1,000--	30	113				
950----	30	534	7.9	65	253	11.1
900----	30	983	5.6	65	260	16.1
850----	30	1,449	3.8	57	272	19.6
800----	30	1,939	1.6	58	280	24.5
750----	30	2,455	-.8	52	280	29.5
700----	30	3,007	-2.9	47	278	34.4
650----	30	3,582	-6.3	44	277	35.0
600----	30	4,212	-10.1	45	277	41.6
550----	30	4,870	-14.1	43	278	44.3
500----	30	5,596	-18.9	42	274	47.6
450----	30	6,365	-24.1		274	50.1
400----	30	7,223	-30.1		275	56.9
350----	30	8,161	-36.[illegible]		276	59.1
300----	30	9,212	-44.0		275	70.1
250----	30	10,418	-50.9		281	72.3
200----	30	11,853	-55.4		282	75.[illegible]
175----	30	12,703	-55.9		285	69.9
150----	30	13,683	-56.8		283	68.2
125----	30	14,834	-58.9		289	50.9
100----	30	16,223	-62.3		281	45.1
80-----	30	17,596	-62.9		282	28.6
70-----	30	18,425	-63.0		278	20.8
60-----	30	19,369	-61.3		279	15.9
50-----	28	20,505	-59.8		277	8.4
40-----	28	21,903	-58.0		321	1.4
30-----	27	23,728	-55.2		71	3.1
25-----	27	24,896	-53.3		92	4.5
20-----	25	26,337	-51.4		77	2.9
15-----	19	28,214	-47.9		327	1.9
10-----	5	30,870	-44.0			

N. Y. INT. AP, IDLEWILD
(1009 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	5	5.9	70	305	5.4
1,000--	30	80	5.9	66	306	8.5
950----	30	496	3.8	65	310	9.5
900----	30	936	1.8	65	304	11.9
850----	30	1,396	-.1	65	292	10.7
800----	30	1,879	-2.2	62	282	13.4
750----	30	2,391	-4.5	59	278	15.7
700----	30	2,931	-7.3	55	274	20.6
650----	30	3,504	-10.2	49	271	23.3
600----	30	4,118	-13.5	46	275	26.0
550----	30	4,773	-17.6	40	275	29.9
500----	30	5,481	-22.5		276	32.[illegible]
450----	30	6,241	-27.7		276	35.8
400----	30	7,083	-33.6		279	41.0
350----	30	8,007	-40.1		278	42.6
300----	30	9,045	-46.1		277	50.5
250----	30	10,246	-49.8		276	55.4
200----	30	11,698	-51.9		277	54.0
175----	30	12,563	-52.2		275	46.6
150----	30	13,559	-53.0		277	43.9
125----	30	14,731	-54.2		273	39.1
100----	30	16,158	-55.9		272	31.5
80-----	30	17,573	-57.3		275	21.4
70-----	29	18,420	-57.4		275	15.3
60-----	28	19,387	-57.1		276	10.9
50-----	27	20,543	-56.6		298	5.6
40-----	26	21,961	-55.3		66	.6
30-----	24	23,800	-54.1		93	3.3
25-----	24	24,975	-53.3		96	3.9
20-----	22	26,421	-51.4		98	5.8
15-----	10	28,286	-48.4			
10-----						

NOME, ALASKA
(1013 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	7	-8.8	77	76	6.2
1,000--	30	108			92	6.4
950----	30	510	-8.9	73	129	6.6
900----	30	924	-9.7	70	149	3.7
850----	30	1,364	-11.1	67	190	3.7
800----	30	1,828	-12.7	62	204	5.2
750----	30	2,324	-14.3	57	216	6.4
700----	30	2,840	-16.6	52	223	7.4
650----	30	3,394	-19.4	48	226	8.0
600----	30	3,985	-22.8	46	235	8.5
550----	30	4,618	-26.7	45	244	10.1
500----	30	5,300	-30.7	46	252	14.0
450----	30	6,040	-35.4		249	17.1
400----	30	6,853	-40.6		268	19.4
350----	30	7,752	-45.7		263	24.7
300----	30	8,770	-49.5		262	27.8
250----	29	9,968	-50.7		258	29.5
200----	29	11,426	-49.5		249	21.6
175----	29	12,304	-48.0		247	20.0
150----	29	13,321	-48.6		241	14.6
125----	29	14,521	-48.2		233	13.6
100----	29	15,988	-4[illegible].9		229	9.3
80-----	29	17,452	-49.5		220	7.4
70-----	29	18,332	-49.9		209	5.[illegible]
60-----	29	19,334	-50.0		209	4.7
50-----	27	20,523	-50.5		203	3.9
40-----	27	21,976	-51.2		226	1.9
30-----	26	23,838	-52.2		87	1.9
25-----	24	25,021	-52.1		88	4.1
20-----	22	26,469	-51.8		79	4.5
15-----	10	28,347	-50.9			
10-----						

NORFOLK, VA.
(1011 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	9	9.2	71	250	4.9
1,000--	30	101			261	6.0
950----	30	526	8.0	60	279	13.2
900----	30	971	5.4	60	284	17.9
850----	30	1,437	2.9	58	285	18.7
800----	30	1,926	.7	50	280	22.2
750----	30	2,442	1.4	44	276	26.4
700----	30	2,991	-4.0	41	274	30.1
650----	30	3,569	-7.2	40	271	36.1
600----	30	4,193	-10.7	38	272	41.8
550----	30	4,854	-14.7	38	271	46.8
500----	30	5,572	-19.5		271	50.3
450----	30	6,344	-25.0		271	56.0
400----	30	7,195	-31.0		272	58.1
350----	30	8,128	-37.6		272	66.5
300----	30	9,176	-44.4		275	71.7
250----	30	10,382	-49.7		277	75.8
200----	30	11,832	-52.8		279	68.2
175----	30	12,692	-53.8		278	65.5
150----	30	13,680	-54.8		276	57.1
125----	30	14,840	-57.2		278	49.9
100----	30	16,243	-60.2		272	37.5
80-----	29	17,633	-60.7		273	25.1
70-----	29	18,470	-59.7		279	15.9
60-----	29	19,430	-59.1		279	12.4
50-----	29	20,576	-57.6		283	2.7
40-----	29	21,991	-55.8		81	1.9
30-----	23	23,846	-53.7		84	4.5
25-----	23	25,021	-52.2		87	5.1
20-----	18	26,506	-49.4		98	7.0
15-----	15	28,426	-44.5		106	5.8
10-----	5	31,178	-37.1			

NORTH PLATTE, NEBR.
(914 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	848	1.0	75	337	4.3
1,000--	30	116				
950----	30	531				
900----	30	964	1.8	67	356	6.0
850----	30	1,432	2.5	54	328	11.1
800----	30	1,921	1.3	48	316	13.2
750----	30	2,434	-1.9	48	311	17.9
700----	30	2,983	-5.3	47	302	19.8
650----	30	3,557	-8.8	45	294	23.7
600----	30	4,178	-12.8	45	295	29.5
550----	30	4,830	-17.2	46	290	31.3
500----	30	5,545	-21.9	43	289	34.4
450----	30	6,305	-27.3	37	289	40.8
400----	30	7,151	-33.3		287	45.5
350----	29	8,077	-40.0		284	47.6
300----	29	9,106	-47.3		283	50.9
250----	29	10,302	-53.1		277	57.5
200----	28	11,723	-55.0		277	51.5
175----	28	12,577	-54.6		278	47.6
150----	28	13,560	-54.6		280	45.9
125----	28	14,726	-56.1		281	33.8
100----	28	16,142	-57.2		281	31.1
80-----	28	17,552	-58.2		274	19.2
70-----	28	18,395	-58.7		281	13.4
60-----	28	19,358	-58.3		286	10.3
50-----	28	20,507	-57.7		281	7.0
40-----	27	21,919	-56.3		316	3.7
30-----	24	23,745	-54.7		217	1.2
25-----	21	24,899	-54.0		125	1.4
20-----	18	26,346	-51.8		140	3.3
15-----	17	28,226	-48.9		259	2.7
10-----	8	30,904	-43.1			

OAKLAND, CALIF.
(1017 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	6	10.0	81	243	1.7
1,000--	30	144	10.7	75	250	2.3
950----	30	570	10.8	64	311	4.5
900----	30	1,018	10.4	43	325	8.7
850----	30	1,496	8.6	32	318	9.3
800----	30	1,995	5.4	30	301	8.7
750----	30	2,515	2.6	27	296	10.7
700----	30	3,070	-.8	27	293	13.0
650----	30	3,657	-4.0	28	292	15.5
600----	30	4,291	-8.0		293	18.3
550----	30	4,950	-12.5		294	21.6
500----	30	5,684	-17.5		294	25.5
450----	30	6,451	-23.0		291	31.3
400----	30	7,318	-29.3		288	34.6
350----	30	8,259	-36.4		285	40.6
300----	30	9,311	-44.4		286	43.5
250----	30	10,510	-52.8		285	42.6
200----	29	11,934	-59.6		290	44.7
175----	28	12,768	-59.3		286	43.7
150----	27	13,734	-58.9		281	39.1
125----	27	14,876	-60.0		281	35.9
100----	27	16,265	-61.7		282	30.5
80-----	26	17,647	-62.9		284	22.3
70-----	26	18,474	-62.7		283	17.3
60-----	26	19,425	-61.5		280	11.1
50-----	26	20,558	-60.4		302	6.0
40-----	25	21,951	-58.7		325	2.3
30-----	24	23,767	-56.3		63	5.1
25-----	21	24,932	-54.5		82	4.5
20-----	[illegible]	26,374	-52.3		83	2.9
15-----	15	28,256	-48.5		342	5.4
10-----						

OKLAHOMA CITY, OKLA.
(967 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	392	10.2	71	206	2.5
1,000--	29	111				
950----	29	540	11.0	59	196	6.2
900----	29	991	9.9	55	235	13.2
850----	29	1,465	8.8	50	253	17.7
800----	29	1,965	6.6	40	273	15.7
750----	29	2,493	3.4	38	274	21.2
700----	29	3,049	.2	36	280	24.1
650----	29	3,634	-3.9	33	280	27.8
600----	29	4,265	-8.4	35	281	33.8
550----	29	4,929	-12.8	33	281	37.1
500----	29	5,655	-17.4		275	40.8
450----	29	6,431	-22.9		275	48.0
400----	29	7,288	-29.4		276	50.1
350----	29	8,229	-36.1		276	60.2
300----	29	9,283	-43.5		275	66.1
250----	29	10,489	-50.7		272	74.6
200----	28	11,929	56.4		272	83.0
175----	28	12,774	-57.6		271	82.2
150----	28	13,746	-58.4		273	75.2
125----	28	14,887	-60.8		271	66.8
100----	28	16,265	-63.2		273	56.3
80-----	27	17,632	-64.3		273	32.1
70-----	27	18,453	-63.9		270	22.5
60-----	26	19,402	-61.5		271	12.8
50-----	25	20,534	-59.7		295	3.3
40-----	24	21,939	-57.1		321	.6
30-----	24	23,770	54.5		72	.8
25-----	23	24,941	53.4		90	1.7
20-----	18	26,389	50.7		80	3.5
15-----	7	28,350	45.5			
10-----						

OMAHA, NEBR.
(965 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	403	3.1	72	17	3.5
1,000--	30	109				
950----	30	528	3.4	62	19	5.1
900----	30	965	2.1	61	339	4.1
850----	30	1,426	.7	61	307	10.1
800----	30	1,912	-1.4	60	310	13.4
750----	30	2,420	-3.8	57	306	17.1
700----	30	2,966	-6.7	56	302	20.8
650----	30	3,535	-10.0	53	296	25.1
600----	30	4,156	-13.3	49	292	28.[illegible]
550----	30	4,808	-17.9	48	290	33.2
500----	30	5,520	-22.7	47	287	37.7
450----	30	6,279	-27.6	43	282	42.6
400----	30	7,123	-34.0		281	46.6
350----	30	8,045	-40.8		279	55.0
300----	30	9,079	-47.7		280	59.7
250----	30	10,267	-53.4		280	63.5
200----	30	11,699	-54.0		280	63.9
175----	30	12,556	-54.2		277	57.7
150----	30	13,544	-54.5		280	51.1
125----	30	14,707	-56.4		280	43.1
100----	28	16,118	-57.0		280	31.3
80-----	28	17,525	-58.9		284	20.2
70-----	27	18,365	-58.4		282	15.9
60-----	27	19,330	-58.4		278	11.7
50-----	26	20,479	-57.5		285	7.2
40-----	26	21,892	-56.1		297	2.9
30-----	25	23,723	-55.1		40	2.3
25-----	23	24,897	53.4		75	2.1
20-----	20	26,336	-51.5		91	3.7
15-----	18	28,217	-48.8		91	.6
10-----						

PEORIA, ILL.
(988 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	201	3.0	82	299	2.5
1,000--	30	100				
950----	30	516	3.3	71	310	6.0
900----	30	955	2.0	70	301	9.1
850----	30	1,415	.0	67	295	11.7
800----	30	1,900	-2.0	58	294	16.1
750----	30	2,407	-4.2	53	286	18.8
700----	30	2,953	-6.9	42	289	22.0
650----	30	3,524	-9.7	40	290	23.9
600----	30	4,142	-13.1	40	291	27.8
550----	30	4,800	-17.2	42	286	28.8
500----	30	5,509	-21.8	44	282	32.8
450----	30	6,269	-27.0	44	280	38.7
400----	30	7,117	-33.2	43	278	43.7
350----	30	8,041	-39.9		274	48.8
300----	30	9,080	-46.3		270	55.0
250----	30	10,276	-51.3		270	56.9
200----	30	11,719	-52.9		271	61.0
175----	30	12,580	-53.7		270	55.4
150----	30	13,573	-53.5		275	52.1
125----	30	14,742	-54.8		274	43.5
100----	30	16,162	-57.0		271	34.0
80-----	30	17,572	-57.5		270	25.5
70-----	29	18,408	-57.8		272	17.5
60-----	29	19,382	-57.6		275	13.2
50-----	29	20,536	-56.8		274	7.4
40-----	29	21,952	-56.2		281	1.4
30-----	29	23,788	-54.4		76	4.3
25-----	28	24,963	-53.1		79	6.8
20-----	28	26,408	-51.1		83	5.6
15-----	23	28,306	-47.8		76	3.3
10-----	10	31,032	-43.3			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

APRIL 1961

Standard pressure surface (mb)	PITTSBURGH, PA. (969 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	POINT ARGUELLO, CALIF. (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	PORTLAND, ME. (1006 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	353	3.7	74	257	3.9	30	113	8.9	94	346	2.1	30	20	3.2	82	320	3.7
1,000--	30	95					30	137			356	3.7	30	68			2	6.0
950----	30	515	3.7	70	256	6.8	30	569	12.0	59	349	11.1	30	484	1.8	69	354	8.2
900----	30	950	1.4	72	271	13.0	30	1,019	12.0	43	356	10.5	30	918	- .3	70	9	7.8
850----	30	1,409	- 1.0	73	275	16.5	30	1,495	10.0	36	347	10.9	30	1,374	- 2.2	71	352	7.0
800----	30	1,891	- 3.6	71	282	19.2	30	1,998	8.3	25	326	12.0	30	1,854	- 3.9	70	317	8.4
750----	30	2,402	- 5.9	63	285	20.4	30	2,528	5.7	23	309	11.9	30	2,361	- 6.0	68	311	8.4
700----	30	2,938	- 8.5	59	282	22.3	30	3,089	2.4		301	14.8	30	2,900	- 8.2	64	290	9.5
650----	30	3,508	-11.2	52	281	22.2	30	3,680	- 1.5		292	17.1	30	3,470	-11.1	61	289	12.2
600----	30	4,122	-14.6	51	277	27.0	30	4,315	- 5.9		294	22.0	30	4,084	-14.7	53	285	14.6
550----	30	4,773	-18.5	46	279	29.0	30	4,984	-10.6		289	24.1	30	4,733	-18.7	48	283	15.9
500----	30	5,483	-22.6	43	276	31.3	30	5,717	-15.4		289	28.4	30	5,442	-23.6	44	281	19.8
450----	30	6,240	-27.7	39	282	31.5	30	6,499	-21.1		286	32.3	30	6,198	-28.8	44	275	21.6
400----	30	7,087	-33.1		284	38.1	30	7,362	-27.9		286	34.6	30	7,038	-34.6	40	279	23.3
350----	30	8,013	-39.6		281	45.3	29	8,299	-35.5		283	35.8	30	7,959	-41.1		276	26.6
300----	30	9,053	-46.1		279	55.8	29	9,353	-43.8		279	36.7	30	8,992	-47.3		270	31.5
250----	30	10,253	-50.3		271	57.5	29	10,554	-52.5		273	42.9	30	10,188	-50.9		268	40.4
200----	30	11,701	-52.4		272	57.5	29	11,968	-60.3		269	48.2	30	11,639	-51.0		269	39.1
175----	30	12,564	-52.3		274	55.6	29	12,799	-60.3		269	50.5	30	12,508	-50.9		270	35.6
150----	30	13,560	-53.3		269	40.6	29	13,759	-60.3		266	49.4	30	13,510	-51.8		267	29.0
125----	30	14,729	-55.0		269	40.2	29	14,892	-61.7		266	42.0	30	14,690	-52.6		266	25.5
100----	30	16,152	-56.4		269	32.6	29	16,268	-63.4		266	37.5	30	16,128	-53.9		266	21.8
80----	30	17,565	-57.6		265	23.9	28	17,637	-64.2		271	27.8	30	17,558	-55.2		266	13.6
70-----	30	18,408	-57.5		266	16.9	28	18,459	-64.3		275	21.2	30	18,411	-55.5		262	9.7
60-----	30	19,382	-57.4		282	9.5	28	19,401	-63.0		275	14.2	29	19,392	-55.4		262	6.4
50-----	30	20,535	-57.0		328	2.5	27	20,530	-60.9		279	9.3	29	20,556	-55.2		269	3.5
40-----	30	21,952	-55.7		67	2.3	27	21,924	-58.5		341	2.9	28	21,982	-54.3			.0
30-----	30	23,793	-53.9		89	4.5	26	23,744	-55.9		74	1.4	24	23,834	-53.2		79	2.3
25-----	29	24,969	-53.0		79	4.7	26	24,910	-53.8		18	1.2	22	25,005	-52.7		102	3.7
20-----	27	26,415	-51.5		78	9.1	25	26,352	-50.9		289	1.4	20	26,438	-51.5		90	5.4
15-----	21	28,306	-48.3		87	7.0	24	28,242	-46.8		265	6.0	10	28,317	-48.9			
10-----							21	30,965	-40.2		276	11.5						
7------							8	33,418	-35.1									

Standard pressure surface (mb)	RAPID CITY, S. DAK. (903 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ST. CLOUD, MINN. (975 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	25	966	1.2	70	330	4.1	30	316	- 0.6	80	328	3.1
1,000--	25	134					30	111				
950----	25	546					30	525	.6	69	335	4.9
900----	25	987			323	3.1	30	954	- 1.2	66	325	4.7
850----	25	1,450	1.0	58	307	10.3	30	1,410	- 2.8	63	321	6.8
800----	25	1,936	- 1.4	55	309	12.8	30	1,889	- 5.0	60	319	9.7
750----	25	2,445	- 4.2	53	308	17.9	30	2,394	- 7.8	59	319	12.8
700----	25	2,989	- 7.5	54	305	19.8	30	2,928	-10.6	54	310	13.6
650----	25	3,556	-11.0	55	302	23.3	30	3,495	-13.7	51	297	16.7
600----	25	4,173	-14.8	52	294	28.0	30	4,101	-17.0	48	291	18.7
550----	25	4,823	-19.1	53	289	32.1	30	4,744	-21.1	45	293	22.0
500----	25	5,528	-24.0	54	286	33.8	30	5,446	-25.8	43	289	24.1
450----	25	6,288	-29.5	54	284	35.9	30	6,192	-31.2	45	286	26.2
400----	25	7,121	-35.7	51	281	40.8	30	7,027	-37.2		280	31.9
350----	25	8,037	-42.3		278	45.5	30	7,938	-43.7		278	35.9
300----	25	9,067	-49.2		279	48.6	30	8,959	-50.1		276	40.8
250----	25	10,242	-54.4		283	57.7	30	10,142	-52.3		278	42.2
200----	25	11,669	-54.3		279	51.1	30	11,588	-51.4		278	38.7
175----	25	12,527	-53.1		279	47.4	30	12,454	-51.5		282	36.1
150----	24	13,527	-53.4		276	43.7	30	13,456	-51.8		283	32.3
125----	24	14,695	-55.0		277	36.7	30	14,637	-52.4		277	26.4
100----	23	16,118	-55.6		278	30.1	30	16,074	-54.6		286	22.5
80----	22	17,534	-57.2		283	21.6	30	17,500	-55.1		281	14.4
70-----	21	18,375	-57.9		280	15.7	30	18,353	-55.7		283	12.2
60-----	20	19,355	-57.8		286	8.7	30	19,334	-55.5		289	8.5
50-----	19	20,507	-56.8		269	2.3	30	20,497	-55.2		290	4.7
40-----	19	21,925	-55.8		287	.8	30	21,923	-54.4		318	2.1
30-----	18	23,763	-54.6			.0	28	23,772	-54.0		74	3.3
25-----	17	24,930	-54.0		200	.8	27	24,946	-52.8		77	4.3
20-----	15	26,375	-52.3		85	5.4	24	26,382	-51.4		100	5.6
15-----	12	28,264	-49.4				19	28,255	-49.1		88	6.0
10-----	5	30,767	-45.3									
7------												

Standard pressure surface (mb)	ST. PAUL IS., ALASKA (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SALEM, OREG. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SALT LAKE CITY, UTAH (870 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	10	- 2.4	91	265	1.7	30	61	5.8	88	190	3.5	30	1,288	6.1	60	141	2.5
1,000--	30	113	- 3.0	86	256	1.0	30	163	7.3	77	200	1.9	30	127				
950----	30	516	- 4.4	85	220	5.8	30	584	5.5	75	223	3.1	30	555				
900----	30	944	- 5.4	80	233	8.5	30	1,024	3.1	75	232	6.2	30	1,002				
850----	30	1,392	- 6.2	71	248	10.5	30	1,486	.8	74	246	9.5	30	1,477	6.9	47	151	2.1
800----	30	1,866	- 7.4	62	260	12.8	30	1,971	- 1.3	66	255	12.0	30	1,976	4.1	44	260	3.5
750----	30	2,364	- 9.3	56	264	14.0	30	2,481	- 3.9	60	271	14.2	30	2,495	.1	48	271	8.0
700----	30	2,898	-11.8	56	257	17.5	30	3,025	- 6.5	56	284	15.2	30	3,044	- 4.3	55	286	11.3
650----	30	3,457	-14.7	54	266	17.3	29	3,598	- 9.6	59	288	16.1	30	3,622	- 8.4	57	287	16.7
600----	30	4,065	-18.3	51	271	20.2	29	4,216	-13.1	55	288	18.1	30	4,241	-12.6	59	285	21.0
550----	30	4,703	-22.0	49	263	20.6	29	4,867	-17.2	49	289	19.8	30	4,898	-16.9	52	283	24.3
500----	30	5,405	-26.6	44	267	21.6	29	5,582	-22.0	48	285	21.8	30	5,611	-21.6	44	286	29.1
450----	30	6,153	-31.8	44	266	25.1	29	6,342	-27.8	50	287	26.2	30	6,377	-28.0	41	288	32.3
400----	30	6,982	-37.2		265	28.8	29	7,184	-33.6	49	286	28.4	30	7,221	-32.5	41	283	39.8
350----	30	7,894	-42.7		257	31.7	29	8,108	-40.5		283	31.3	30	8,149	-39.1		288	41.2
300----	30	8,922	-48.5		245	34.4	29	9,142	-47.6		288	34.2	30	9,187	-46.6		285	44.3
250----	30	10,107	-53.4		244	29.1	29	10,329	-53.8		289	39.6	30	10,381	-53.2		288	49.2
200----	30	11,542	-52.9		244	26.6	29	11,748	-57.5		293	39.6	30	11,804	-56.5		287	50.3
175----	30	12,406	-51.7		243	22.7	29	12,592	-56.6		295	34.0	30	12,652	-56.2		284	46.2
150----	30	13,406	-51.6		240	21.2	29	13,573	-55.7		292	29.3	30	13,633	-56.0		279	40.4
125----	30	14,590	-51.6		233	16.1	29	14,732	-56.3		289	25.6	30	14,789	-57.6		280	35.2
100----	29	16,040	-52.0		228	12.8	29	16,145	-57.6		290	17.5	29	16,192	-58.7		281	28.6
80-----	27	17,497	-52.3		225	10.5	28	17,553	-57.8		292	14.0	29	17,591	-59.6		278	21.2
70-----	27	18,359	-52.1		225	9.1	28	18,397	-57.9		297	11.5	29	18,429	-59.9		279	16.3
60-----	27	19,361	-51.8		231	6.6	28	19,366	-58.0		299	6.6	29	19,388	-59.7		281	11.1
50-----	27	20,543	-52.2		216	4.7	27	20,517	-57.5		330	2.1	28	20,526	-58.7		293	5.6
40-----	27	21,985	-53.3		144	3.3	27	21,930	-56.3		26	3.9	28	21,931	-57.4		281	2.5
30-----	22	23,822	-54.2		122	3.5	25	23,758	-56.1		83	4.5	26	23,752	-55.9		35	2.1
25-----	21	24,997	-54.0		116	4.7	24	24,926	-54.8		72	5.2	24	24,914	-55.1		63	2.9
20-----	19	26,437	-53.7		89	3.9	20	26,359	-53.0		78	5.4	23	26,344	-53.2		59	3.3
15-----	[illegible]	28,308	-53.3				19	28,220	-50.6		63	2.7	18	28,232	-50.2		32	2.3
10-----							6	30,946	-43.6									

Standard pressure surface (mb)	SAN ANTONIO, TEX. (986 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAN DIEGO, CALIF. (1000 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	243	14.6	81	35	0.6	30	124	11.3	88		0.0
1,000--	30	120					30	125			6	1.6
950----	30	556	14.5	73	172	3.9	30	553	13.6	59	297	2.1
900----	30	1,013	13.3	60	244	2.3	30	1,010	12.5	47	315	4.1
850----	30	1,495	13.2	46	255	7.0	30	1,488	10.7	36	299	7.2
800----	30	2,004	11.9	37	287	9.1	30	1,991	8.8	25	296	9.9
750----	30	2,540	9.2	32	292	12.8	30	2,515	6.5	21	292	11.7
700----	30	3,111	5.7	28	296	17.9	30	3,086	3.5		288	14.8
650----	30	3,709	1.6	28	277	20.8	30	3,678	- .0		286	17.1
600----	30	4,354	- 3.1	34	274	27.0	30	4,319	- 4.3		285	21.4
550----	30	5,029	- 8.0	34	270	31.9	30	4,989	- 8.5		283	22.7
500----	30	5,773	-13.0		266	36.9	30	5,732	-13.8		282	25.8
450----	30	6,561	-18.4		265	40.4	30	6,511	-19.6		279	27.8
400----	30	7,440	-24.5		266	47.4	30	7,389	-26.2		275	33.4
350----	29	8,399	-31.4		266	55.4	30	8,342	-33.5		271	36.5
300----	29	9,474	-38.9		265	64.9	30	9,405	-42.1		272	39.6
250----	29	10,703	-47.4		265	75.8	30	10,616	-51.5		270	46.4
200----	29	12,150	-55.7		267	86.1	30	12,037	-59.5		265	52.1
175----	28	12,992	-58.9		267	84.9	30	12,871	-60.3		263	51.3
150----	28	13,953	-62.0		265	78.9	30	13,832	-60.6		261	56.9
125----	26	15,067	-65.9		267	70.5	30	14,964	-62.6		265	53.0
100----	26	16,415	-70.2		267	54.0	30	16,333	-65.0		265	35.8
80-----	23	17,734	-71.6		265	35.6	30	17,687	-66.3		268	30.3
70-----	23	18,529	-71.0		264	27.0	30	18,501	-65.8		271	20.2
60-----	23	19,442	-67.0		265	18.1	30	19,434	-64.5		274	9.3
50-----	22	20,558	-62.1		266	14.0	30	20,555	-61.9		282	6.0
40-----	21	21,945	-58.7		264	8.5	30	21,945	-59.0		306	4.1
30-----	20	23,774	-55.3		304	1.7	26	23,762	-55.7		342	1.9
25-----	19	24,942	-52.9		314	1.7	25	24,930	-53.4		284	2.1
20-----	18	26,391	-50.1		199	.8	23	26,380	-49.9		280	3.9
15-----	15	28,294	-45.7		255	2.3	18	28,277	-46.2		271	9.3
10-----	8	31,006	-38.8									

Standard pressure surface (mb)	SAN JUAN, P. R. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SANTA MONICA, CALIF. (1011 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAULT STE. MARIE, MICH. (984 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	6	23.1	86	139	0.8	30	38	12.5	80	31	3.9	30	221	0.0	75	8	1.9
1,000--	30	138	23.5	80	104	4.3	30	128	12.7	76	41	3.5	30	91				
950----	30	588	20.8	78	108	12.8	30	560	13.3	58	49	3.7	30	502	.2	63	35	4.5
900----	30	1,051	17.9	78	109	13.6	30	1,014	12.8	43	358	4.9	30	936	- 1.5	64	21	4.5
850----	30	1,538	14.9	76	104	13.2	30	1,491	10.6	38	331	5.2	30	1,390	- 3.7	68	9	3.1
800----	30	2,050	12.2	73	98	12.2	30	1,994	8.5	28	301	7.4	30	1,867	- 6.1	66	343	4.3
750----	30	2,590	10.1	57	93	9.5	30	2,523	5.6		300	10.7	30	2,365	- 8.8	63	326	4.7
700----	30	3,161	8.5	39	92	6.2	30	3,086	2.6		292	14.0	30	2,902	-11.4	60	327	5.1
650----	30	3,766	5.7		112	4.5	30	3,678	- .8		289	17.5	30	3,462	-14.5	60	303	5.2
600----	30	4,421	2.5		118	1.4	30	4,315	- 5.0		286	20.4	30	4,070	-17.8	56	287	7.0
550----	30	5,111	- 1.8		64	.8	30	4,987	- 9.6		283	22.3	30	4,712	-21.4	54	276	10.1
500----	30	5,870	- 6.4		273	2.5	30	5,722	-14.9		284	27.0	30	5,414	-25.7	54	271	14.4
450----	30	6,675	-12.1		279	6.2	30	6,505	-20.6		280	30.5	30	6,163	-30.8	52	268	17.3
400----	30	7,575	-18.4		288	11.3	30	7,372	-27.2		283	34.4	30	6,998	-36.6	49	265	20.2
350----	30	8,558	-25.7		283	16.5	30	8,320	-34.4		276	35.9	30	7,910	-43.0		257	21.8
300----	30	9,656	-34.1		285	22.5	30	9,379	-42.5		273	38.3	30	8,934	-49.7		249	24.1
250----	30	10,906	-43.9		283	27.0	30	10,586	-51.6		276	38.3	30	10,118	-52.6		257	31.1
200----	30	12,370	-54.6		283	32.8	30	12,006	-59.5		277	40.8	30	11,564	-51.4		273	28.4
175----	30	13,213	-60.3		281	30.9	30	12,838	-60.7		271	42.6	29	12,435	-50.5		277	25.8
150----	30	14,161	-66.3		287	27.2	30	13,797	-60.5		269	43.9	29	13,440	-50.6		275	21.2
125----	30	15,248	-72.4		307	21.0	30	14,928	-62.0		270	41.0	29	14,628	-51.4		274	18.5
100----	30	16,541	-78.2		323	11.9	30	16,299	-64.3		269	33.0	29	16,074	-52.8		271	16.1
80-----	30	17,809	-78.3		20	8.5	30	17,657	-65.6		273	27.2	29	17,509	-54.3		275	13.0
70-----	30	18,586	-74.7		50	7.8	30	18,467	-65.2		275	22.3	28	18,365	-54.7		277	10.1
60-----	30	19,486	-69.0		70	11.7	30	19,409	-64.3		276	15.9	28	19,354	-54.5		265	6.6
50-----	30	20,593	-63.5		82	13.6	30	20,529	-61.8		277	10.5	28	20,522	-54.2		269	2.7
40-----	30	21,974	-60.0		82	17.3	30	21,914	-59.7		285	4.7	28	21,953	-53.7		63	1.0
30-----	27	23,793	-54.4		91	13.2	30	23,726	-56.5		321	1.7	28	23,805	-52.8		81	6.8
25-----	26	24,985	-49.9		141	6.2	30	24,886	-54.8		222	1.4	27	24,988	-52.2		82	8.4
20-----	25	26,458	-45.7		248	1.9	30	26,321	-51.9		274	2.9	26	26,433	-51.0		93	8.2
15-----	15	28,396	-41.0		235	7.2	30	28,198	-48.4		265	6.6	21	28,318	-48.5		86	10.1
10-----							21	30,910	-42.3		279	16.3	7	31,000	-43.3			

Standard pressure surface (mb)	SEATTLE, WASH. (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SHEMYA, ALASKA (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	125	5.8	86	182	3.7	30	37	1.5	90	213	8.4
1,000--	30	158			181	4.3	30	94			211	8.5
950----	30	576	4.6	81	207	8.0	30	505	- .9	86	225	18.7
900----	30	1,016	2.0	81	222	9.3	30	936	- 1.9	76	234	20.0
850----	30	1,476	- .5	79	232	8.4	30	1,389	- 3.3	68	244	18.3
800----	30	1,959	- 3.1	75	254	8.5	30	1,869	- 5.1	63	244	16.9
750----	30	2,467	- 5.3	69	266	10.9	30	2,370	- 7.4	58	243	17.9
700----	30	3,009	- 7.9	62	275	14.6	30	2,910	-10.2	57	248	17.9
650----	30	3,579	-11.1	58	277	17.1	30	3,474	-13.4	52	247	21.0
600----	30	4,193	-14.6	50	283	19.4	30	4,083	-17.2	49	249	25.1
550----	30	4,845	-18.9	49	285	23.1	30	4,725	-21.2	45	250	26.2
500----	30	5,551	-23.7	49	288	26.4	30	5,428	-25.7	43	247	29.7
450----	30	6,307	-29.0	45	290	30.1	30	6,179	-30.6	41	247	32.3
400----	30	7,147	-34.9		290	34.0	30	7,012	-36.3		253	34.6
350----	30	8,065	-41.8		291	37.7	30	7,927	-41.8		246	38.3
300----	29	9,085	-49.1		291	41.0	30	8,958	-47.6		261	43.9
250----	29	10,265	-54.7		297	44.3	30	10,150	-52.1		258	52.1
200----	29	11,685	-55.6		297	39.8	30	11,587	-54.0		257	45.5
175----	29	12,539	-54.3		291	34.0	30	12,444	-53.4		260	35.4
150----	28	13,529	-54.2		290	28.0	30	13,440	-52.5		254	35.4
125----	28	14,697	-54.9		290	24.5	30	14,617	-53.0		248	34.0
100----	28	16,121	-55.9		289	19.8	30	16,053	-53.2		256	28.2
80-----	28	17,539	-56.3		293	13.2	30	17,489	-53.5		249	24.5
70-----	28	18,387	-56.5		295	10.9	29	18,352	-53.4		249	23.7
60-----	28	19,365	-56.3		302	8.4	29	19,340	-53.1		242	18.8
50-----	25	20,526	-56.1		330	4.9	29	20,518	-52.3		225	17.9
40-----	23	21,948	-55.3		23	4.5	28	21,956	-52.5		207	14.2
30-----	20	23,782	-54.7		53	5.6	25	23,822	-53.7		163	6.8
25-----	17	24,947	-54.3		66	6.4	21	24,998	-53.5		173	4.5
20-----	14	26,386	-52.6		59	6.4	20	26,425	-53.1		123	3.5
15-----	5	28,322	-48.8				13	28,277	-51.6			
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	SHREVEPORT, LA. (1006 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SPOKANE, WASH. (931 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SWAN ISLAND, W. I. (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	76	12.0	83	179	5.4	30	722	3.1	77	187	5.4	30	10	26.3	78	105	9.9
1,000--	30	127			158	6.4	30	137					30	114	25.6	78	98	12.2
950----	30	556	12.1	63	205	9.9	30	559					30	563	22.2	79	107	15.7
900----	30	1,010	11.0	50	236	13.8	30	999	4.1	63	210	8.7	30	1,034	19.2	72	115	15.0
850----	30	1,487	9.7	39	257	16.3	30	1,463	2.0	59	247	10.1	30	1,524	16.7	58	108	11.5
800----	30	1,989	7.7	37	269	19.4	30	1,949	- 1.3	63	259	11.1	30	2,039	14.5	50	104	8.7
750----	30	2,516	5.1	36	276	22.0	30	2,457	- 5.0	66	264	11.1	30	2,583	11.6	45	97	6.8
700----	30	3,079	1.8	35	280	24.1	30	3,000	- 8.5	65	275	12.8	30	3,158	9.4		72	6.0
650----	30	3,668	- 2.2	35	283	29.9	30	3,568	-11.7	58	279	17.1	30	3,768	7.0		52	5.8
600----	30	4,304	- 6.2	32	283	31.3	30	4,180	-15.5	54	284	21.4	30	4,423	3.5		69	2.9
550----	30	4,973	-10.6		280	35.6	30	4,826	-19.4	48	292	24.5	30	5,113	- .5		72	2.7
500----	30	5,708	-15.2		275	40.4	30	5,534	-24.1	46	290	28.6	30	5,880	- 5.3			.0
450----	30	6,491	-20.6		271	45.5	30	6,290	-29.4	44	294	33.8	29	6,690	-10.8		263	.6
400----	30	7,360	-26.7		271	52.8	30	7,126	-35.5	42	294	37.9	29	7,595	-17.0		310	4.5
350----	30	8,311	-33.4		269	60.4	30	8,042	-42.2		295	40.4	29	8,583	-24.0		296	7.8
300----	30	9,377	-40.7		270	69.8	30	9,068	-49.6		293	46.2	29	9,690	-32.4		303	12.6
250----	30	10,597	-48.8		270	76.4	30	10,244	-55.2		297	45.9	29	10,949	-42.5		309	18.1
200----	30	12,038	-55.7		271	83.7	30	11,665	-54.6		295	38.3	29	12,421	-53.6		295	23.1
175----	30	12,885	-57.9		275	82.2	30	12,523	-53.4		295	33.6	29	13,269	-59.4		286	23.7
150----	29	13,858	-59.6		273	81.8	30	13,516	-53.2		296	29.1	29	14,221	-65.4		288	19.8
125----	29	14,991	-62.9		273	70.5	30	14,687	-54.4		290	22.5	29	15,314	-71.7		302	15.5
100----	29	16,354	-66.3		275	50.5	30	16,113	-55.6		293	18.8	29	16,608	-78.4		326	6.8
80-----	29	17,700	-67.9		275	31.7	30	17,533	-56.0		291	11.9	28	17,878	-78.9		66	7.2
70-----	29	18,509	-67.1		271	24.1	28	18,390	-56.1		297	9.7	28	18,649	-75.2		79	9.9
60-----	28	19,438	-64.0		274	15.0	28	19,366	-56.0		309	6.2	28	19,554	-68.0		83	12.8
50-----	28	20,564	-61.0		268	9.1	28	20,526	-55.5		348	2.9	28	20,661	-63.6		86	15.5
40-----	27	21,955	-58.4		271	4.7	26	21,950	-55.0		65	4.1	28	22,045	-59.7		82	16.1
30-----	27	23,776	-55.3		289	2.5	22	23,798	-54.0		70	5.8	27	23,869	-53.8		79	12.4
25-----	26	24,949	-53.4		283	1.2	18	24,960	-53.7		68	7.8	26	25,050	-50.2		55	4.9
20-----	25	26,400	-50.8		248	.8	15	26,393	-52.3		75	8.0	25	26,523	-45.8		252	3.5
15-----	21	28,291	-46.9		271	3.5	10	28,257	-49.0				23	28,454	-41.3		267	16.5
10-----	9	30,977	-40.1										10	31,210	-37.4			

Standard pressure surface (mb.)	TAMPA, FLA. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TATOOSH IS., WASH. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	8	16.2	81	27	1.7	30	31	7.5	84	142	1.0
1,000--	30	143	17.6	72	66	1.9	30	149	6.9	81	225	2.9
950----	30	583	15.4	66	266	1.7	30	566	4.4	77	230	6.4
900----	30	1,039	13.6	55	252	5.4	30	1,008	1.8	77	241	7.4
850----	30	1,520	12.3	43	258	9.9	30	1,467	- .5	71	245	7.0
800----	30	2,027	10.6	37	257	14.8	30	1,950	- 2.8	63	262	8.9
750----	30	2,562	8.1	29	264	18.7	30	2,456	- 5.2	57	269	11.9
700----	30	3,130	5.3	28	269	21.8	30	2,999	- 8.2	56	284	13.4
650----	30	3,730	2.1	25	271	25.6	30	3,565	-11.2	49	282	17.5
600----	30	4,375	- 1.9		270	30.7	30	4,182	14.9	46	279	18.3
550----	30	5,051	- 6.3	28	271	34.4	30	4,828	-18.7	41	279	21.0
500----	30	5,803	-10.8		272	40.0	30	5,540	-23.6	39	277	24.1
450----	30	6,599	-16.5	30	273	45.1	30	6,291	-28.9	42	278	25.3
400----	30	7,483	-22.7	31	274	50.3	30	7,134	-35.1		283	30.7
350----	30	8,450	-29.3		273	57.5	30	8,051	-41.9		287	30.3
300----	29	9,536	-37.2		273	63.1	30	9,078	-48.7		295	34.1
250----	29	10,772	-46.5		277	71.7	30	10,260	-54.1		298	38.3
200----	29	12,223	-55.9		281	76.4	30	11,678	-56.9		294	34.6
175----	28	13,066	-59.3		283	74.6	30	12,928	-54.9		292	29.9
150----	26	14,025	-63.5		282	69.6	30	13,514	-54.3		292	23.9
125----	26	15,137	-67.0		281	61.4	30	14,682	-54.9		294	20.0
100----	25	16,471	-71.2		279	50.1	30	16,101	-56.3		305	16.3
80-----	23	17,784	-72.3		280	30.9	29	17,517	-57.2		305	14.0
70-----	21	18,585	-69.7		278	21.2	29	18,361	-57.2		309	10.7
60-----	19	19,507	-65.3		274	9.9	29	19,336	-56.7		326	6.8
50-----	18	20,633	-61.0		308	5.6	29	20,492	-56.3		348	3.2
40-----	17	22,035	-57.9		358	4.1	29	21,910	-55.8		48	5.2
30-----	16	23,867	-54.0		120	3.5	25	23,744	-55.2		67	6.2
25-----	13	25,039	-51.8		113	7.6	17	24,910	-54.7		71	7.0
20-----	13	26,498	-47.9		115	1.6	14	26,346	-54.0		76	5.2
15-----	8	28,418	-41.5				6	28,238	-50.7			
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Standard pressure surface (mb.)	TOPEKA, KANS. (981 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TUCSON, ARIZ. (923 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	269	5.3	78	334	3.1	30	781	11.5	31	154	5.6
1,000--	30	107					30	105				
950----	30	530	5.9	65	327	2.5	30	540				
900----	30	971	4.5	63	308	6.8	30	1,000	16.8	24	193	5.6
850----	30	1,436	3.0	57	310	12.0	30	1,484	14.3	24	299	4.5
800----	30	1,925	1.0	57	303	16.3	30	1,993	10.7	26	257	6.8
750----	30	2,439	- 1.5	56	300	22.3	30	2,522	7.0	27	250	12.2
700----	30	2,989	- 4.2	48	295	25.5	30	3,090	3.4	28	255	15.2
650----	30	3,564	- 7.8	48	296	30.9	30	3,683	- .4		257	17.3
600----	30	4,188	-11.6	46	294	34.8	30	4,322	- 4.5		264	21.4
550----	30	4,845	-15.8	42	287	38.3	30	4,996	- 8.8		267	26.4
500----	30	5,563	-20.4	40	283	41.4	30	5,734	-13.5		271	29.9
450----	30	6,327	-25.8		281	45.3	30	6,519	-19.2		271	33.2
400----	30	7,178	-32.0		279	48.8	30	7,393	-25.5		269	37.3
350----	30	8,108	-38.7		279	53.4	30	8,347	-32.9		269	37.5
300----	30	9,151	-46.0		277	60.8	30	9,413	-41.3		269	42.2
250----	30	10,346	-52.2		278	66.3	30	10,627	-50.1		270	50.5
200----	30	11,780	-54.8		278	71.1	30	12,057	-57.5		263	60.0
175----	30	12,635	-55.0		278	63.3	30	12,898	-58.6		266	58.7
150----	30	13,618	-55.7		278	56.9	30	13,865	-59.7		266	51.1
125----	30	14,776	-56.7		275	50.7	30	14,997	-62.8		267	49.9
100----	29	16,182	-59.1		277	39.1	29	16,359	-65.8		266	46.0
80-----	29	17,577	-60.1		277	25.3	29	17,705	-67.7		268	34.6
70-----	29	18,417	-60.1		274	18.5	29	18,505	-67.1		272	27.2
60-----	29	19,375	-59.0		278	12.8	29	19,446	-64.8		277	18.5
50-----	29	20,521	-58.2		289	8.2	29	20,567	-61.6		273	13.8
40-----	28	21,932	-56.6		300	3.1	29	21,962	-58.3		300	4.3
30-----	27	23,760	-55.0		29	2.5	28	23,785	-55.2		38	1.4
25-----	26	24,926	-53.7		86	2.9	27	24,952	-53.3		6	1.2
20-----	22	26,381	-51.7		309	1.4	25	26,400	-50.2		56	.8
15-----	19	28,250	-48.6		300	1.7	18	28,300	-45.6		350	.8
10-----												

Standard pressure surface (mb.)	WASHINGTON, D. C. (1000 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	WINNEMUCCA, NEV. (869 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	YAKUTAT, ALASKA (1011 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	84	4.1	82	321	1.9	30	1,310	1.0	55		0.0	30	12	1.1	91	93	2.3
1,000--	30	86			307	5.4	30	163					30	97			96	3.7
950----	30	509	5.3	64	293	9.9	30	582					30	510	.2	76	131	5.6
900----	30	947	2.9	66	289	14.6	30	1,027					30	943	- 2.4	75	156	5.8
850----	30	1,408	.5	66	292	19.0	30	1,492	6.1	41	240	1.7	30	1,395	- 4.9	75	160	4.1
800----	30	1,893	- 1.7	63	292	19.6	30	1,986	3.2	42	296	3.7	30	1,870	- 7.2	70	198	4.7
750----	30	2,404	- 3.8	53	288	22.9	30	2,502	- .5	47	290	8.4	30	2,370	-10.0	68	232	7.0
700----	30	2,948	- 6.3	45	282	25.6	30	3,054	- 4.4	51	279	11.7	30	2,900	-12.9	65	241	9.5
650----	30	3,524	- 9.0	39	277	28.0	30	3,629	- 8.1	48	280	15.7	30	3,458	-16.2	62	243	12.0
600----	30	4,141	12.4		276	30.3	30	4,254	-11.8	45	286	16.1	30	4,061	-19.7	58	242	15.3
550----	30	4,796	-16.5		271	36.7	30	4,910	-15.8	41	286	22.2	30	4,695	-23.7	55	250	20.4
500----	30	5,511	-21.1		275	41.2	30	5,625	-20.3	39	290	26.2	30	5,392	-28.1	51	261	22.7
450----	30	6,272	-26.4		276	46.6	30	6,390	-25.6	37	290	27.4	30	6,135	-33.3	51	268	26.2
400----	30	7,123	-32.4		273	48.2	30	7,240	-32.0	37	291	30.5	30	6,960	-38.7		265	30.9
350----	30	8,052	-38.6		277	56.7	30	8,169	-38.8		292	33.0	30	7,867	-44.4		266	35.2
300----	30	9,096	-45.1		274	63.0	30	9,209	-46.8		284	38.9	30	8,888	-49.6		273	40.0
250----	30	10,298	-50.2		276	64.7	30	10,396	-53.9		289	42.8	30	10,074	-52.1		276	38.5
200----	30	11,746	-52.3		276	61.6	29	11,809	-59.0		281	46.4	30	11,517	-52.0		280	27.6
175----	30	12,609	-52.5		275	57.7	29	12,647	-57.9		280	43.7	30	12,385	-50.7		281	28.6
150----	30	13,603	-53.5		276	50.5	29	13,621	-57.1		280	36.3	30	13,391	-50.2		272	16.7
125----	30	14,770	-55.7		273	41.2	29	14,770	-58.3		281	31.9	30	14,581	-50.7		266	13.8
100----	30	16,183	-58.0		268	32.4	29	16,169	-59.4		283	25.3	30	16,033	-51.3		268	8.7
80-----	30	17,587	-58.6		269	23.5	29	17,563	-59.9		284	21.4	29	17,478	-51.5		262	4.7
70-----	30	18,434	-59.2		274	17.3	29	18,327	-59.9		277	15.2	29	18,344	-52.0		274	2.7
60-----	29	19,394	-58.1		278	11.5	29	19,359	-59.8		265	6.2	27	19,350	-52.5		345	.8
50-----	29	20,544	-57.6		286	6.8	29	20,500	-58.9		249	3.7	26	20,526	-52.7		23	1.9
40-----	28	21,956	-55.9		256	1.0	29	21,903	-57.5		281	.6	26	21,965	-53.0		61	2.1
30-----	28	23,793	-54.6		60	2.5	28	23,730	-55.5		75	4.1	26	23,821	-53.0		78	3.1
25-----	26	24,965	-53.4		69	2.3	27	24,892	-54.3		58	3.7	26	24,997	-52.9		76	3.7
20-----	24	26,411	-51.2		55	3.1	24	26,339	-52.1		67	3.1	25	26,436	-52.7		90	4.1
15-----	18	28,259	-49.2		60	2.7	19	28,215	-49.3		60	2.7	16	28,292	-51.5			
10-----	11	30,941	-43.3				5	30,933	-42.4									

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by rawinsondes, dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots. The resultant wind speed is biased toward a lower value as the number of observations on which the resultant is based lessens. The amount of bias increases with the number of observations that are terminated due to low angle limitations

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. APRIL 1961

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Apr.									
2	1.02	----	----	----	----	----	----	----	----
3	.97	1.09	1.20	1.35	1.49	1.34	1.18	1.06	0.95
4	1.03	1.13	1.24	1.38	1.52	----	----	----	----
7	----	----	----	----	----	----	----	(.82)	----
9	.99	1.08	1.19	1.28	1.53	----	----	----	----
10	.98	1.08	1.21	1.35	----	----	----	----	----
11	----	----	----	----	(1.40)	(1.21)	(1.07)	(.89)	(.81)
12	1.01	1.11	1.22	1.37	1.52	1.34	1.18	1.07	.95
13	.98	1.05	1.14	1.31	----	----	----	----	----
14	(.90)	(.98)	1.13	1.34	----	----	----	----	----
15	.97	1.06	1.16	1.31	----	----	----	----	----
16	1.00	1.09	1.22	1.36	1.50	1.28	1.09	(.96)	----
17	.96	1.07	1.19	1.33	1.50	(1.29)	(1.10)	1.00	.86
18	(.91)	(.75)	(1.08)	(1.31)	(1.47)	(1.26)	(.90)	(1.00)	.91
19	.96	----	1.17	1.32	1.45	----	----	----	----
20	(.69)	(.89)	(.97)	(1.21)	1.48	1.27	----	.86	.76
21	1.02	1.11	1.22	1.35	1.52	----	----	----	----
23	1.03	1.12	1.23	1.38	1.53	D	----	----	----
24	.92	1.01	1.13	1.30	BD	----	----	----	----
25	.89	.97	1.08	1.19	1.53	----	----	----	----
26	.92	1.03	1.15	1.28	----	(1.05)	(.68)	(.62)	(.50)
27	.87	.98	1.09	1.28	1.38	1.16	.98	.86	.72
28	.83	.95	1.08	1.23	1.43	1.24	1.04	.91	.82
29	.80	.94	1.06	1.25	1.46	1.25	1.08	.96	.83
30	.92	1.01	1.15	1.32	1.46	1.24	----	----	----
Averages	0.95	1.05	1.16	1.31	1.49	1.24	1.09	0.94	0.85

MADISON, WIS.

	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Apr.									
2	0.96	1.07	1.20	1.37	1.47	S 1.31	S 1.18	S 1.04	S 0.96
4	S .95	S 1.07	S 1.21	S 1.36	----	----	----	----	----
13	----	----	S 1.06	----	----	----	----	----	----
19	M .67	M .79	M .94	----	----	----	----	----	----
23	.83	S .94	S 1.08	----	----	----	----	----	----
26	M .78	M .86	M .97	M 1.15	M 1.89	----	----	----	----
29	----	----	S 1.09	S 1.26	----	----	----	----	----
Averages	0.84	0.95	1.08	1.29	1.68	1.31	1.18	1.04	0.96

OMAHA, NEBR.

	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Apr.									
1	S 0.72	S 0.84	S 0.99	S 1.19	S 1.36	----	S 0.98	S 0.84	----
5	----	----	M .77	----	----	----	----	----	----
10	H .22	H .37	H .54	H .77	----	----	----	----	----
12	----	----	----	----	----	S 1.06	S .72	----	----
13	----	----	----	----	H 1.14	----	----	----	----
15	----	----	----	----	M 1.36	----	----	----	----
22	S .53	S .65	S .81	----	----	S .92	S .69	H .56	H 0.41
26	S .40	S .54	S .71	S .94	----	----	----	----	----
28	----	----	----	----	S 1.27	----	----	----	----
Averages	0.47	0.60	0.76	0.97	1.28	0.99	0.79	0.70	0.41

TUCSON, ARIZ.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Apr.									
1	0.84	0.94	----	1.23	1.39	----	----	0.88	0.76
3	.94	1.04	----	1.30	1.46	1.25	1.12	.96	.86
4	.91	1.01	1.12	----	----	----	----	----	----
5	.84	.95	1.06	----	----	----	----	----	----
6	.80	.90	1.04	----	----	----	1.10	.93	.85
7	----	----	----	----	----	----	----	.91	----
8	.77	.89	1.00	1.21	1.44	1.23	----	.92	.81
9	.89	----	----	----	----	1.30	1.13	1.01	.90
10	.95	1.04	1.11	----	----	----	----	----	----
11	.97	1.06	1.16	1.30	1.48	1.30	1.15	1.04	.90
12	.95	1.04	1.15	1.28	1.47	1.27	1.11	1.02	.91
13	.96	1.05	1.15	1.35	----	----	----	.78	.66
14	.76	.87	1.02	----	1.42	1.23	1.02	.91	.80
15	.86	.98	1.10	1.31	1.46	1.30	1.13	1.03	.92
16	.91	1.01	1.14	1.29	1.46	1.26	1.12	.99	.89
17	.93	1.03	1.15	----	1.44	1.25	1.09	.98	.87
18	.92	1.01	1.13	1.28	----	----	----	----	----
20	.88	.99	1.10	----	----	----	----	----	----
23	.86	.98	1.10	1.28	----	1.22	----	.98	----
24	.75	.85	.97	1.15	----	----	----	.88	.76
25	.84	.94	1.09	1.23	----	----	----	.95	.82
26	.88	.97	1.11	1.26	----	1.24	----	.94	.83
27	.86	.95	1.09	1.25	----	1.25	1.11	1.00	.91
28	.89	.97	1.09	1.26	----	----	----	----	----
29	.90	1.02	1.14	1.29	1.49	1.25	1.08	.96	.86
30	.76	.89	1.03	1.21	----	----	1.04	.92	.82
Averages	0.87	0.97	1.09	1.26	1.45	1.26	1.10	0.95	0.84

BLUE HILL OBS., MASS.

	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Apr.									
4	----	----	----	----	----	1.22	1.06	0.91	0.79
5	----	----	1.18	1.30	1.45	----	----	----	----
9	0.87	1.00	1.06	1.35	1.45	1.13	----	----	----
11	.94	1.10	1.18	1.30	----	----	----	----	----
15	.83	.91	1.05	1.18	1.35	1.10	.91	.77	.62
17	.96	1.05	1.16	1.29	1.41	----	----	----	----
20	.87	1.00	1.13	1.29	1.50	1.32	1.08	.94	.81
21	.90	.99	1.11	1.28	1.47	1.11	.90	.75	.60
23	----	----	----	----	1.40	1.13	.94	.79	.67
27	----	----	----	----	1.37	1.17	.99	.79	.41
	Recorder out of operation part of month.								
Averages	0.90	1.01	1.12	1.28	1.43	1.17	0.98	0.83	0.65

GUAM, M. I.

	A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
Air mass	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
Apr.									
8	----	----	----	S 1.11	----	----	----	----	----
21	----	----	----	S 1.18	----	----	----	----	----

H Haze
S Slight haze - indeterminable
M Moderate haze - indeterminable
D Dust
BD Blowing dust
( ) Clouds present

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

APRIL 1961

1961	Albuquerque, N. Mex.	Ames, Iowa	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill Obs., Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Cape Hatteras, N. C.	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Flaming Gorge, Utah	Fort Worth, Tex.	Fresno, Calif.	Glasgow, Mont.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Laramie, Wyo.
Apr. 2	674	411	68	595	319	583	358	395	417	371	531	363	191	594	686	185	647	173	325	566	288	182	683	627	194	393	658	512	510	566	460	645	706	539	726	212	628	546	298
Apr. 3	692	478	347	681	445	83	373	368	483	427	540	474	585	610	248	337	580	340	444	570	653	143	683	631	212	635	660	502	189	642	500	300	263	553	731	150	608	594	466
Apr. 4	642	172	270	685	575	617	383	476	118	440	609	476	584	656	213	555	462	206	317	548	621	334	684	419	296	428	663	484	381	377	515	340	728	572	---	134	634	452	270
Apr. 5	374	187	160	676	547	584	403	340	312	351	597	365	---	654	687	345	636	236	455	608	376	302	656	675	276	629	295	485	299	643	446	577	700	220	702	285	347	573	603
Apr. 6	---	216	308	239	567	102	393	408	216	211	526	247	203	637	498	383	169	288	616	600	362	309	668	606	280	616	625	514	402	662	564	455	104	198	661	126	138	551	(326)
Apr. 7	282	510	84	685	554	636	402	334	500	313	601	295	327	651	723	318	655	349	622	625	---	401	539	437	268	210	429	367	384	171	375	652	736	284	455	244	643	344	168
Apr. 8	200	223	367	700	250	432	430	264	481	259	197	312	---	653	707	267	603	482	52	300	11	582	579	638	---	645	94	546	558	609	286	632	472	491	750	252	243	623	497
Average	477	314	229	609	465	434	392	369	361	339	514	362	378	637	537	341	536	296	404	545	385	322	642	576	254	508	489	487	389	524	449	515	530	408	671	200	463	526	(375)
Apr. 9	690	430	196	270	329	171	429	269	457	567	550	588	584	628	192	645	148	115	73	606	382	122	703	200	186	275	684	540	289	380	382	87	208	38	647	511	646	490	487
Apr. 10	577	359	124	682	194	471	425	393	335	36	563	24	472	657	674	435	679	23	608	634	*	121	624	586	199	309	586	548	476	103	---	462	515	154	752	74	617	250	108
Apr. 11	545	34	117	365	135	577	455	441	522	---	513	221	459	607	749	190	658	528	106	591	---	532	691	668	274	583	365	549	514	541	428	652	657	511	781	174	78	647	616
Apr. 12	732	195	381	628	366	391	440	301	536	---	124	533	631	584	102	403	212	82	65	470	---	105	730	451	244	416	722	397	328	499	266	70	510	71	799	375	666	434	551
Apr. 13	678	576	552	715	357	486	441	526	361	74	526	46	599	579	512	294	567	51	637	640	---	351	646	660	336	657	695	570	449	342	253	473	652	549	795	101	665	648	413
Apr. 14	705	189	106	647	220	619	426	599	470	188	646	247	---	523	759	236	669	462	554	650	---	328	723	696	---	(305)	693	543	621	439	570	660	725	403	790	258	398	339	425
Apr. 15	748	---	114	117	488	206	402	531	630	554	540	534	448	531	392	351	28	160	185	621	---	414	749	637	---	334	674	543	636	385	390	182	321	214	792	454	555	679	481
Average	668	297	227	489	298	417	431	437	473	284	495	313	532	587	482	365	423	203	318	602	---	282	695	557	248	(411)	631	527	473	384	381	369	512	277	765	278	518	498	440
Apr. 16	752	---	171	745	264	683	478	513	642	52	618	50	620	409	689	594	716	203	497	621	---	138	743	670	435	597	713	547	274	681	452	667	780	337	795	214	662	669	435
Apr. 17	751	---	461	718	461	669	465	301	628	564	572	602	485	562	766	173	657	200	179	499	---	336	739	405	---	549	690	449	348	600	417	682	767	205	739	323	663	519	585
Apr. 18	740	---	574	707	277	651	422	403	482	139	268	98	554	603	684	361	675	366	660	619	---	504	720	385	183	206	689	535	300	413	208	161	741	268	---	122	648	374	408
Apr. 19	719	561	149	720	282	622	469	635	514	260	672	290	---	608	703	693	675	665	442	680	678	412	719	313	355	601	687	554	219	333	607	349	739	534	754	340	464	463	589
Apr. 20	744	203	340	689	260	617	495	430	341	671	579	673	464	570	767	685	674	644	194	525	679	625	748	660	502	438	316	555	---	532	536	644	705	484	830	614	616	589	460
Apr. 21	754	356	640	682	256	544	512	272	651	662	457	659	521	633	754	---	668	193	155	259	542	321	698	670	---	562	142	505	---	461	546	319	673	231	798	352	529	459	565
Apr. 22	674	657	586	692	136	606	283	335	515	399	169	313	472	593	642	651	601	65	475	333	671	191	548	430	289	625	564	569	417	613	133	478	701	---	798	281	574	---	658
Average	733	444	417	708	276	627	446	413	539	392	476	384	519	568	715	526	666	334	372	505	643	361	702	506	353	511	543	531	312	519	414	472	729	343	786	321	594	512	529
Apr. 23	772	168	648	711	268	507	510	379	69	549	398	555	447	600	722	170	653	620	520	511	703	514	675	514	390	657	373	317	102	485	125	452	639	---	859	693	429	---	680
Apr. 24	719	511	632	681	416	526	333	498	465	142	594	---	408	659	610	341	485	248	460	641	615	296	693	422	---	543	490	582	559	287	444	468	588	423	856	---	585	---	387
Apr. 25	773	204	281	648	421	365	441	478	516	309	690	295	527	628	761	320	645	148	228	680	700	56	768	---	309	620	646	589	239	658	220	512	483	99	843	63	311	---	474
Apr. 26	765	642	350	643	337	359	578	565	423	---	638	164	535	627	494	182	249	204	596	690	286	218	793	766	210	558	616	597	356	690	417	556	291	669	835	55	230	---	500
Apr. 27	787	418	515	287	406	200	505	552	388	---	660	691	363	591	228	585	136	509	540	681	656	342	784	746	276	736	654	585	436	719	351	98	157	354	852	537	440	---	591
Apr. 28	795	721	600	697	275	612	591	563	589	597	608	594	296	624	689	677	690	166	751	659	555	256	758	753	526	725	350	587	393	801	324	580	677	426	859	345	650	---	548
Apr. 29	802	351	706	720	300	705	503	593	687	156	301	153	---	609	765	574	733	698	438	585	671	443	726	689	535	675	655	592	648	692	428	714	793	452	869	396	362	---	559
Average	773	431	533	627	346	468	494	518	448	351	556	409	430	620	610	407	513	371	505	635	598	303	743	649	374	645	541	550	390	619	330	483	518	404	853	348	430	---	534
Apr. 30	808	352	177	525	259	613	540	609	690	402	592	431	442	558	797	394	693	552	206	692	607	430	791	700	526	596	360	599	557	616	371	553	688	405	852	687	402	---	429
May 1	781	717	254	---	397	244	567	624	693	581	468	601	594	572	578	686	228	581	343	474	311	543	722	665	561	724	345	562	666	---	634	389	246	649	746	356	431	---	612
May 2	762	711	214	561	472	692	480	622	672	72	734	72	553	593	328	459	---	710	753	714	409	451	760	728	497	717	627	568	519	696	336	726	798	616	840	455	278	---	570
May 3	799	603	441	712	396	684	491	614	651	589	683	569	578	606	797	334	409	543	217	715	13	469	764	523	525	555	201	598	431	649	664	691	774	656	836	236	320	--	199
May 4	783	359	588	710	469	586	555	624	---	563	353	528	481	591	539	665	606	747	278	726	87	693	778	696	517	287	278	628	229	297	396	456	614	655	859	401	519	---	373
May 5	684	66	693	697	558	285	489	618	34	696	490	725	---	473	631	739	568	530	94	600	414	487	794	604	539	515	235	608	199	529	462	97	407	77	844	661	403	---	490
May 6	746	330	734	708	460	301	624	615	416	628	498	630	425	511	132	718	543	253	608	558	732	168	782	384	555	516	273	322	507	408	243	338	305	343	833	284	406	---	587
Average	766	448	443	652	430	486	535	618	526	504	546	508	512	558	543	571	508	559	357	640	367	463	770	614	531	558	331	555	444	533	444	464	547	486	830	440	394	---	466

Note.- Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

* Equipment relocated April 11-18.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

APRIL 1961

1961	Las Vegas, Nev.	Lemont, Ill.	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif.	Los Angeles, Calif. (Urban)	Madison, Wis.	Manhattan, Kans	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	North Omaha, Nebr.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Page, Ariz.	Phoenix, Ariz.	Portland, Me.	Rapid City, S. Dak.	Riverside, Calif.	St. Cloud, Minn.	Salt Lake City, Utah	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Seattle, Wash.	Seattle-Tacoma, Wash.	Shreveport, La.	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Tampa, Fla.	Tucson, Ariz.	Wake Island Pacific Area	Washington, D. C. (Obs. & Test Pwr Ctr.)
Apr. 2------	635	294	750	587	592	592	649	295	285	563	589	---	591	525	415	165	605	480	597	613	506	435	665	503	518	640	646	341	475	103	184	580	422	457	364	564	680	522	625
Apr. 3------	647	616	260	365	615	600	641	415	409	381	644	632	114	437	248	495	222	146	626	643	336	549	663	275	623	695	659	554	316	290	288	574	485	332	614	591	678	656	547
Apr. 4------	581	567	446	701	600	595	561	544	404	601	672	627	578	396	383	307	153	---	533	---	398	598	660	175	582	617	609	329	425	536	574	600	592	261	580	639	674	664	334
Apr. 5------	480	533	252	205	156	126	242	472	159	586	663	342	165	359	372	349	274	---	(378)	---	469	454	478	213	643	137	460	444	457	451	457	358	504	471	134	653	672	641	---
Apr. 6------	576	143	569	615	389	206	164	500	113	562	616	457	448	288	257	503	390	540	598	---	364	(620)	438	354	637	539	336	511	322	516	560	361	522	70	561	547	680	650	265
Apr. 7------	216	108	501	633	408	360	358	500	---	563	366	480	622	396	364	589	604	483	238	545	266	528	166	610	288	623	624	533	465	491	525	606	586	349	389	268	553	602	311
Apr. 8------	696	251	697	234	643	652	427	22	356	459	427	487	313	344	507	81	517	36	680	672	257	484	696	437	623	302	708	690	624	125	185	182	284	225	33	551	714	593	642
Average--------	547	359	496	477	486	447	435	392	288	531	568	504	404	392	364	356	438	337	(521)	618	371	(524)	538	367	559	498	577	486	440	359	396	466	485	309	382	545	664	618	454
Apr. 9------	661	225	80	132	581	(580)	208	99	170	578	370	667	238	575	414	248	118	349	580	675	643	460	704	592	369	682	591	486	587	267	340	447	417	296	134	379	696	664	237
Apr. 10------	676	46	86	672	533	(436)	---	314	420	595	589	489	241	58	20	366	89	605	253	661	97	319	534	502	481	612	703	334	48	393	442	614	285	140	534	579	712	440	306
Apr. 11------	692	310	666	535	642	623	308	10	332	456	578	570	622	360	253	43	596	448	681	682	185	549	679	149	660	422	703	693	460	110	166	206	235	361	222	481	730	496	457
Apr. 12------	688	180	185	159	445	516	122	288	397	476	575	647	238	509	305	460	196	625	642	679	598	574	---	648	224	684	376	549	406	107	152	587	238	173	403	220	(728)	486	101
Apr. 13------	710	101	198	731	646	619	652	592	366	594	661	---	491	---	18	579	92	677	640	669	75	348	652	298	459	652	743	611	42	391	448	646	389	236	607	633	730	226	122
Apr. 14------	708	599	650	466	656	640	95	571	213	485	602	658	559	279	424	348	538	676	---	680	226	460	642	64	565	653	740	---	499	271	295	539	510	674	584	692	726	514	650
Apr. 15------	678	144	315	224	638	647	159	632	329	598	570	689	256	600	445	694	338	718	686	700	645	617	647	318	580	684	732	196	562	486	286	407	267	524	634	512	744	---	459
Average--------	688	229	311	417	592	(580)	257	358	318	540	564	620	378	397	268	391	281	585	580	678	353	475	643	367	477	627	655	478	372	289	304	492	334	343	445	499	(724)	471	333
Apr. 16------	693	116	557	761	657	654	165	660	333	507	451	659	701	54	24	567	511	710	695	686	104	690	633	275	692	693	730	67	33	316	(371)	662	519	227	586	578	737	689	451
Apr. 17------	651	162	144	775	578	628	296	628	425	511	636	658	466	630	471	579	502	700	669	682	590	648	617	380	539	563	698	189	649	456	314	631	479	420	549	683	731	673	551
Apr. 18------	478	312	159	722	335	402	592	598	130	382	529	647	615	228	54	632	470	645	---	655	107	536	441	567	225	594	738	265	80	242	338	629	379	419	611	671	635	642	302
Apr. 19------	714	557	572	685	580	452	692	577	392	489	708	633	627	311	98	540	611	661	582	591	608	544	578	519	566	308	729	641	141	181	512	393	573	332	623	693	724	643	468
Apr. 20------	733	546	686	367	570	429	342	562	543	381	545	669	569	649	659	562	572	593	703	672	708	688	649	103	715	250	622	619	682	532	363	503	354	714	514	662	774	562	709
Apr. 21------	732	289	116	308	619	596	700	104	474	223	591	611	210	648	595	378	196	626	685	724	648	371	633	456	700	279	570	336	650	157	173	572	505	312	530	564	750	642	376
Apr. 22------	727	585	211	558	517	446	---	608	183	416	633	510	337	423	403	677	292	417	711	712	207	369	291	608	442	542	625	348	426	62	76	531	409	297	514	676	694	630	551
Average--------	676	367	349	597	551	515	464	534	354	416	585	627	504	420	329	562	451	622	674	675	425	550	549	415	554	461	673	352	380	278	(307)	560	460	389	561	647	721	640	487
Apr. 23------	744	436	471	399	653	677	259	620	329	395	661	490	568	545	654	441	325	186	---	724	592	562	649	51	673	511	661	522	658	109	138	405	173	701	292	667	759	518	---
Apr. 24------	699	267	618	401	707	697	252	321	123	552	(648)	665	459	116	259	539	497	608	---	725	356	198	702	154	521	458	680	108	198	193	---	346	305	307	637	652	773	654	442
Apr. 25------	630	220	235	441	680	669	165	608	151	615	704	678	134	443	319	348	147	728	689	735	150	624	683	288	496	---	668	557	452	145	247	376	628	195	671	671	782	668	482
Apr. 26------	736	95	794	697	690	698	723	359	188	633	717	691	703	---	554	606	617	228	735	734	89	213	687	636	556	392	649	445	506	316	431	532	437	418	230	683	785	651	542
Apr. 27------	735	655	709	711	698	692	460	399	348	654	593	595	668	482	498	502	293	702	727	730	722	545	686	579	737	580	639	472	564	614	642	635	673	561	649	672	788	609	329
Apr. 28------	735	259	592	663	682	697	---	566	459	419	549	591	678	473	421	720	585	518	(734)	715	624	693	678	434	724	184	676	641	589	346	349	517	464	351	586	643	780	605	375
Apr. 29------	735	369	703	727	642	707	651	551	596	413	630	473	680	82	185	546	650	682	(718)	748	485	599	695	463	637	66	601	681	203	150	150	581	377	487	628	683	784	663	514
Average--------	716	329	589	577	679	691	418	489	314	526	(643)	598	556	357	413	529	445	522	(720)	730	431	490	683	372	621	365	654	490	453	267	326	485	437	431	527	667	779	624	447
Apr. 30------	742	625	379	530	697	(710)	---	347	598	542	694	---	342	---	604	463	326	467	719	731	464	473	676	707	656	621	631	229	616	437	421	496	425	621	321	645	776	708	713
May 1------	688	520	261	215	673	(674)	---	327	626	435	632	---	173	---	137	686	109	321	719	730	742	(528)	663	704	718	380	643	420	183	166	184	529	312	236	366	300	---	713	129
May 2------	710	653	---	737	618	659	790	584	586	(682)	128	---	712	---	249	695	690	605	724	730	84	322	662	680	762	307	692	186	268	524	513	601	567	524	586	536	770	708	719
May 3------	497	671	789	552	541	368	---	106	580	512	581	---	649	---	593	420	642	124	---	717	617	101	147	678	585	483	687	626	675	335	467	331	243	461	56	636	781	703	744
May 4------	659	557	710	168	604	437	755	11	584	532	641	---	490	---	452	77	551	---	377	709	666	91	310	658	463	397	711	717	573	157	150	426	281	567	82	656	785	721	735
May 5------	739	626	93	383	681	589	450	79	605	192	592	---	459	---	605	134	420	---	603	699	766	230	634	131	734	255	714	667	663	236	275	289	332	621	---	475	789	701	---
May 6------	738	166	451	357	571	459	308	676	595	274	559	---	301	---	406	681	264	718	---	720	716	710	282	71	491	195	695	191	545	486	543	394	346	58	637	610	797	681	56
Average--------	682	545	447	420	627	(557)	576	304	596	(453)	547	---	447	---	435	451	429	447	628	719	579	(351)	482	518	630	377	682	434	503	334	365	438	358	441	341	551	783	705	516

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

TOTAL OZONE DATA

Total amount of ozone in the atmosphere, expressed in terms of integrated depth, in units of 10^{-3} centimeter. These data are given as daily averages obtained from measurements with a Dobson Ozone Spectrophotometer using the sun or zenith cloud (see explanation below) as a light source.

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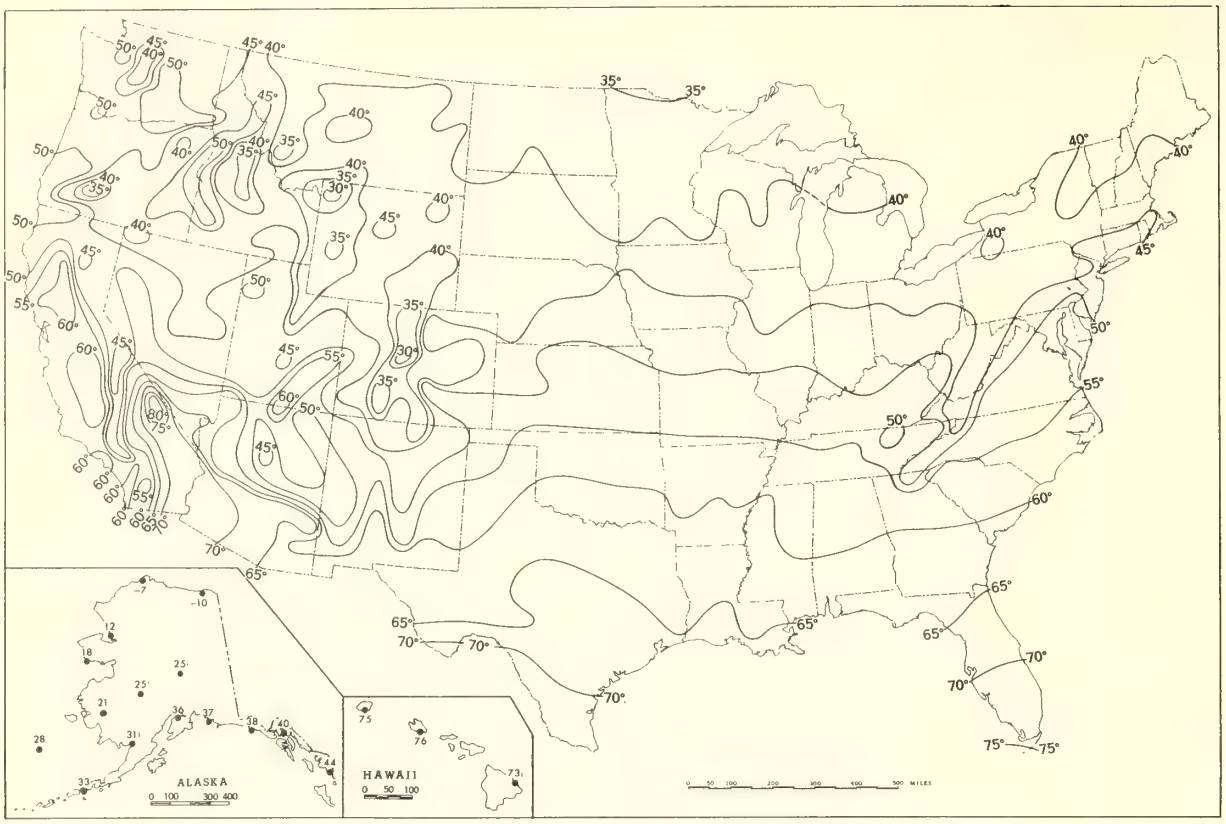
Station	Day of month																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Bismarck, N. Dak.	357	378	320	---	427	---	---	411	407	---	390	397	---	---	438	440	399	354	367	389	389	396	---	---	426	418	448	453	408	---	
Caribou, Maine	---	---	---	368	---	---	---	---	440	---	422	439	---	---	---	383	---	---	409	423	---	383	---	---	---	---	432	403	419	392	
Fort Worth, Texas	305	322	288	288	302	288	270	---	286	309	---	347	317	317	331	350	343	334	305	---	---	---	---	---	279	296	310	315	296	---	
Green Bay, Wis.	389	417	---	351	---	429	---	382	385	439	442	---	341	---	---	---	---	363	350	328	342	378	374	---	---	380	367	421	411	420	
Mauna Loa, Hawaii	263	---	---	276	267	262	265	274	282	276	274	277	282	281	274	261	268	269	276	---	281	278	289	280	286	---	287	288	---	---	
Sterling, Va.	---	---	---	---	---	---	381	422	---	---	---	---	---	378	---	---	423	---	---	395	---	357	362	346	328	331	---	409	---	---	

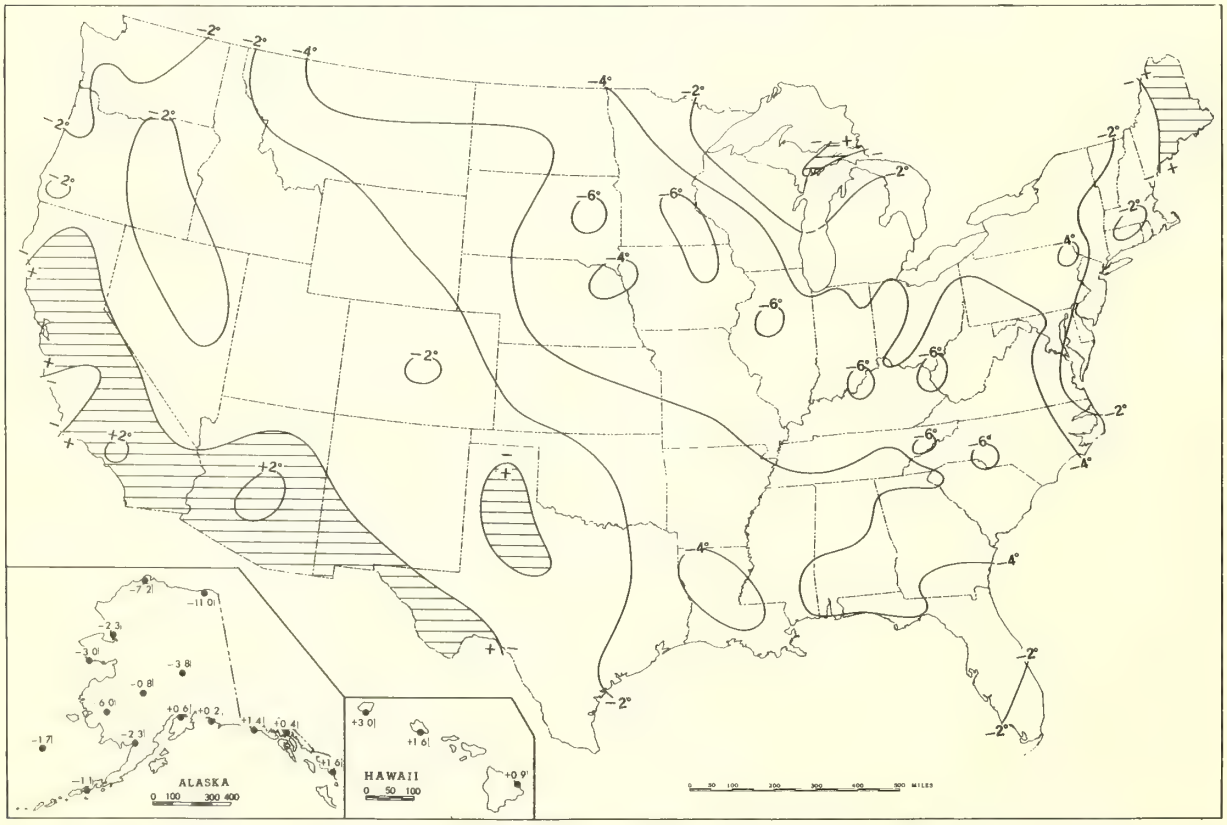
The spectrophotometer measures the total amount of ozone in the atmosphere, i e., the amount contained in a vertical column of air extending from the ground to the top of the atmosphere in the vicinity of the station The amount of ozone in this column of air is expressed in terms of thickness it would occupy if it were compressed to standard pressure and temperature.

The standard method of observation is that using A (3055 Å and 3254 Å) and D (3176 Å and 3398 Å) wave length pairs. On cloudy days when no observations can be obtained directly upon the sun, observations are taken by using light from the zenith cloud These observations are not quite as reliable as the sunlight observations, therefore, average values based upon zenith cloud observations are denoted with an asterisk A detailed description of the spectrophotometer and observational procedures may be found in the "Observer's Handbook of the Ozone Spectrophotometer," Annals of the International Geophysical Year, Volume V, Pergamon Press, 1957

Chart I. A. Average Temperature (°F.) at Surface, April 1961.



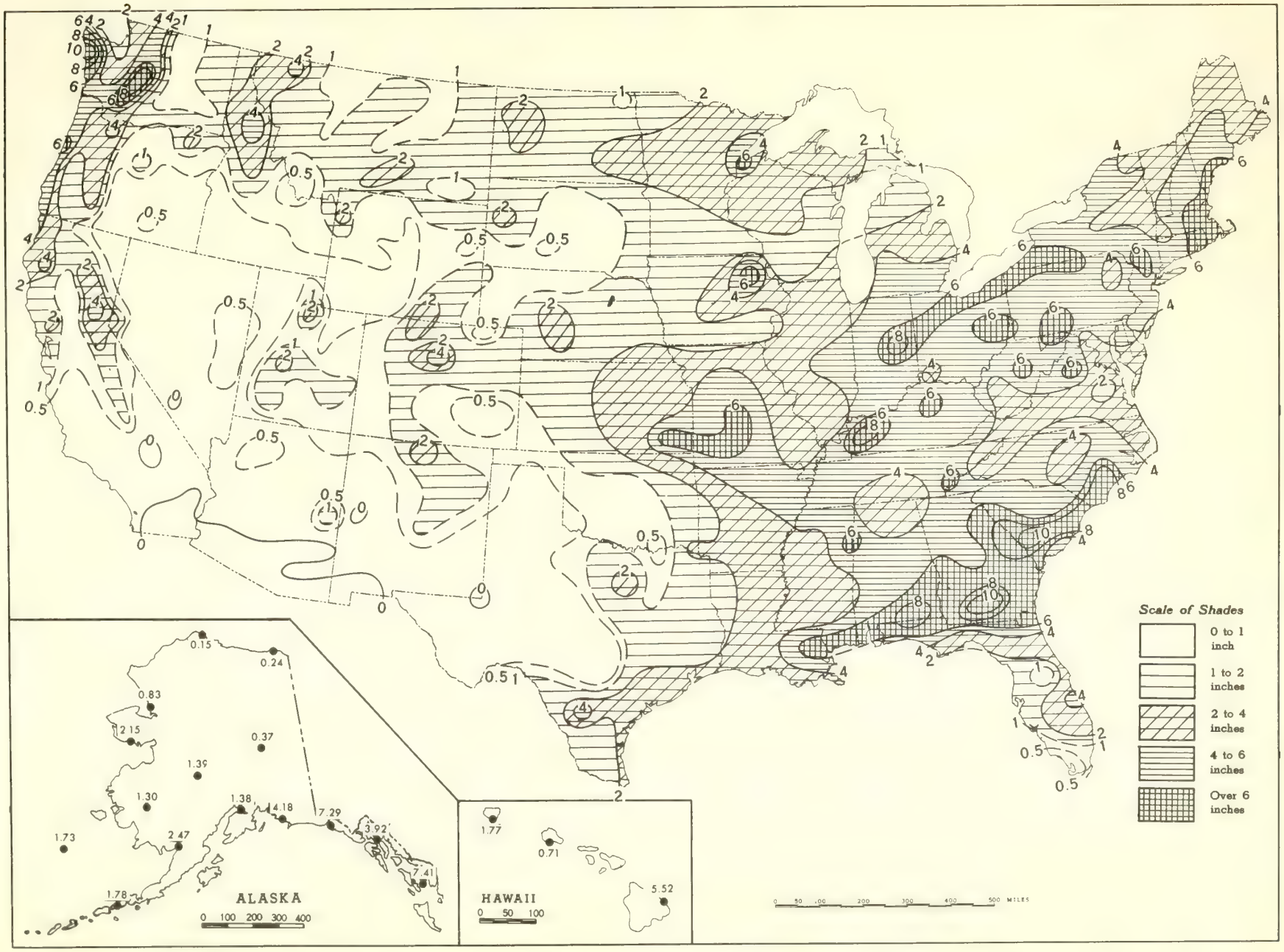
B. Departure of Average Temperature from Normal (°F.), April 1961.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

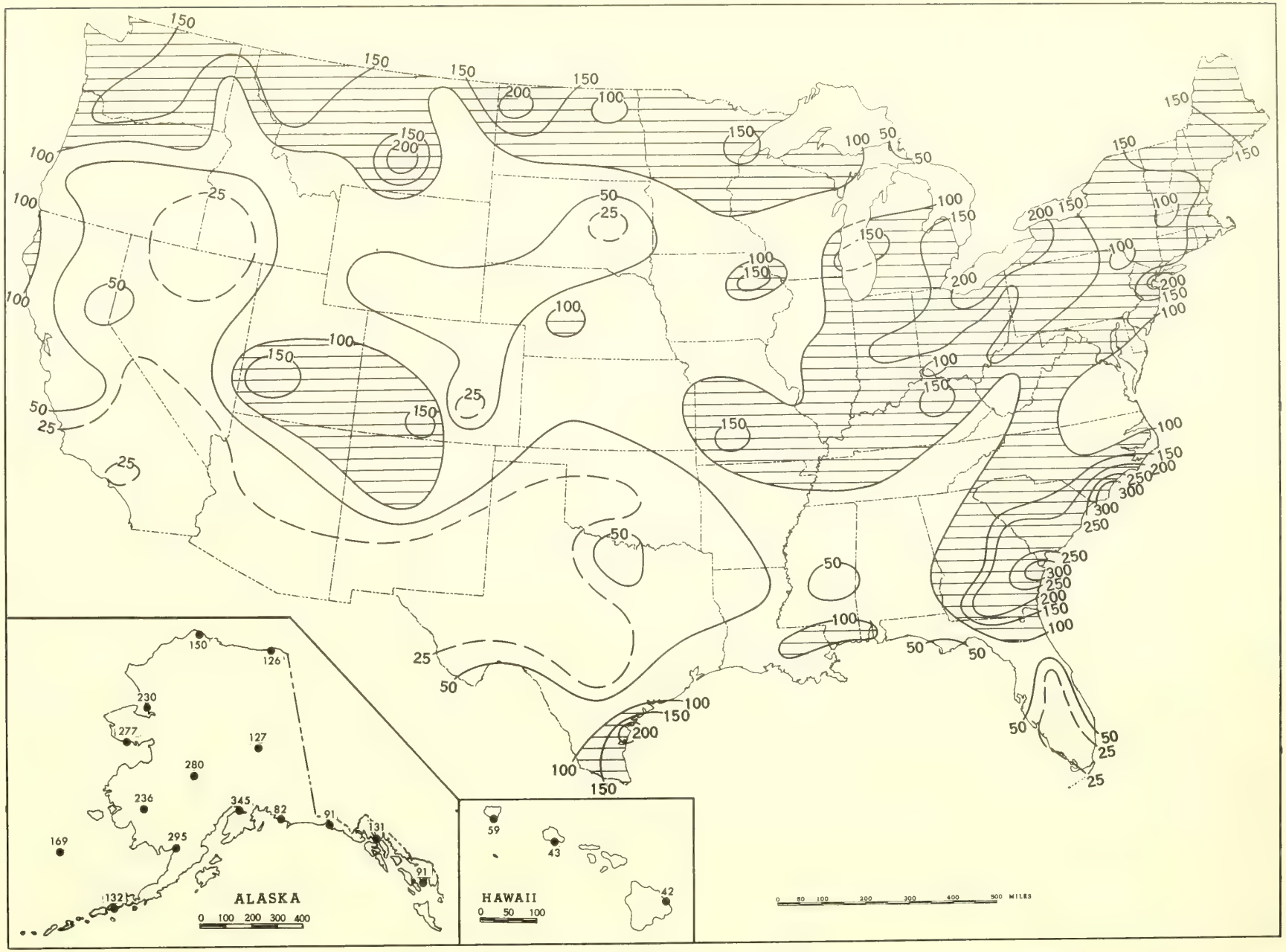
B. Departures from normal are based on the 30-yr. normals (1921-50) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), April 1961.



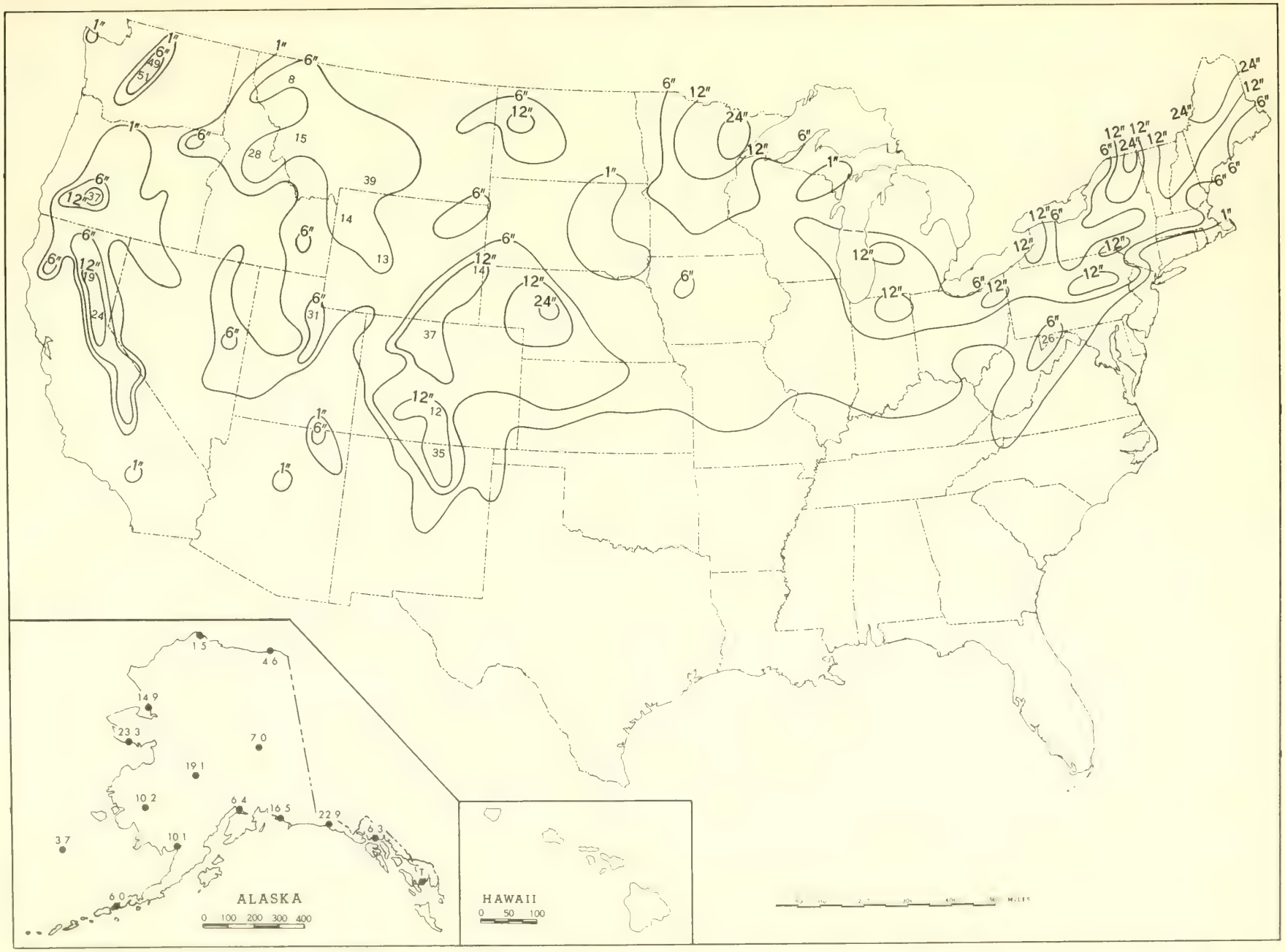
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, April 1961.



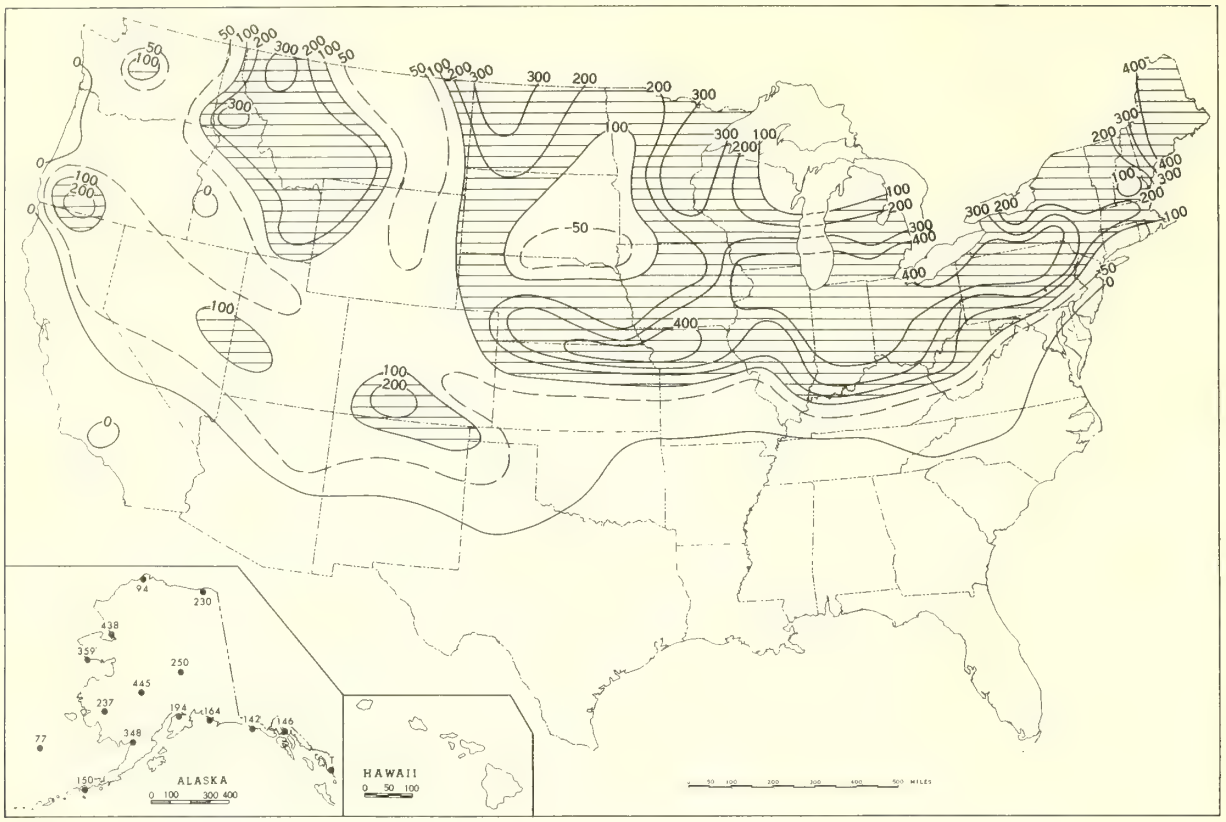
Normal monthly precipitation amounts are computed from the records for 1921-50 for first-order Weather Bureau stations.

Chart IV. Total Snowfall (Inches), April 1961.

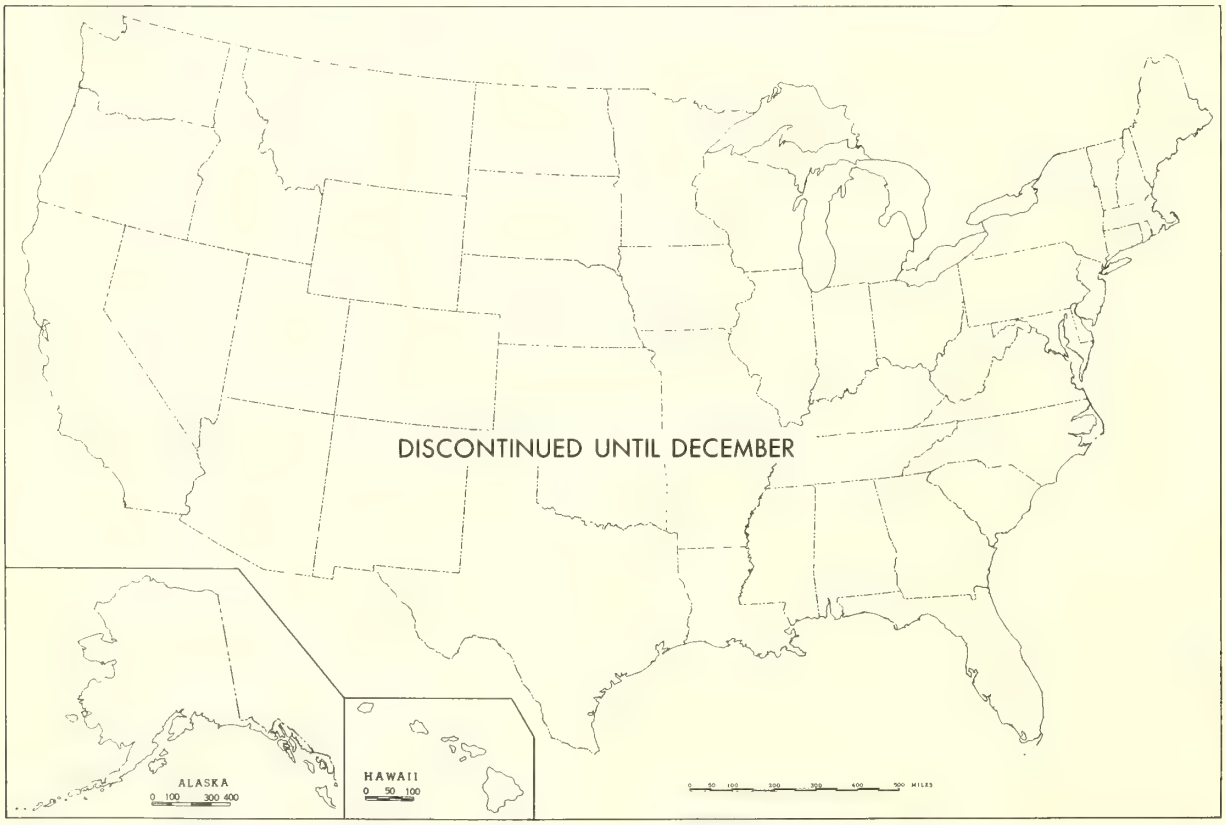


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, April 1961.

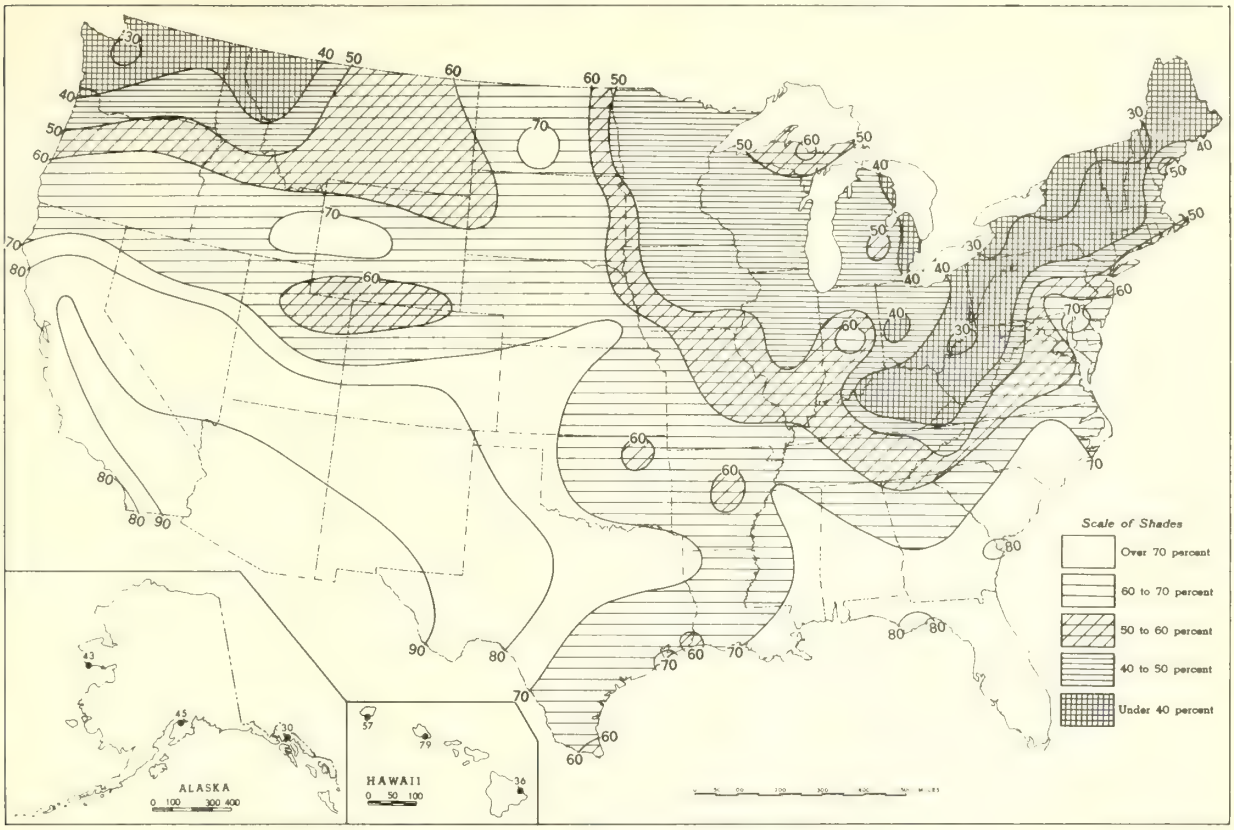


B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., April 1961.

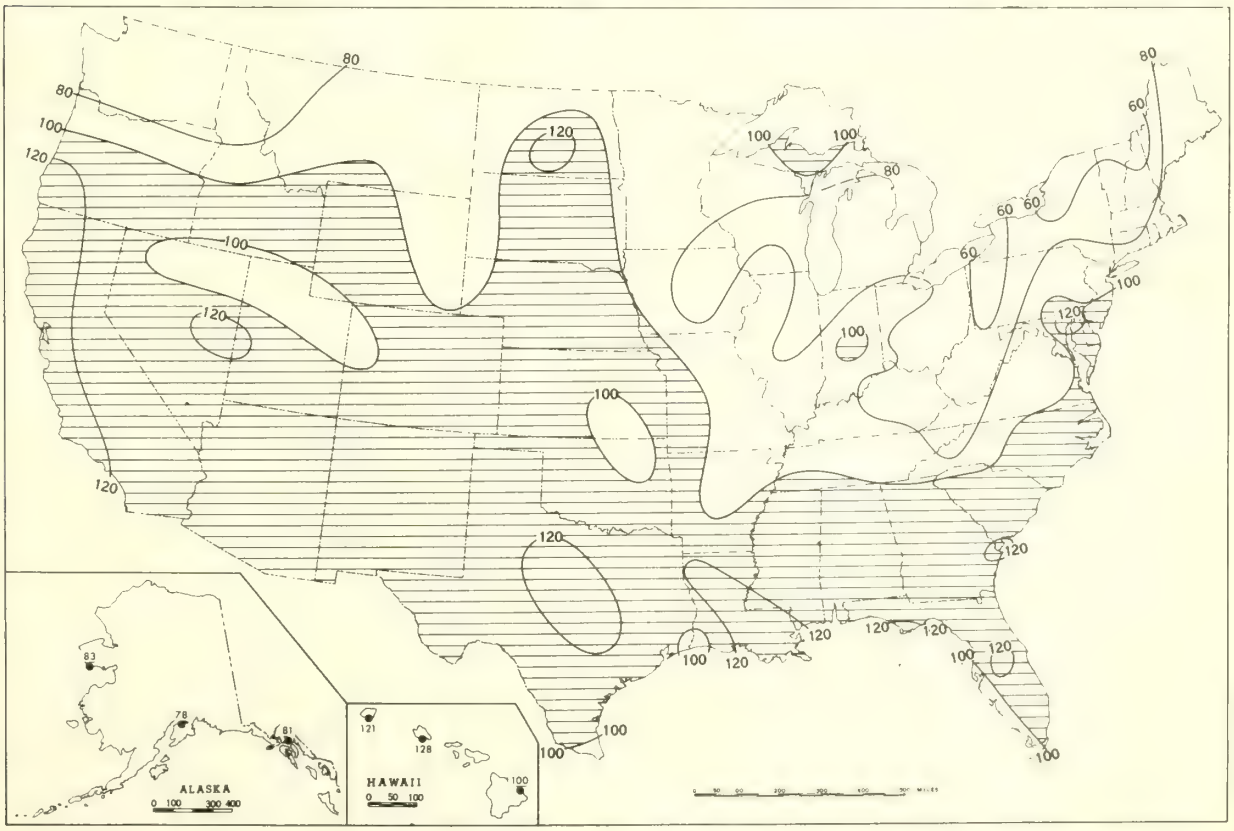


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, April 1961.

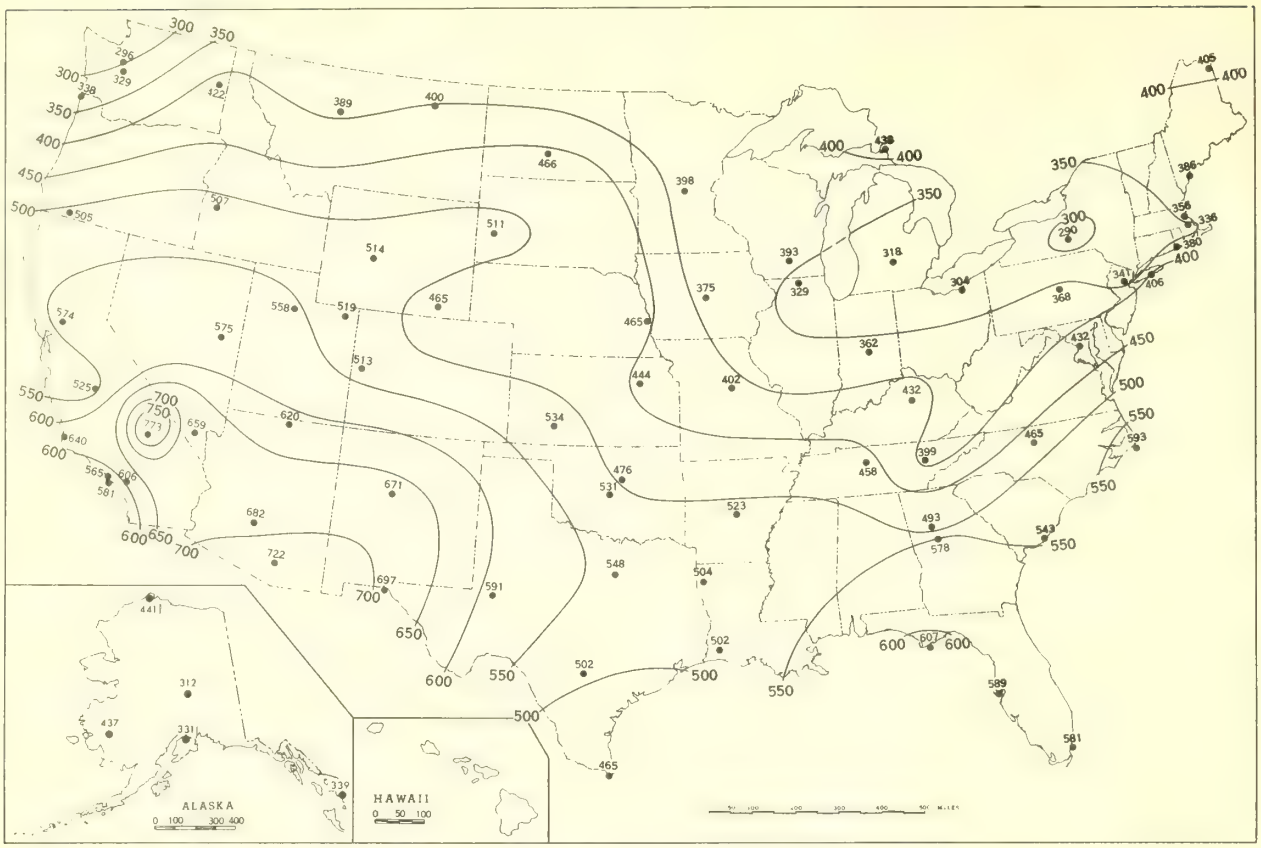


B. Percentage of Mean Monthly Sunshine, April 1961.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, April 1961.

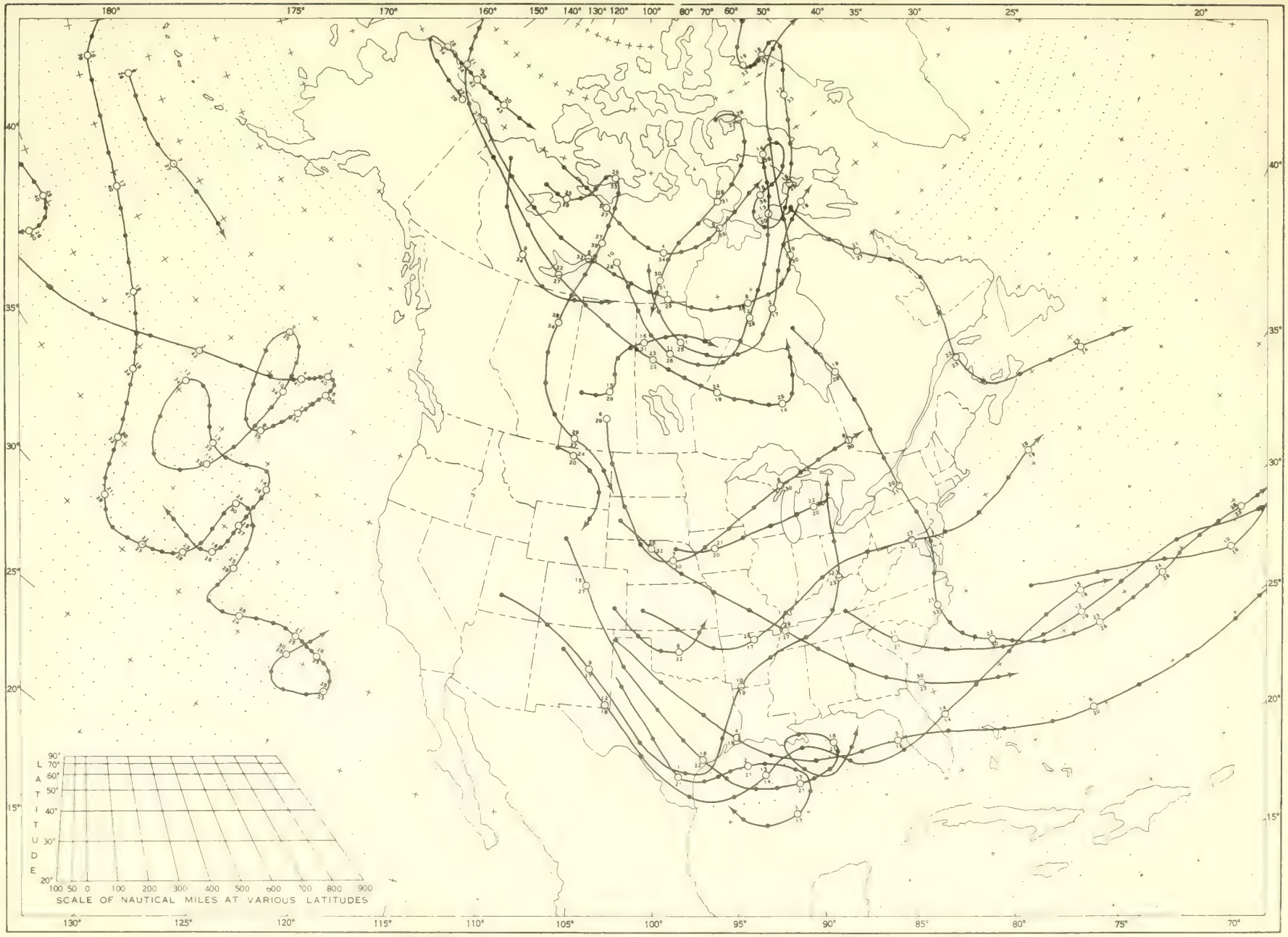


B. Percentage of Mean Daily Solar Radiation, April 1961.

A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956.

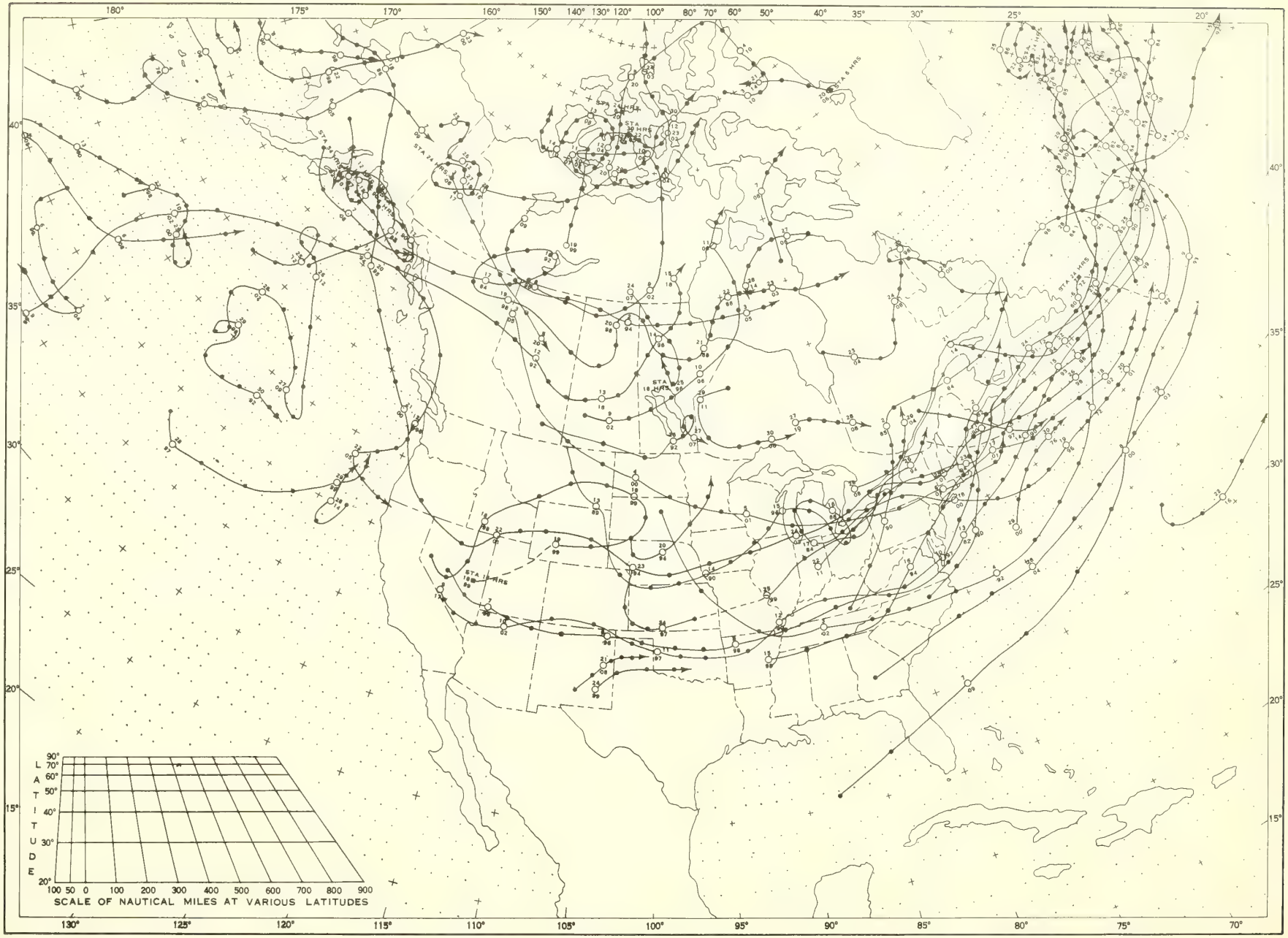
B. Percentage of the mean based on the period 1953-57, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, April 1961.



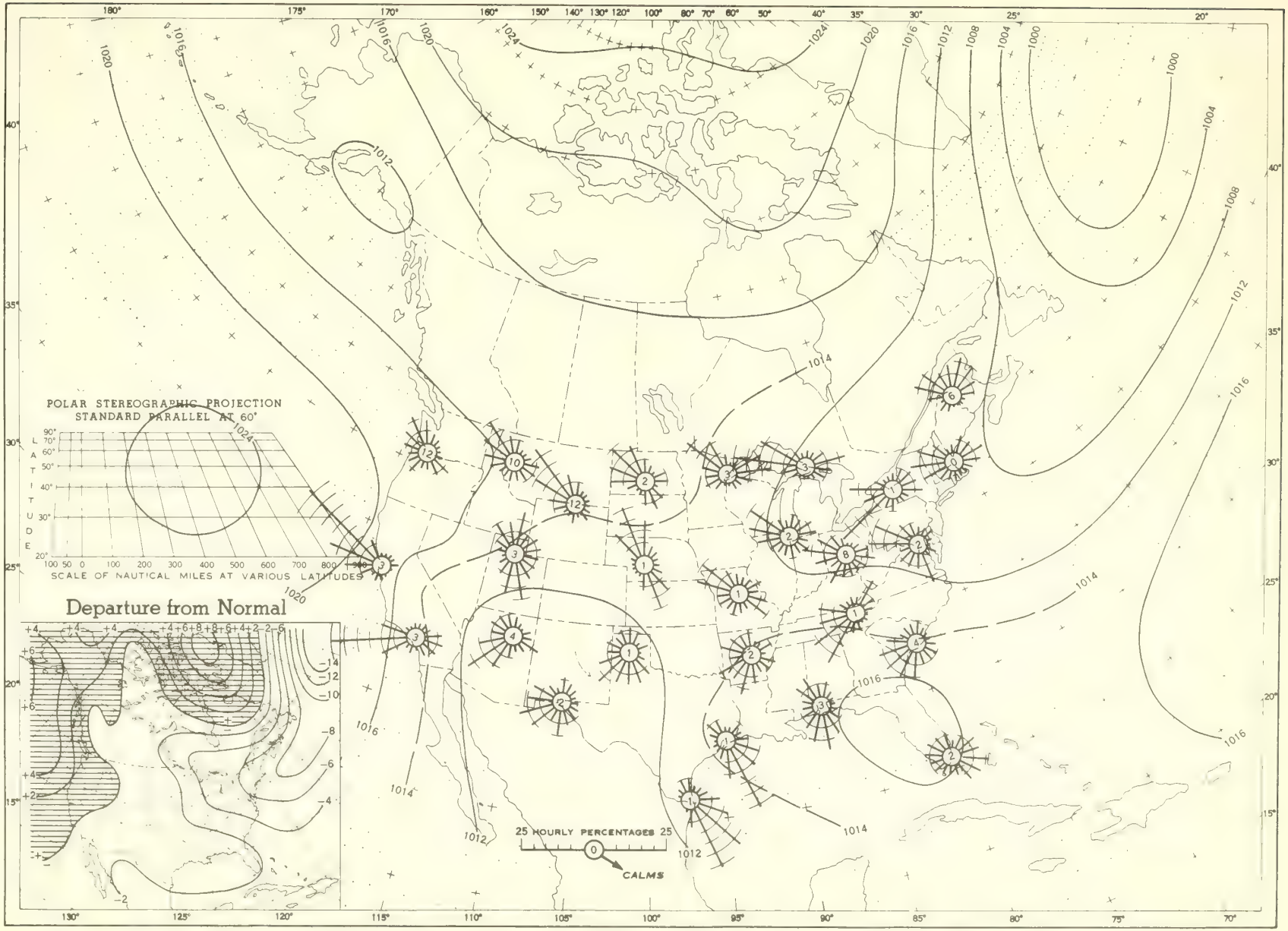
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, April 1961.



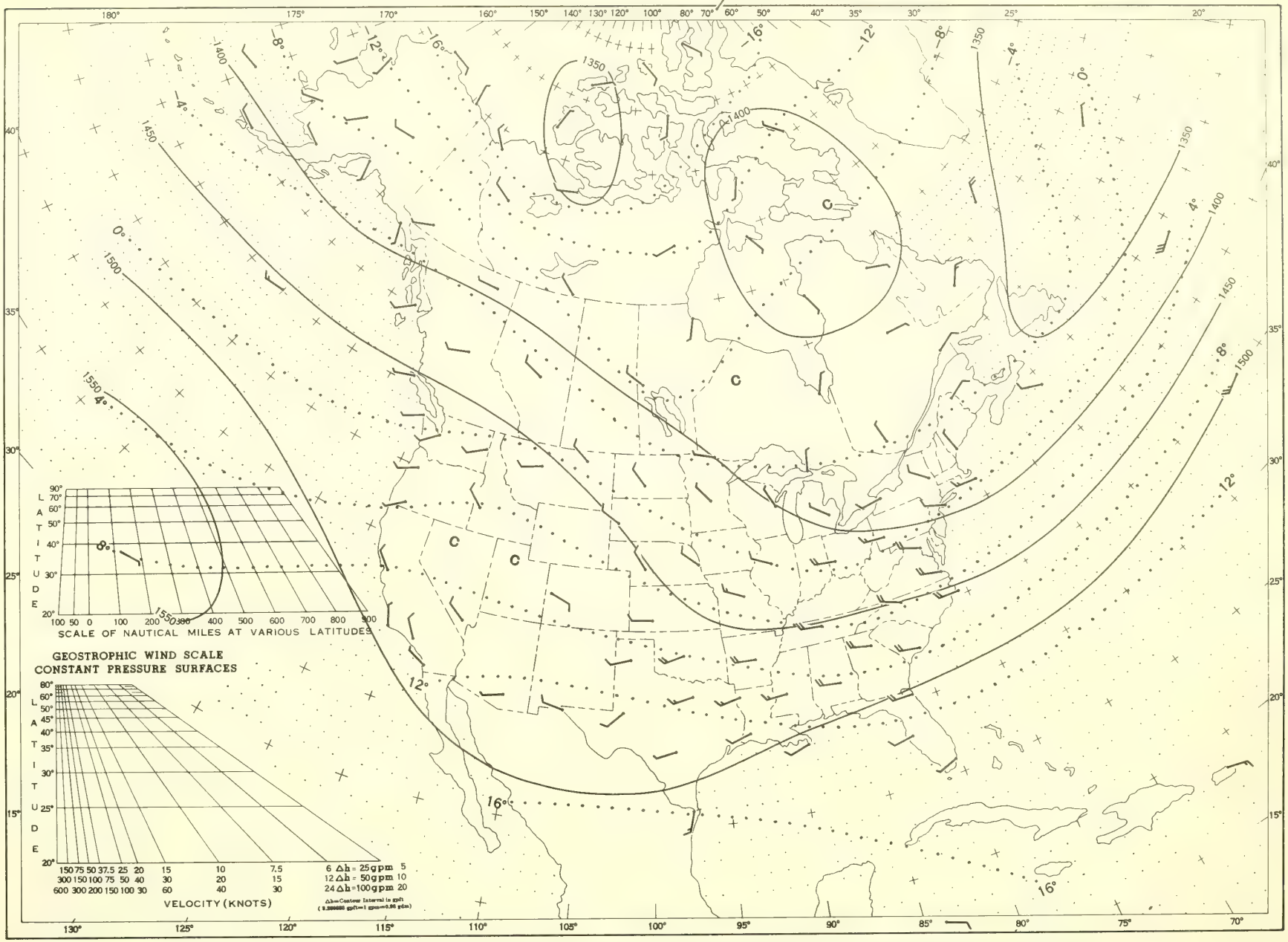
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, April 1961. Inset: Departure of Average Pressure (mb.) from Normal, April 1961.



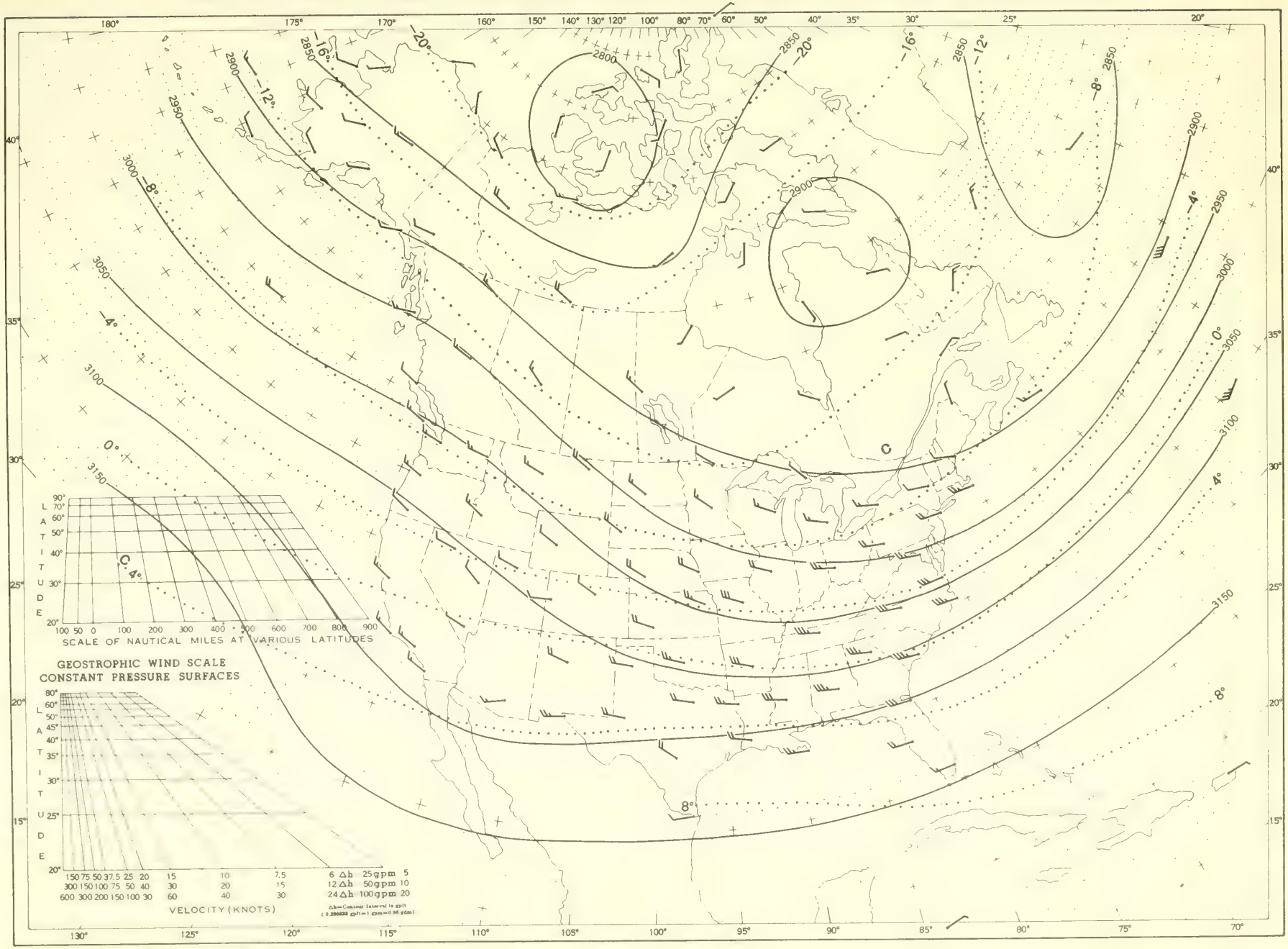
Average sea level pressures are obtained from the averages of the 7:00 a. m. and 7:00 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, April 1961. Average Height and Temperature, and Resultant Winds.



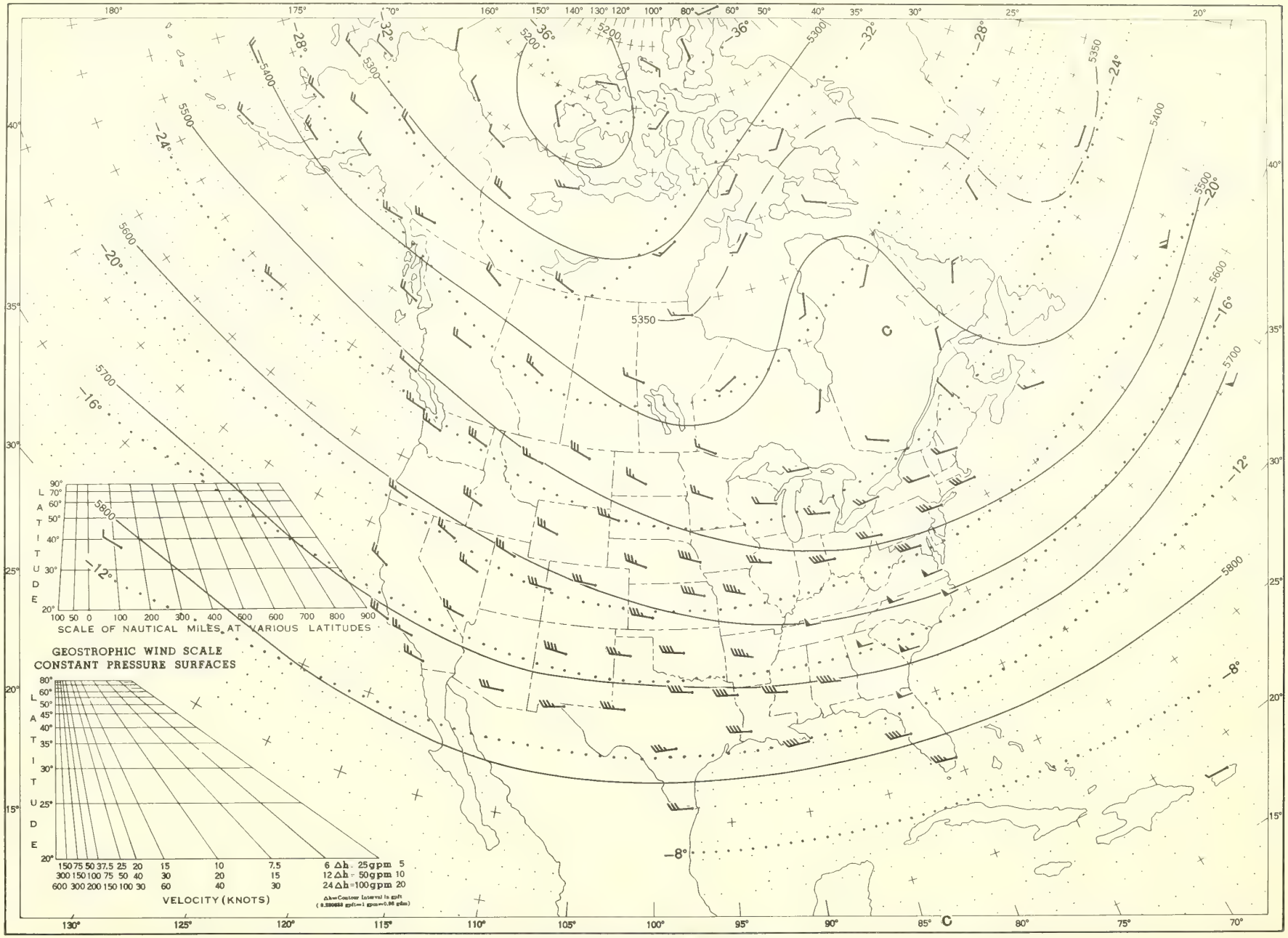
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, April 1961. Average Height and Temperature, and Resultant Winds.



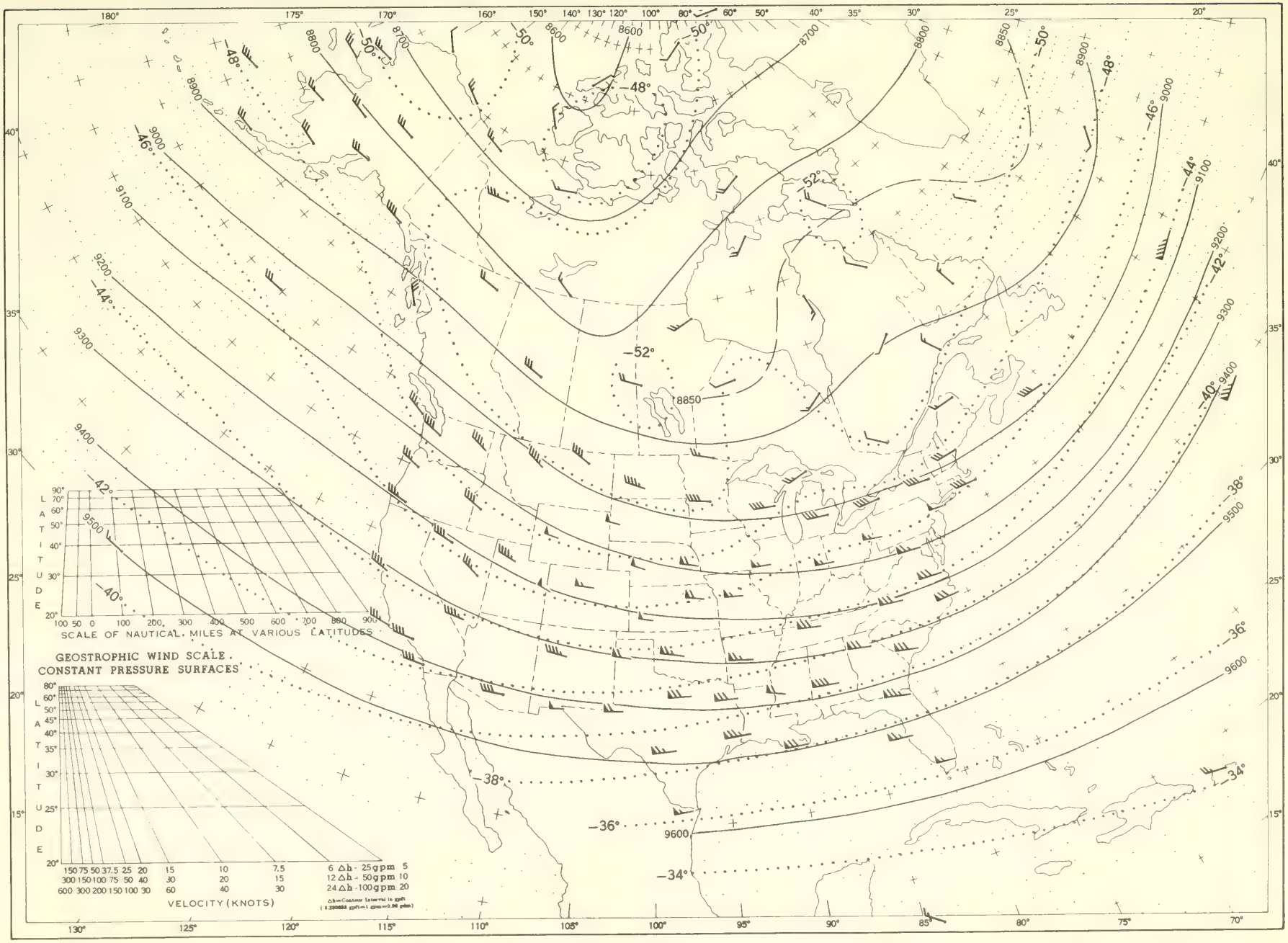
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, April 1961. Average Height and Temperature, and Resultant Winds.



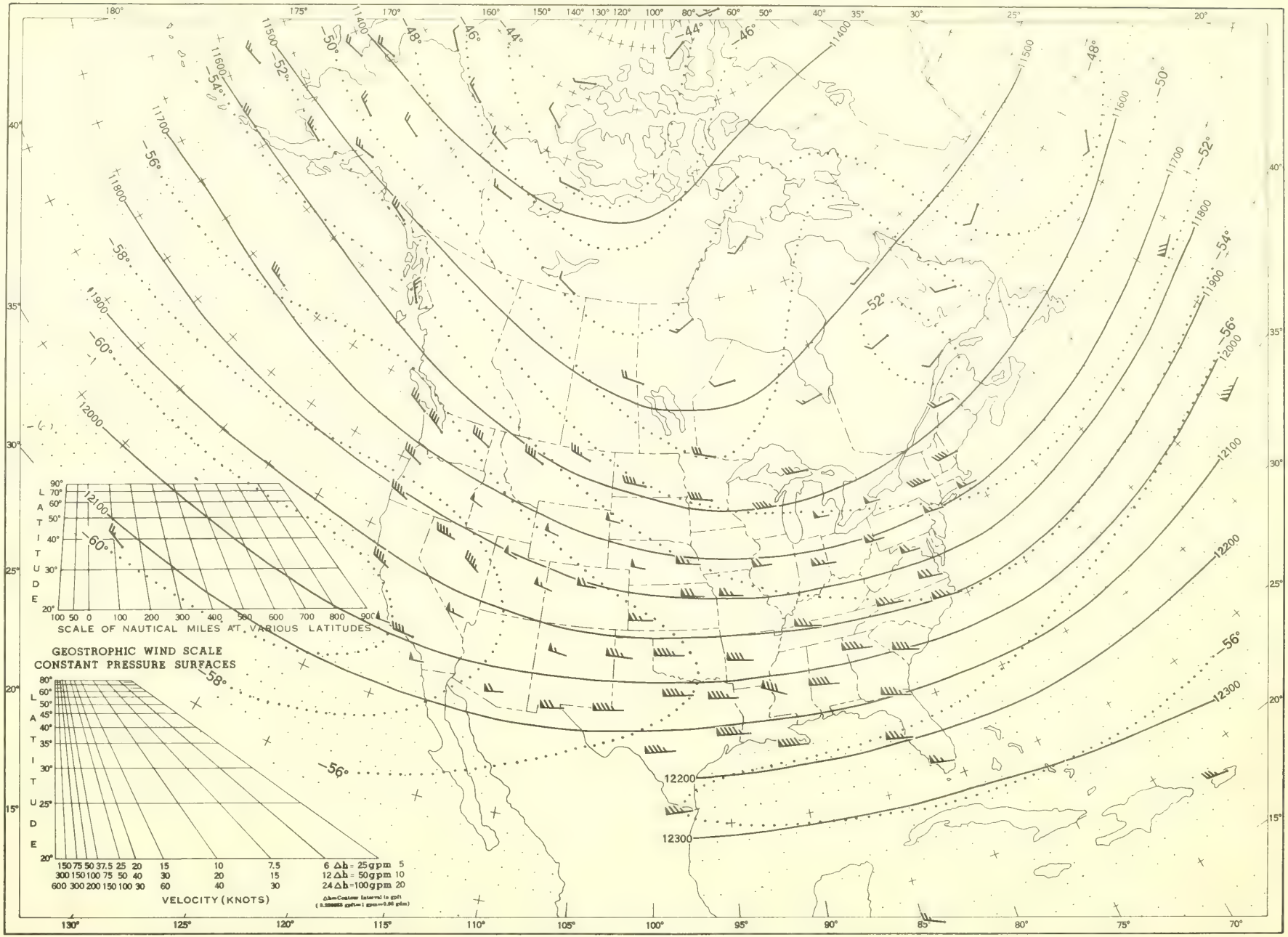
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, April 1961. Average Height and Temperature, and Resultant Winds.



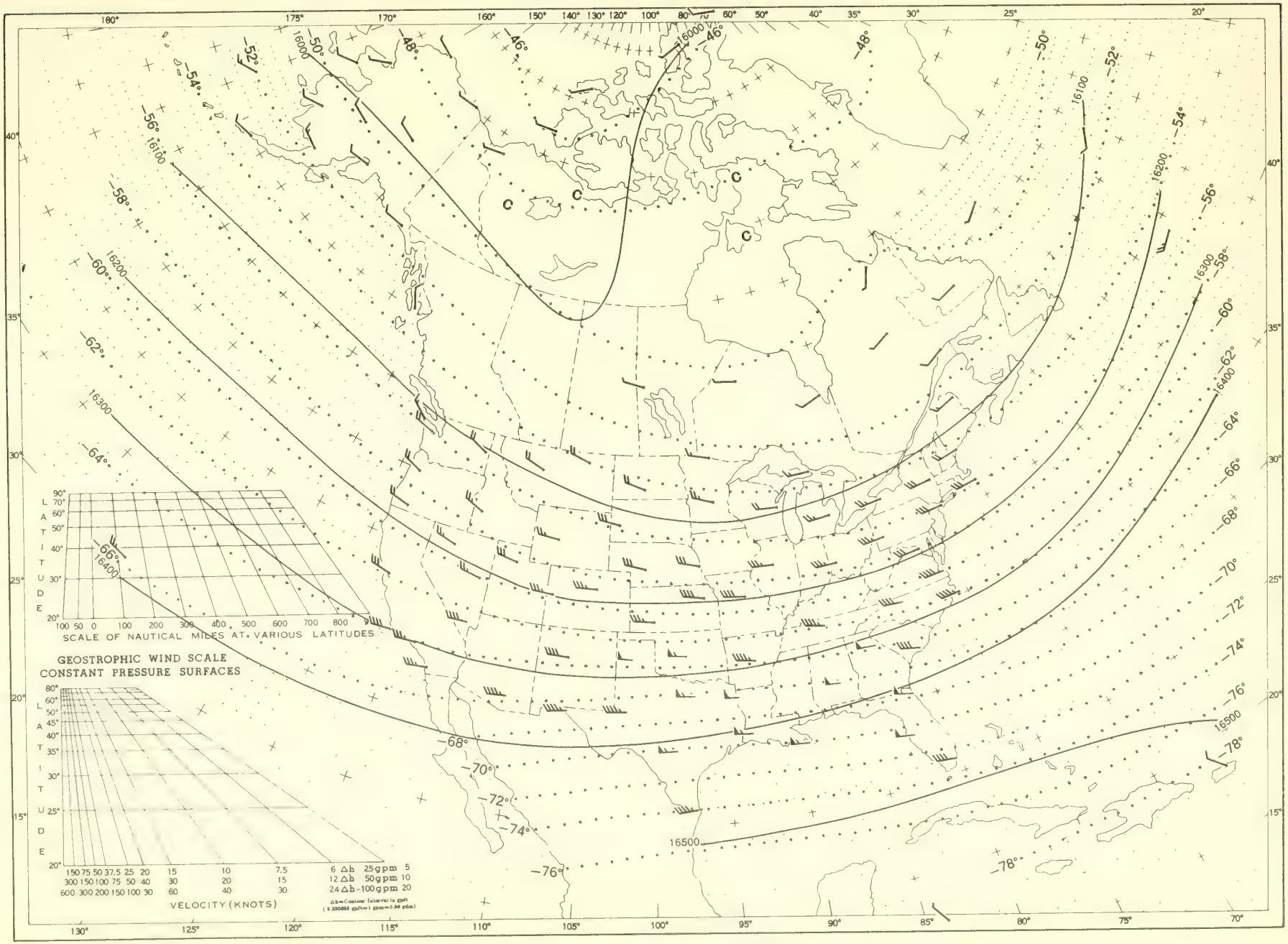
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, April 1961. Average Height and Temperature, and Resultant Winds.



See Chart XI for explanation of map.

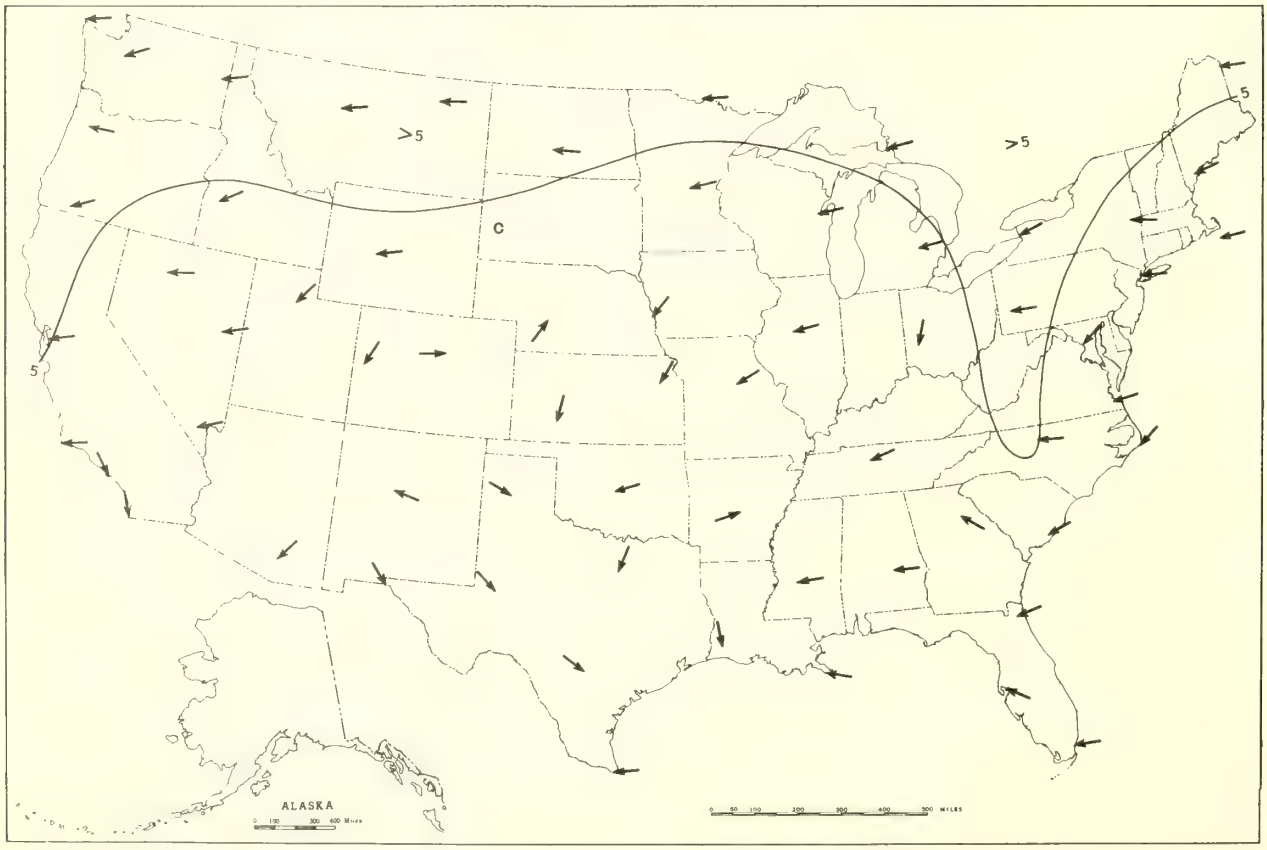
Chart XVI. 100-mb. Surface, 1200 GMT, April 1961. Average Height and Temperature, and Resultant Winds.



See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, April 1961. Resultant Winds.

B. 30-mb. Surface, 1200 GMT, April 1961. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-WB-Asheville - 6/28/61 - 1850

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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MAY 1961
Volume 12 No. 5

ASHEVILLE: 1961

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 12 No. 5 MAY 1961

GENERAL SUMMARY OF WEATHER CONDITIONS

Unusually cold weather east of the Rocky Mountains that began early in April was the outstanding weather feature of May 1961. It was the coldest May on record at points in the Ohio and middle Mississippi Valleys. Temperatures during the closing days of the month fell to the lowest levels on record for so late in the season at numerous stations from the Mississippi Valley to the Atlantic coast, and snowfalls in the north central Interior were among the latest on record. Extremely heavy precipitation from the east-central Great Plains eastward through the Ohio Valley was responsible for flooding along many streams throughout most of the month. Spring, from an agricultural standpoint, was about 2 weeks later than usual in much of the eastern half of the country as a result of the continued cold, wet weather. Drought continued in the Far Southwest.

TEMPERATURE. --Temperatures averaged below normal everywhere east of the Rocky Mountains except slightly above in Texas. The coldest area, relative to normal, included the Ohio and Mississippi Valleys where monthly anomalies ranged from 4° to 6°. This was the coldest May on record at St. Louis, Mo., and Louisville, Ky., and the coldest since 1917 at Pittsburgh and Philadelphia, Pa., and Charlotte, N. C. A low temperature of 17° at Huron, S. Dak., on the 1st was the lowest temperature ever recorded there for May in 81 years of record.

A remarkable cold spell over the eastern half of the country during the closing days of the month contributed greatly to the low monthly averages there. On various dates from the 26th to the 31st numerous scattered stations from the Mississippi Valley to the Atlantic coast recorded their lowest temperatures on record for so late in spring. These record-breaking lows in the mid-continent area ranged from 27° at Lansing, Mich., to 52° at Lake Charles, La., on the 27th; and east of the Appalachians from 25° at Burlington, Vt., on the 31st to 57° at Appalachicola, Fla., on the 27th. Freezing or frost occurred as far south as northern Arkansas and the lower Appalachian region. In New England the freeze caused considerable crop loss, and fruit crops were damaged in northern Indiana.

Unusually persistent cold weather in most areas east of the Rocky Mountains during both April and May has been remarkable, particularly in the Ohio and middle Mississippi River Valleys. At St. Louis, Mo., and Louisville, Ky., where records date back to 1837 and 1872, respectively, the coldest April-May period prior to 1961 was in 1907. At St. Louis the April-May period of 1907 was slightly colder than in 1961, but at Louisville the 1961 period was slightly colder. At both stations April was colder in 1907, but May was colder in 1961. Although current and old records are not strictly comparable, owing mainly to different sites of observations, they strongly indicate the April-May period was among the coldest on record in both 1907 and 1961. Other unusually cool April-May periods occurred in 1816 and 1857.

Temperatures averaged below normal in Nevada and the Pacific States, and above elsewhere west of the Great Plains. Below normal temperatures were unusually persistent in the Pacific States, particularly in California's Central Valley where they generally remained below on all except 2 or 3 days.

PRECIPITATION. --Extremely heavy precipitation from the central Great Plains eastward through the Ohio Valley caused flooding of many streams in the area throughout most of the month. Heaviest precipitation fell in the area during the period from about the 4th through the 8th when many stations measured more than 10 inches. In this area monthly totals exceeded 15 inches at many stations, among which were Grenola, Kans., 17.14 inches; Vinita, Okla., 15.52; Anderson, Mo., 16.07; Clinton, Ill., 16.96; and Bentonville, Ark., 19.41. Mt. Vernon, Ind., had 13.77 inches and Evansville, Ind., had its greatest total on record, 12.22 inches.

In contrast, the dry weather of April 1961 in Texas and the Far Southwest continued during May except in extreme eastern portions of New Mexico and western Texas. Over 200 stations scattered through southern portions of California and Nevada, and Arizona, New Mexico, and central and southern Texas had no precipitation at all. At Austin, Tex., total precipitation for the spring months of March, April, and May was 1.60 inches, the least for these 3 months since 1856. Phoenix, Ariz., reported only 18 percent of normal precipitation since Nov. 1, 1960. Corpus Christi and San Antonio, Tex., had only a trace and 0.17 inch, respectively, for their driest May on record.

Owing to the low temperatures, snowfall occurred later than usual in many northern locations, mostly on the 26th or 27th of the month. A trace at Erie, Pa., on the 26th was the latest snowfall there on record and falls on the 26th and 27th at Pittsburgh, Pa., was the latest there since May 31, 1893. At Chicago, Ill., a trace fell near Lake Michigan on the 26th, although none was observed at the station; snow was reported by the station later than May 26 only once and that was June 2, 1910. Heavy snow in southeastern Wyoming on the 13th and 14th temporarily blocked traffic.

STORMS. --Numerous severe local storms and tornadoes occurred in Texas, Oklahoma, and eastward through Tennessee and the Ohio Valley during the heavy rains from the 4th to the 8th. One of the worst tornadoes hit Howe and Reichert, Okla., on the 5th, killing 16 persons, injuring more than 50, and destroying many buildings. Several tornadoes occurred in Texas again on the 25th.

CONDENSED CLIMATOLOGICAL SUMMARY

MAY 1961

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Geneva	95	20	Valley Head	32	3	Seale	7.56	Centreville	0.61
Arizona	2 Stations	105	11+	Maverick	12	8+	Williams	1.29	127 Stations	.00
Arkansas	Paris	93	30	Gravette	28	2	Bentonville	19.41	Magnolia 3N	1.98
California	3 Stations	104	26+	White Mountain 2	3	12	Gasquet RS	10.01	81 Stations	.00
Colorado	Las Animas 1N	99	30	Sugar Loaf Reservoir	8	17	Fort Collins	7.06	Arboles	T
Connecticut	Bulls Bridge Dam	88	14	2 Stations	23	6+	North Branford	7.08	Hartford Brainard Fld.	3.69
Delaware	Dover	87	11	Selbyville	27	3	Selbyville	7.30	Middletown 2S	1.75
Florida	Avon Park	99	17	Crestview Radio WJSB	42	27	Tavernier	12.87	Orlando WB Airport	.43
Georgia	2 Stations	94	20+	Blairsville Exp Sta	25	3	Blakely	10.91	2 Stations	1.84
Idaho	Orofino	98	25	Three Creek	13	5	Grangeville	5.65	Glenns Ferry	.07
Illinois	2 Stations	92	31	4 Stations	28	2+	Clinton 1SSW	16.96	Galesburg	1.04
Indiana	Johnson Exp Farm	89	31	3 Stations	27	27+	Mount Vernon	13.77	South Bend WB AP	1.19
Iowa	Forest City	91	31	Le Mars 2N	18	2	Sioux City WB AP	5.11	Muscatine	.56
Kansas	2 Stations	98	30+	Centralia	25	2	Grenola 1N	17.14	Syracuse 2W	.82
Kentucky	Pikeville	90	14+	Vanceburg Dam 32	23	3	La Grange 2NNW	10.67	London FAA Airport	2.31
Louisiana	Woodworth State For.	97	19	Winnsboro	39	28	New Iberia 5NW	12.68	Koran	1.18
Maine	Sanford 2NNW	92	14	Squa Pan Dam	18	6	Bar Harbor	11.00	Upper Dam	2.07
Maryland	Baltimore WB Airport	90	9	Oakland 1SE	24	5	Snow Hill	7.33	2 Stations	1.80
Massachusetts	3 Stations	90	15+	2 Stations	24	6+	Edgartown	6.98	Lawrence	2.31
Michigan	Boyne Falls St. Nur.	88	13	do	17	10+	Bergland Dam	4.29	Montague	.69
Minnesota	Redwood Falls FAA AP	93	31	Bigfork	16	2	St. Peter 2SW	7.30	Warroad	.40
Mississippi	Moorehead	95	31	Edinburg	35	28	Biloxi City	9.45	Shuqualak	.40
Missouri	3 Stations	92	31	Berryman 6NW	22	2	Anderson	16.07	Mercer 6NW	1.99
Montana	2 Stations	95	30+	2 Stations	14	7+	Fortine 1N	6.67	Medicine Lake 3SE	.47
Nebraska	Beaver City	94	30	Walthill	20	2	Cambridge	10.31	Newport	2.29
Nevada	North Las Vegas Doxarm	100	25+	3 Stations	9	5	Contact	3.04	5 Stations	.00
New Hampshire	Blackwater Dam	93	15	Grafton	19	31	Northwood	4.27	Lancaster	1.81
New Jersey	New Monmouth	89	15	Layton 3NW	24	1	Sussex	5.44	Millville FAA Airport	1.68
New Mexico	3 Stations	102	31+	Gascon	5	7	Lake Maloya	2.56	31 Stations	.00
New York	2 Stations	90	16+	3 Stations	19	6+	Parkston	6.53	Lowville	1.95
North Carolina	5 Stations	89	17+	Banner Elk	23	27	Greenville 3S	9.62	Weaverville	1.90
North Dakota	Beulah	94	30	Belcourt Indian Res.	11	1	Amidon	3.56	Watford City	.46
Ohio	Chillicothe	89	14	3 Stations	23	4+	Chile Dam 34	7.49	La Rue	1.02
Oklahoma	Hollis	101	12	do	31	2	Vinita 3NNE	15.52	Kenton	.33
Oregon	2 Stations	96	25	Grizzly	12	5	Gold Beach RS	9.18	Alvord Ranch	T
Pennsylvania	3 Stations	89	15+	Clermont 4NW	18	5	Hop Bottom 2SE	5.33	Hanover	1.57
Puerto Rico	do	95	31+	Guineo Reservoir	58	[redacted]	Rio Blanco Lower	11.51	Utuado	.30
Rhode Island	Greenville	84	14	Kingston	28	6	Kingston	5.83	Woonsocket	4.16
South Carolina	Ridgeland 2SE	92	19+	Caesars Head	31	27	Georgetown Marine Docks	8.24	Gaston Shoals	2.43
South Dakota	2 Stations	94	10	La Delle 7NE	15	1	Wessington Springs	6.66	Lead	.63
Tennessee	4 Stations	90	31	Mountain City 2	25	3	2 Stations	7.04	Boone Dam	1.90
Texas	Presidio	111	12	Vega	32	6	Sterling City	7.63	Several Stations	.00
Utah	4 Stations	94	25	Silver Lake Brighton	8	5	Cove Fort	2.20	Navajo Mountain	T
Vermont	Bellows Falls	92	15	West Burke	19	31	Enosburg Falls	5.08	Union Village Dam	1.74
Virginia	Glen Lyn	90	9	Monterey	20	4	Holland 1E	8.38	Bedford	1.73
Washington	2 Stations	95	26+	2 Stations	20	15+	Palmer 3SE	8.03	2 Stations	.27
West Virginia	Williamson	92	15	do	23	4+	Alpena 1NW	6.80	Salem Patterson L Fk	1.58
Wisconsin	Marshfield Exp Farm	90	13	Gordon 2ESE	16	4	Solon Springs	6.79	Brillion	.70
Wyoming	3 Stations	92	27+	2 Stations	12	6	Phillips	6.11	Wamsutter 1N	.29

+ And also on an earlier date or dates.

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	992.4	1017.8	79	55	67.3	- 2.2	90	31	41	3	1	0	55	68	2.45	-1.29	0.83	9	6	0.0	0	8.4	N	45	S	8	7	10	14	6.4	67
HUNTSVILLE	605	994.6	1017.9	78	54	66.1		88	7+	39	3	0	0	54	67	4.68		1.18	11	8	0.0	0	7.1	NNW	28*	SW	8	6	9	16	6.6	
MOBILE	211	1009.3	1017.5	83	61	72.3	- 1.1	92	19	49	27+	3	0	61	73	4.62	-0.02	1.70	9	8	0.0	0	9.6	S	32*	NW	26	7	12	12	5.9	
MONTGOMERY	195	1009.2	1017.4	81	57	68.7	- 3.8	89	31+	43	28	0	0	59	74	1.80	-1.66	0.73	7	5	0.0	0	4.5	SSW	32	NW	9	8	8	15	5.9	66
ALASKA												8																				
ANCHORAGE	90	1008.5	1013.4	57	38	47.8	2.1	66	24+	29	1	0	4	32	56	0.47	-0.04	0.25	2	0	0.0	0	7.3	SSE	21*	SE	29	11	5	15	6.1	62
ANNETTE	110	1012.5	1016.7	57	45	51.1	2.1	70	10	37	5	1	0	41	73	3.40	-1.09	1.90	17	0	0.0	0	7.1	SE	23*	SE	12	4	4	23	8.0	
BARROW	22	1018.3	1018.8	27	16	21.5	2.7	35	29	- 2	1	0	31	18	85	0.01	-0.12	0.01	1	0	0.2	15	10.1	E	31*	E	24	3	4	24	8.4	
BARTER ISLAND	39	1016.6	1018.5	30	16	22.8	2.6	48	29	-11	1	0	31	18	81	0.17	-0.05	0.14	3	0	2.1	8	12.7	E	44*	E	25	7	7	17	6.7	
BETHEL	125	1009.1	1010.4	53	34	43.3	3.3	63	29	24	1	0	14	35	75	0.57	-0.32	0.23	11	0	T	T	10.6	S	37*	ENE	30	6	5	20	7.2	
COLD BAY	94	1003.4	1007.2	46	36	41.4	1.9	52	31	27	11	0	4	36	83	0.95	-0.74	0.36	13	0	T	T	16.0	SSE	41*	SE	24+	0	5	26	8.9	
CORDOVA	40	1013.2	1014.9	54	35	44.7	1.8	66	9	27	3+	0	10	39	79	9.49	3.05	2.88	17	0	0.0	0	5.9	E	21*	SE	24	6	5	20	7.4	
FAIRBANKS	436	995.6	1012.6	62	37	49.3	1.9	71	16	28	12+	5	6	32	52	0.24	-0.50	0.12	5	0	0.0	0	7.1	N	21*	SW	10	8	9	14	6.0	
JUNEAU	17	1015.2	1016.0	56	39	47.4	0.4	67	10	28	3	0	6	37	71	4.75	1.56	0.72	14	0	0.0	0	8.9	E	32*	ESE	24	7	3	21	7.5	41
KING SALMON	44	1008.1	1009.9	55	35	44.8	2.0	63	6+	26	1	0	11	35	72	1.20	-0.06	0.32	15	0	0.0	0	8.8	E	35*	E	30	7	4	20	7.1	
KOTZEBUE	10	1013.9	1014.6	43	28	35.1	5.5	64	31	16	6+	0	22	31	85	0.35	0.02	0.25	7	0	0.4	14	8.8	WNW	24*	NW	20	7	9	15	6.5	
MC GRATH	334	999.7	1012.3	59	36	47.3	4.1	70	7	24	3	1	11	31	56	0.24	-0.70	0.12	4	1	T	T	7.3	ENE	26*	E	30	8	5	18	6.4	
NOME	13	1011.9	1012.5	46	32	38.7	5.0	65	30	20	5+	0	14	32	76	0.38	-0.21	0.11	7	0	0.3	15	10.2	NNE	25*	E	31+	9	9	13	6.0	51
ST. PAUL ISLAND	22	1004.7	1005.8	41	33	37.2	2.0	45	30+	29	2	0	10	35	93	1.01	-0.17	0.24	17	0	T	T						1	4	26	8.7	
SHEMYA	122	997.3	1001.0	41	36	38.1		44	8	34	29+	0	0	36	92	2.32		0.76	24	0	1.5	T	18.9	S	46*	SW	24	0	1	30	9.5	
YAKUTAT	28	1014.9	1015.9	54	37	45.7	2.4	70	9	26	8	1	9	40	80	9.87	1.95	3.50	16	0	0.0	T	7.2	ESE	21*	SSE	24	7	7	17	7.1	
ARIZONA																																
FLAGSTAFF	6993			67	31	48.8	- 1.2	76	25	21	8	0	22			0.28	-0.25	0.22	3	0	3.1	2						18	9	4	3.0	
PHOENIX	1109	971.2	1009.8	93	58	75.6	0.1	101	10+	49	8	22	0	29	19	T	-0.17	T	0	0	0.0	0	7.8	W	35*	NW	12	24	3	4	2.1	97
PRESCOTT	5014	845.6	1010.9	77	45	60.8	- 0.1	85	25+	36	8	0	0	20	24	0.09	-0.21	0.09	1	0	0.0	0	11.0	SSW	45	SW	11	22	7	2	2.4	92
TUCSON	2584	923.1	1009.8	90	56	72.9	- 0.2	98	10	46	8	20	0	19	14	0.00	-0.21	0.00	0	0	0.0	0	10.6	SSE	40	SW	3	20	7	4	2.8	93
WINSLOW	4880	849.6	1009.1	83	44	63.3	1.3	90	27+	35	8	3	0	19	21	0.04	-0.28	0.04	1	0	T	0	13.3	SW	44*	SW	29	21	7	3	2.6	
YUMA	199	1005.8	1010.8	94	62	77.7	- 2.7	103	9	55	13+	24	0	32	22	T	-0.02	T	0	0	0.0	0	7.8	WNW	26	NW	12	26	3	2	1.5	97
ARKANSAS																																
FORT SMITH	449	999.3	1016.1	80	56	67.8	- 1.8	91	31	38	2	2	0	56	70	5.56	0.50	2.08	13	12	0.0	0	8.4	ENE	35	W	8	9	9	13	6.0	64
LITTLE ROCK	257	1003.7	1016.9	79	57	67.9	- 1.9	89	31	44	28+	0	0	58	71	5.68	0.83	1.73	12	8	0.0	0	8.1	S	40	W	6	10	5	16	5.9	57
TEXARKANA	361		1016.0	81	60	70.8	- 1.1	90	31	46	27	1	0	60	72	2.54	-2.59	0.82	9	9	0.0	0	8.3	NE								
CALIFORNIA																																
BAKERSFIELD	494	998.0	1016.0	78	53	65.8	- 4.4	87	9	47	4	0	0	43	47	0.02	-0.33	0.02	1	0	0.0	0	8.2	NNW	23*	NNE	19	20	6	5	3.4	
BISHOP	4108	870.6	1010.5	80	43	61.5	- 1.1	88	24+	35	8+	0	0			0.02	-0.18	0.01	2	0	0.0	0						19	7	5	3.3	
BLUE CANYON	5280	838.5	1015.9	55	38	46.5	- 5.7	70	18	28	7	0	5			4.19	1.71	1.18	12	4	5.6	1	8.0	SSW	28	SSW	9	11	7	13	5.5	
BURBANK	699	989.5	1015.6	72	53	62.5	- 1.5	86	8	50	20	0	0	47	62	T	-0.27	T	0	0	0.0	0	7.4	S	31*	NNW	12	16	6	9	4.1	
EUREKA U	43	1016.9	1020.0	57	48	52.5	- 0.4	64	22	43	4	0	0			3.97	2.15	1.09	18	0	0.0	0	7.7	NW#	36	SW	8	1	9	21	8.4	43
FRESNO	331	1003.4	1015.2	77	51	63.9	- 5.0	87	18+	44	7	0	0	43	52	0.40	0.12	0.16	3	2	0.0	0	8.9	WNW	22	NW	30+	19	7	5	3.3	88
LONG BEACH	34	1014.6	1015.8	71	53	62.0		85	8	50	13+	0	0	50	69	0.01		0.01	1	0	0.0	0	8.4	S	30*	W	12	12	13	6	4.5	
LOS ANGELES	99	1012.5	1016.3	68	54	60.9	- 1.2	74	9	49	12	0	0	50	70	T	-0.30	T	0	0	0.0	0	8.9	WSW	30*	W	12	11	14	6	4.5	
LOS ANGELES U	312			71	56	63.4	- 1.4	86	8	52	14	0	0	51	68	T	-0.26	T	0	0	0.0	0	6.7	W#	33	NW	12	14	10	7	4.6	71
MT SHASTA R	3544	892.0	1016.6	62	38	50.1	- 3.4	78	19+	31	7	0	3			2.86	1.19	1.44	10	2	0.0	0						15	6	10	5.1	
OAKLAND	3	1018.0	1018.2	64	50	56.9	- 1.5	70	14	42	7	0	0	46	70	0.59	-0.02	0.29	6	1	0.0	0	11.5	W	29*	NW	11	9	11	11	5.3	
POINT ARGUELLO	367	1004.1	1017.5	61	47	54.0		68	18	41	8	0	0			0.11		0.10	3	0	0.0	0	11.3		31*	NW	3	11	9	11	5.4	
RED BLUFF	341	1002.4	1015.0	76	51	63.5	- 4.5	93	18	40	7	1	0	42	50	1.03	-0.03	0.66	8	3	0.0	0	11.7	SSE	37	SE	25	12	7	12	5.0	78
SACRAMENTO	17	1015.2	1016.3	78	47	62.4	- 1.6	87	15	39	7	0	0	47	64	0.18	-0.36	0.11	5	1	0.0	0	9.5	SW	28	NW	4	13	13	5	4.2	87
SANDBERG R	4517	861.8	1014.2	62	42	51.9	- 4.8	77	9	31	12	0	1			0.16	-0.09	0.16	1	0	T	T	15.3	N	48*	NNW	4	20	6	5	2.9	
SAN DIEGO	13	1013.2	1016.2	67	56	61.5	- 1.7	76	9+	53	29	0	0	51	70	0.01	-0.25	0.01	1	0	0.0	0	7.8	WSW	23	S	3	11	6	14	5.5	56
SAN FRANCISCO	8	1017.6	1018.3	64	50	57.1	0.5	71	14+	44	7	0	0	47	72	0.60	0.20	0.30	7	2	0.0	0	13.2	WNW	39	NW	12	11	10	10	5.3	
SAN FRANCISCO U	52			61	51	55.7	- 1.4	67	14	48	7+	0	0			0.88	0.29	0.45	7	1	0.0	0	9.8	W#	31	W	5					72
SANTA MARIA	238	1009.1	1018.0	64	45	54.5	- 3.2	75	8	38	5	0	0	46	75	0.17	-0.15	0.16	3	0	0.0	0	10.6	WNW	36*	NW	12	19	7	5	3.4	
COLORADO																																
ALAMOSA	7536	770.4	1013.1	69	34	51.6	0.8	78	19	25	9+	0	14			0.70	0.13	0.62	6	4	1.0	T						7	17	7	5.3	
COLORADO SPRINGS	6173	810.7	1014.1	68	41	54.7	- 0.7	87	11	30	6	0	1	37	62	0.84	-1.22	0.23	12	9	0.9	T	12.4	SSE	39*	NNW	13	6	11	14	6.5	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation of station	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 90 F or above	Min 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 0.1 inch or more	With thunderstorm	Snow, sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths, sunrise to sunset	Possible sunshine
	Ft	Mb	Mb	F	F	F	F	F		F				F	%	In	In	In			In	In	M.p.h		M.p.h							
COLORADO																																
DENVER	5283	836.8	1013.0	68	44	55.7	- 0.6	90	11	32	13	1	1	40	64	4.12	1.92	1.80	12	9	6.4	1	8.7	SSW	35	SW	20	4	13	14	6.6	55
GRAND JUNCTION	4849	856.8	1010.0	76	50	63.0	0.9	87	10	36	5	0	0	26	32	1.11	0.43	0.64	7	3	0.0	0	11.5	ESE	49	NW	16	13	11	7	5.0	70
PUEBLO	4639	854.4	1011.3	75	47	61.0	1.8	93	11	32	6	3	1	40	54	1.10	-0.63	0.66	7	9	T	T	10.8	SE	66	NW	13	6	14	11	6.0	69
CONNECTICUT																																
BRIDGEPORT	7	1016.5	1017.5	63	47	55.3	- 1.9	78	31+	36	27	0	0	45	72	4.46	0.86	1.50	12	2	T	0	10.7	E	30	NW	3	5	8	18	7.3	
HARTFORD	169	1010.3	1016.4	67	45	56.0	- 3.7	86	25	30	1	0	3	43	66	4.37	0.71	1.30	14	2	0.0	0	8.9	S	32	NW	26	3	11	17	7.2	44
NEW HAVEN	6	1016.5		63	46	54.7	- 2.0	76	31	35	1	0	0			6.00	2.13	1.47	16	4	0.0	0	8.2		29	SW	28	5	8	18	7.2	48
DELAWARE																																
WILMINGTON	78	1013.2	1017.2	69	49	58.9	- 3.9	84	9	36	4	0	0	48	69	2.45	-1.36	0.80	14	3	0.0	0	10.5	NW	30	NNW	29	5	11	15	6.7	
DIST. OF COLUMBIA																																
WASHINGTON U	72			71	53	62.2	- 3.0	87	9+	42	28	0	0			2.58	-1.33	0.67	9													
WASH NATL AP	14	1013.3	1017.8	72	53	62.2	- 2.5	87	9	42	28+	0	0	49	66	2.57	-1.41	0.57	11	4	0.0	0	9.3	S	40	SSW	9	7	11	13	6.2	54
FLORIDA																																
APALACHICOLA U	13	1015.7		80	66	72.9	- 1.5	89	21	57	27+	0	0			3.78	0.95	1.40	5	5	0.0	0	7.7		26	E	24+	16	8	7	4.6	81
DAYTONA BEACH	31	1015.9	1017.8	83	64	73.5	- 0.9	93	20	55	11	5	0	64	75	2.39	-0.88	1.63	6	7	0.0	0	9.5	SE	40*	SW	26	9	10	12	5.6	
FORT MYERS	15	1016.3		90	66	77.7	0.8	94	25	61	12+	22	0			4.92	0.63	3.22	5	7	0.0	0	7.8		25*	ESE	5	14	11	6	4.8	
JACKSONVILLE	24	1016.5	1017.9	85	64	74.5	- 0.4	94	20	53	28	6	0	63	72	3.06	-0.37	1.18	9	5	0.0	0	10.4	NE	41	N	23	8	11	12	5.7	60
KEY WEST	5	1015.6	1016.8	85	76	80.5	0.7	89	24+	68	2	0	0	70	71	2.37	-0.45	0.90	9	4	0.0	0	9.6	ESE	34	N	2	6	18	7	5.5	76
LAKELAND U	214			86	67	76.6	0.1	93	17	59	11	8	0			2.73	-1.86	1.19	9	8	0.0	0	7.4					8	13	10	5.7	72
MIAMI BEACH	9			83	74	78.7	0.3	88	14	66	11	0	0			7.30	3.37	4.49	9		0.0	0	8.2		37	W	26	12	9	10	5.0	69
MIAMI	7	1015.9	1017.1	85	71	78.0	0.0	90	21	62	11	1	0	68	73	6.81	1.26	3.58	11	8	0.0	0	9.3	ESE	37*	NW	24	6	17	8	5.8	
ORLANDO	106	1013.0	1017.5	89	65	77.0	0.5	96	17	57	11	17	0	63	68	0.43	-3.59	0.22	4	5	0.0	0	9.4	ESE	23*	W	26	9	13	9	5.3	
PENSACOLA U	13			80	65	72.2	- 1.6	89	30	51	27	0	0			3.00	-1.36	1.15	6	5	0.0	0	9.0		31	W	1					35
TALLAHASSEE	64	1014.8	1017.5	83	60	71.8	- 2.4	92	21+	51	4	3	0	61	72	2.40	-1.36	1.08	9	7	0.0	0	8.5	N	40*	NW	21	7	14	10	5.7	
TAMPA	19	1016.0	1017.7	86	67	76.7	0.2	92	31+	63	28+	5	0	65	70	2.14	-1.15	1.06	7	4	0.0	0	11.1	W	29*	W	9	12	11	8	5.1	66
WEST PALM BEACH	15	1015.9	1017.0	86	69	77.5	0.4	95	22+	57	11	5	0	67	72	5.09	0.03	1.47	12	10	0.0	0	10.3	ESE	35*	W	10	6	15	10	6.0	
GEORGIA																																
ATHENS	798	988.9	1018.0	77	55	65.5	- 4.9	86	31+	40	27	0	0	56	74	3.39	-0.44	1.05	7	2	0.0	0	6.1	NE	21*	NE	17	8	7	16	6.4	
ATLANTA	975	976.2	1017.6	75	55	65.2	- 4.8	85	31	41	27	0	0	54	70	3.18	-0.64	1.20	10	3	0.0	0	10.6	NW	29*	SW	9	6	13	12	6.1	58
AUGUSTA	143	1009.9	1017.2	80	58	68.8	- 2.7	89	8	45	28	0	0	59	75	4.10	0.82	1.44	9	4	0.0	0	5.5	SE	17*	SSE	25+	4	12	15	6.6	
COLUMBUS	385	1003.2		82	56	69.0	- 3.0	90	31	43	28	1	0			3.93	0.85	1.41	8	4	0.0	0	7.0		35*	S	1	8	10	13	5.9	
MACON	356	1003.6	1017.2	81	58	69.8	- 3.8	90	22+	45	27+	2	0	57	70	5.26	2.04	1.64	10	5	0.0	0	8.3	NW	30	SW	1	8	10	13	6.1	62
ROME	637	994.3		77	51	64.1	- 5.1	86	31+	37	3	0	0			2.60	-1.47	1.10	11	6	0.0	0						7	8	16	6.2	
SAVANNAH	48	1015.4	1017.9	81	61	71.3	- 1.6	90	19	48	28	1	0	61	75	3.50	0.59	1.31	7	4	0.0	0	7.7	SSE	28	N	27	7	12	12	5.9	67
THOMASVILLE U	283			84	62	73.2	- 1.0	92	19+	51	27	6	0			4.82	1.20	1.45	9	5	0.0	0										
HAWAII																																
HILO	31	1017.3	1018.6	81	66	73.7	0.6	84	16+	62	9	0	0	66	79	8.12	-0.88	1.24	27	1	0.0	0	7.2	WSW	20*	SE	3+	0	11	20	8.2	31
HONOLULU	7	1018.0	1018.5	84	72	78.0	1.9	87	13+	70	26+	0	0	64	64	0.23	-0.17	0.09	6	0	0.0	0	12.7	ENE	32	NE	20+	4	19	8	6.0	86
LIHUE	115	1013.9	1019.3	83	72	77.4	3.3	85	15	67	1	0	0	67	72	4.48	1.97	3.30	16	1	0.0	0	14.0	NE	49	NE	21	2	16	13	6.6	72
IDAHO																																
BOISE	2841	917.0	1012.5	73	43	57.9	- 0.2	96	25	29	5	1	2	36	50	0.54	-0.55	0.18	9	2	T	0	9.3	WNW	29	E	26+	7	14	10	5.5	75
IDAHO FALLS 42NW R	4790			70	37	53.5	1.5	86	28	20	8	0	9			0.69	-0.35	0.32	6				10.1	SSW	36A	SW	10					
IDAHO FALLS 46W R	4933	845.6	1011.5	68	38	52.8	0.2	84	28	22	3	0	9			1.55	0.53	1.11	5	1	0.0	0	9.8	SW	34A	SW	10					
LEWISTON	1413	963.4	1015.2	69	45	56.8	- 2.1	92	25	36	3	1	0			1.86	0.44	0.38	12	4	0.0	0						4	10	17	7.3	
POCATELLO	4444	861.2	1013.0	69	42	55.1	- 0.2	87	28	28	3	0	3	33	48	1.29	0.08	0.90	9	4	0.4	T	11.3	SW	38	W	1	6	11	14	6.5	61
ILLINOIS																																
CAIRO U	314	1004.4		74	55	64.4	- 4.4	90	31	42	27	1	0			8.86	4.77	4.01	13	8	0.0	0	8.7	N#	49	SW	7	10	9	12	5.9	70
CHICAGO O HARE	658	992.9	1017.7	67	43	54.8		86	13	31	2	0	2	41	60	2.03		0.79	8	4	0.0	0	10.4	NNE	35*	N	25	15	3	13	5.1	
CHICAGO MIDWAY	610	995.3	1018.2	67	47	57.2	- 2.0	87	31	35	27	0	0	40	56	1.53	-2.13	0.62	9	3	0.0	0	11.0	SW	34	S	14	14	5	12	5.1	63
MOLINE	582	994.6	1016.9	70	46	58.1	- 2.8	92	31	33	3+	1	0	44	61	1.98	-1.46	0.86	7	3	0.0	0	9.9	SE	42	SW	14	9	11	11	5.7	65
PEORIA	652	995.6	1017.9	68	45	56.5	- 4.5	86	31	31	2	0	1	44	65	2.19	-1.75	0.95	7	4	0.0	0	11.1	S	29	SE	14	7	11	13	5.9	61
ROCKFORD	728	990.2	1017.7	68	45	56.3	- 2.4	87	31	31	2	0	2	41	60	1.44	-1.98	0.65	9	3	0.0	0	9.4	SSE	38*	SW	14	12	7	12	5.2	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation of ground	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F or above	No. of days: Min 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0.3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb	Mb	F	F	F	F	F		F				F	%	In	In	In			In.	In.	M p h.		M p h							%
ILLINOIS																																
SPRINGFIELD	588	993.9	1017.3	70	47	58.4	- 3.6	90	31	33	2	1	0	46	66	4.22	0.03	1.91	9	7	0.0	0	12.7	S	38	SE	7	7	11	13	5.9	66
INDIANA																																
EVANSVILLE	383	1001.7	1017.5	72	50	61.4	- 4.1	88	31	35	27	0	0	49	66	12.22	8.32	6.05	8	7	0.0	0	9.2	NW	47	NW	7	11	6	14	5.7	67
FORT WAYNE	801	986.8	1018.0	67	45	56.2	- 2.8	82	14+	31	27	0	1	43	63	2.18	-1.26	1.38	9	3	0.0	0	13.6	NNW	40	SW	6	12	7	12	5.4	68
INDIANAPOLIS	793	987.8	1017.9	68	45	56.4	- 5.0	82	14	31	27+	0	2	46	71	6.46	2.61	3.53	14	5	0.0	0	8.8	N	29	W	15+	10	9	12	5.9	61
SOUTH BEND	768	989.5	1017.6	66	42	54.2	- 4.2	81	14+	30	27	0	2	42	65	1.19	-2.65	0.42	9	2	T	0	12.1	NNW	29*	SSW	6	15	4	12	4.9	
IOWA																																
BURLINGTON	694	991.9	1017.7	70	46	58.2	- 3.7	85	31+	32	2	0	1	44	62	1.63	-2.19	0.62	8	4	0.0	0	11.7	ESE	38	E	5	8	11	12	6.0	72
DES MOINES	948	986.1	1017.5	70	48	58.7	- 2.5	86	12	31	2	0	1	43	61	1.58	-2.02	0.57	11	4	0.0	0	12.6	SSE	45	SE	5	7	10	14	6.5	69
DUBUQUE	1065	991.9	1017.6	66	44	55.1	- 2.8	86	31	31	1	0	1	40	56	1.65	-1.82	0.67	6	1	0.0	0						10	8	13	5.5	
SIOUX CITY	1095	974.6	1015.9	70	48	59.0	- 1.4	87	12+	30	2	0	2	42	58	5.11	1.77	1.73	11	8	0.0	0	14.0	ESE	46	S	10	6	8	17	6.9	56
WATERLOO	868	984.8	1017.0	68	44	56.1	- 3.4	86	31+	29	2	0	3	45	68	3.12	-0.42	0.98	10	3	0.0	0	10.3	SSE	38*	ESE	5	10	7	14	5.9	
KANSAS																																
CONCORDIA U	1375	967.8		69	51	60.1	- 3.1	88	31	34	1	0	0		70	8.91	5.30	2.52	13	12	0.3	T	8.7	E#	32	W	17	8	11	12	6.0	63
DODGE CITY	2594	925.5	1012.7	74	50	62.3	- 0.7	94	30	35	2	4	0	47	63	2.82	-0.09	1.78	5	4	0.0	0	14.5	SSE	54	S	30	7	11	13	6.2	67
GOODLAND	3645	886.6	1012.9	69	44	56.5	- 1.6	90	30	34	15	1	0	45	72	3.69	1.00	1.20	15	13	0.0	0	14.5	SSE	58*	NNW	14	8	10	13	6.3	
TOPEKA	877	979.7	1015.7	70	50	59.8	- 4.0	87	31	29	2	0	1	50	71	5.29	0.97	1.91	14	12	0.0	0	14.2	E	67	SE	5	8	8	15	6.6	52
WICHITA	1321	965.5	1013.9	74	53	63.3	- 1.6	91	31	34	2	1	0	52	71	4.02	0.23	2.32	11	10	0.0	0	13.4	S	56	SE	4	6	12	13	6.2	65
KENTUCKY																																
LEXINGTON	979	982.2	1018.2	70	49	59.3	- 4.8	83	14	33	2	0	0	48	69	6.14	2.58	2.82	12	6	0.0	0	10.1	S				9	8	14	6.1	
LOUISVILLE	474	998.5	1017.7	71	48	59.0	- 6.3	82	14	33	2	0	0	49	71	9.00	5.07	4.60	9	5	0.0	0	7.8	NNE	34	W	7	9	9	13	5.8	57
LOUISIANA																																
ALEXANDRIA	92	1012.2	1016.6	83	58	70.4		89	20+	43	11+	0	0	61	76	3.85		1.25	7	6	0.0	0	6.7	SSW				11	11	9	5.1	
BATON ROUGE	64	1013.9	1016.8	82	61	71.7	- 1.9	88	19	47	28	0	0	63	77	3.80	-1.12	1.47	8	8	0.0	0	9.2	S				10	12	9	5.1	
LAKE CHARLES	12	1014.6	1015.1	84	66	75.0	0.5	93	23	52	27	5	0	65	73	4.11	-0.62	1.57	8	8	0.0	0	5.6	SSE	21*	S	7	8	8	15	5.8	
NEW ORLEANS U	9			83	67	75.1	- 1.0	90	19+	54	27	2	0		72	8.60	3.17	3.55	9	8	0.0	0	6.9		27	SE	24	16	15	0	3.3	85
NEW ORLEANS	3	1014.9	1016.9	83	63	72.7	- 1.9	88	23+	52	11	0	0	65	78	6.46	0.92	1.90	9	9	0.0	0	9.1	SSE	23*	NNW	23+	11	12	8	4.6	
SHREVEPORT	252	1007.1	1016.4	83	61	71.7	- 2.0	91	25	46	28	3	0	58	66	1.46	-3.09	0.76	6	3	0.0	0	10.7	SSE				10	10	11	5.4	71
MAINE																																
CARIBOU	624	991.0	1014.6	57	37	47.3	- 1.2	81	14	27	18	0	9	37	72	4.71	1.57	2.09	18	2	1.0	4	12.5	NW	38*	W	28	3	8	20	7.6	
PORTLAND	61	1011.6	1015.7	62	41	51.1	- 1.2	84	25	28	6	0	5	41	71	2.97	-0.39	1.12	10	1	T	0	10.0	S	32	SE	25+	6	10	15	6.9	57
MARYLAND																																
BALTIMORE	146	1012.9	1017.9	72	49	60.3	- 2.6	90	9	37	5	1	0	48	67	2.72	-1.29	0.69	10	1	0.0	0	10.6	W	65	SW	9	7	11	13	6.2	67
BALTIMORE U	14			71	54	62.8	- 2.5	89	9	44	28	0	0			2.49	-1.52	0.61	12													
FREDERICK	294			69	47	57.9	- 6.0	85	8	35	5	0	0			2.83	-0.77	0.69	12		0.0	0										
MASSACHUSETTS																																
BLUE HILL OBS R	629	957.9		64	45	54.5		86	15	35	31+	0	0		71	4.10	0.60	2.05	11		0.0	0	15.2	NNW	43	NW	3					50
BOSTON	15	1010.9	1015.6	64	48	56.3	- 1.5	88	15	38	3	0	0	43	67	4.51	1.60	2.33	11	1	0.0	0	12.7	SW	37	W	3	5	11	15	6.8	56
NANTUCKET	43	1015.8	1016.6	57	45	50.6	- 1.7	66	13	34	6+	0	0	44	80	5.69	2.78	2.65	12	0	0.0	0	14.1	SW	32	W	28	7	7	17	7.0	55
PITTSFIELD	1170			64	41	52.4	- 1.9	83	14	26	1	0	6			3.55	-0.21	0.79	17		0.1	T										
WORCESTER	986	978.5	1011.7	63	44	53.7	- 2.3	87	14	33	31+	0	0	41	65	3.40	0.04	1.21	15	2	0.0	0	9.3	W	25*	ENE	2	3	12	16	7.2	
MICHIGAN																																
ALPENA	689	991.9		63	34	48.7	- 3.5	86	13	23	17+	0	19	36	58	1.45	-1.48	0.44	8	3	1.5	1	8.4	NW#	27	NW	9	7	10	14	6.0	58
DETROIT	619	991.2	1018.0	66	45	55.8	- 2.0	82	14	33	4+	0	0	41	60	2.54	-1.07	0.68	9	1	T	T	10.9	N	36	NW	2	11	7	13	5.7	61
DETROIT M WAYNE CO	630	993.2	1017.4	66	44	54.7		83	14	32	2	0	1	42	64	2.21		0.72	8	2	T	0	11.6	WSW				12	8	11	5.5	
DETROIT WILLOW RUN	722	989.8	1017.5	67	44	55.5	- 2.7	84	14	32	2	0	1	40	60	1.80	-1.64	0.63	9	1	T	0	13.0	SW	35*	W	2	13	8	10	5.7	
ESCANABA U	594	994.9		58	40	48.5	- 1.3	85	24	28	1	0	2		67	1.69	-0.91	0.67	10	3	T	T	11.2		45	N	15	10	9	12	5.5	58
FLINT	766	989.5	1018.1	65	40	52.5	- 3.3	82	14	29	2	0	5	40	64	1.25	-2.14	0.50	11	2	0.6	T	9.8	WSW	28*	SW	28	11	5	15	6.0	
GRAND RAPIDS	681	992.6	1018.0	67	42	54.3	- 2.0	85	13	30	27	0	4	38	58	1.03	-2.42	0.35	9	1	T	T	10.6	WSW	33	W	28	13	4	14	5.1	67
LANSING	852	985.4	1017.7	66	40	52.9	- 3.6	81	13	27	27	0	7	38	60	1.00	-2.75	0.31	9	1	0.0	0	13.9	NNW	45	SW	15	12	5	14	5.6	75
MARQUETTE U	677	990.5		57	39	48.0	- 1.6	83	24	27	1	0	5		60	2.37	-0.27	0.99	10	2	1.7	1	8.6	NW#	34	S	11	10	8	13	6.0	66

See footnotes at end of table

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State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max. 90 F. or above	No of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 01 inch or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
MICHIGAN	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In	In.	In.			In.	In.	M.p.h		M.p.h							%
MUSKEGON	627	994.6	1018.1	63	41	52.3	- 2.0	81	12	27	27	0	4	35	54	1.01	-1.81	0.21	9	3	T	0	11.0	W	27*	SW	25+	16	3	12	4.5	
SAULT STE MARIE	721	994.6	1017.5	58	36	47.0	- 1.9	82	13	23	10	0	9	35	66	1.75	-0.80	0.73	9	3	0.9	T	11.2	WNW	32*	NW	9	8	8	15	6.3	58
MINNESOTA																																
DULUTH	1408	976.3	1018.3	62	38	49.8	0.1	82	31	26	2	0	8	34	60	3.26	0.09	1.32	10	2	2.5	2	13.4	E	46	NE	14	12	7	12	5.1	67
INTERNATIONAL FALLS	1179	977.0	1018.6	64	37	50.4	- 0.5	83	30+	25	2	0	10	33	56	1.76	-0.77	0.50	7	3	T	0	8.3	N	25*	NW	8	12	10	9	4.9	
MINNEAPOLIS	830	983.1	1017.5	67	43	54.7	- 3.8	90	12	24	2	1	3	40	60	3.48	0.36	1.27	9	3	0.0	0	11.7	N	40	S	11	13	7	11	5.2	71
ROCHESTER	1297	969.2	1017.2	66	42	54.1	- 2.7	85	12	25	1	0	4	41	64	5.32	1.94	1.80	10	4	0.0	0	12.3	S				12	6	13	5.5	
ST CLOUD	1034	979.3	1017.7	66	41	53.5	- 1.7	90	31	24	1	1	5	36	57	2.77	-0.33	1.38	9	3	T	0						12	6	13	5.3	
MISSISSIPPI																																
JACKSON	305	1004.8	1016.8	82	59	70.4	- 1.9	90	31	43	28	1	0	58	66	2.96	-1.13	2.02	7	5	0.0	0	5.6	S	37	NW	8	9	13	9	5.0	68
MERIDIAN	292	1003.4	1017.5	82	56	69.3	- 2.2	90	31+	42	28	2	0	59	73	3.02	-0.97	0.90	8	6	0.0	0	7.3	SSW	21*	W	25	11	10	10	5.3	
VICKSBURG U	234	1007.8		80	62	70.9	- 2.0	89	19	47	27	0	0			2.36	-1.86	1.07	8	6	0.0	0	8.3		25	NE	26+	13	7	11	5.0	70
MISSOURI																																
COLUMBIA	778	987.5	1016.2	70	50	60.2	- 3.4	88	13	33	2	0	0	47	65	6.33	1.49	2.26	8	8	0.0	0	11.3	SSE	47	NW	25	6	9	16	6.4	55
KANSAS CITY	742	981.0	1016.0	70	51	60.6	- 4.9	87	31	34	2	0	0	48	65	5.20	0.79	2.09	10	7	0.0	0	10.8	ENE	43	SW	14	9	6	16	6.4	55
ST JOSEPH	809	981.0		71	50	60.4	- 4.1	89	31	30	2	0	1			4.26	0.19	2.04	11	8	0.0	0	13.1	S	44*	NW	7	9	7	15	6.5	
ST LOUIS	535	996.6	1017.5	70	47	58.3	- 7.1	88	31	32	2	0	1	45	63	7.25	3.23	2.90	8	6	0.0	0	10.2	SSE	36	SE	14	8	9	14	6.2	59
ST LOUIS RFC	465			71	53	62.0	- 4.2	89	31	42	26+	0	0			11.05	6.92	4.09	8		0.0	0										
SPRINGFIELD	1265	968.8	1016.3	72	50	61.1	- 2.5	85	31	30	2	0	1	51	71	9.36	4.34	2.86	13	11	0.0	0	12.7	SSE	42	SW	14	8	8	15	6.5	47
MONTANA																																
BILLINGS	3567	889.6	1012.7	68	45	56.6	0.6	87	29	35	8+	0	0	40	60	1.57	-0.23	1.04	9	3	0.0	0	10.2	NE	58	NW	10	5	11	15	6.5	57
GLASGOW	2277	940.1	1014.2	69	44	56.4	0.9	90	29	29	1	1	2	38	56	1.04	-0.51	0.59	8	5	0.0	0						6	7	18	6.8	
GREAT FALLS	3662	886.9	1013.1	67	43	54.8	1.0	86	26	30	8	0	2	37	57	1.80	-0.13	0.82	11	4	T	0	8.5	SW	41	NW	10	7	8	16	6.4	63
HAVRE U	2581	924.8	1013.5	69	43	56.2	0.5	93	29	29	8+	1	2			1.31	-0.17	0.72	11	4	0.0	0	8.8	E#	36	W	10+	9	7	15	6.3	66
HELENA	3893	872.0	1013.4	66	41	53.7	1.4	86	26	28	3	0	5	36	56	1.36	-0.24	0.34	14	6	T	T	8.7	WNW	45	NW	10	6	11	14	6.5	60
KALISPELL	2965	910.3	1013.5	64	41	52.4	0.0	87	25	32	3	0	1			2.35	0.72	0.62	13	5	4.1	1	6.4					5	11	15	6.5	
MILES CITY	2629	930.2	1014.1	70	47	58.2	1.1	90	28	34	8	1	0	43	63	2.34	0.63	1.23	14	6	0.0	0	9.9	SE	35*	NW	10	7	8	16	6.9	
MISSOULA	3200	901.1	1015.6	65	37	51.1	- 2.5	86	25	26	3	0	10	41	72	2.58	0.94	0.97	19	5	6.5	5	7.3	NW	35	SW	26	5	11	15	6.6	56
NEBRASKA																																
GRAND ISLAND	1842	948.9	1014.8	68	47	57.7	- 3.4	88	30+	28	2	0	1	46	69	7.49	3.62	2.95	14	7	0.0	0	14.4	ESE				7	9	15	6.3	
LINCOLN U	1150			69	49	59.4	- 3.1	89	28	31	2	0	1			3.50	0.40	1.25	10	6	0.0	0	11.9	SE#	46	SE	11	10	7	14	5.8	62
NORFOLK	1544	959.4	1014.9	68	47	57.3	- 1.8	85	31	26	2	0	2	42	59	4.02	0.39	1.96	8	5	0.0	0						6	11	14	6.6	
NORTH PLATTE	2779	915.0	1013.4	66	45	55.2	- 3.7	87	30+	33	9+	0	0	44	69	5.15	2.48	1.38	17	9	0.0	0	14.4	SE	61	NW	31	7	7	17	7.0	47
OMAHA	978	975.6	1015.9	71	50	60.1	- 2.6	88	31	31	2	0	1	44	61	5.98	3.23	3.36	9	6	0.0	0	13.3	SSE	42	E	30	7	10	14	6.5	56
OMAHA N OMAHA AP	1323	967.5		69	48	58.5	- 2.1	85	31	31	2	0	2			4.15	1.40	2.11	7	5	0.0	0						5	10	16	6.7	
SCOTTSBLUFF	3950	877.8	1013.3	67	42	54.7	- 1.5	89	10	31	6	0	2	44	66	4.02	1.38	1.45	16	10	1.0	1	14.0	ESE	44*	NNE	13	6	9	16	6.7	
VALENTINE	2587	923.8		66	44	54.8	- 2.2	92	10	28	2	1	3		70	3.63	0.97	1.24	10	5	T	0	12.7	SE#	42	NE	13	7	6	18	6.8	47
NEVADA																																
ELKO	5075	842.2	1011.7	70	36	52.5	- 0.5	86	25	15	5	0	11	25	36	0.50	-0.45	0.23	5	2	T	0	6.6	SW	25*	S	19	8	13	10	5.8	
ELY	6257	806.6	1011.3	67	34	50.2	- 1.5	79	25	15	5	0	14	22	39	0.64	-0.54	0.29	7	1	4.1	2	12.6	S	54	SE	31	7	10	14	5.9	81
LAS VEGAS	2162	943.8	1008.3	87	58	72.9	- 1.2	96	25+	49	8	13	0	25	19	T	-0.16	T	0	0	0.0	0	12.4	SSW	32*	NW	12+	23	4	4	2.6	92
RENO	4404	860.5	1013.6	71	36	53.4	- 1.9	85	25	24	13	0	10	31	45	0.91	0.43	0.75	5	3	0.0	0	7.7	WNW	38	W	1	13	11	7	4.8	76
WINNEMUCCA	4299	866.2	1013.9	71	35	52.9	- 3.0	90	25	16	5	1	12	29	44	0.61	-0.23	0.27	6	2	T	0	9.6	W	47	W	1	8	13	10	5.5	70
NEW HAMPSHIRE																																
CONCORD	339	1005.1	1016.0	66	41	53.2	- 1.6	91	14	26	6	2	7	40	65	2.85	-0.19	0.96	12	2	0.0	0	6.5	NW	25	W	28	6	7	18	6.9	50
MT WASHINGTON OBS	6262	804.4		37	26	31.5	- 3.8	57	15+	8	5	0	23		86	3.00	-2.32	1.11	15	3	6.5	15	28.7	W	112Y	W	3	4	8	19	7.5	35
NEW JERSEY																																
ATLANTIC CITY	58	1014.8	1017.6	69	49	59.2	- 1.0	83	8	37	4	0	0	47	69	3.17	0.19	1.12	13	2	0.0	0	12.1	S	29	NW	27	6	10	15	6.9	51
ATLANTIC CITY U	30			62	49	55.4	- 3.7	72	31+	39	4	0	0			3.05	0.07	1.30	13				12.8		29	W	29+					
NEWARK	11	1015.7	1017.1	69	50	59.7	- 1.4	86	25	42	28+	0	0	45	61	3.35	-0.38	1.06	14	4	0.0	0	9.9	NW	27*	NW	31+	7	7	17	7.0	
TRENTON U	56	1009.4		69	49	59.1	- 2.7	85	9	41	27+	0	0			3.56	0.08	0.91	15	6	0.0	0	9.7	NW	33	NW	26	6	9	16	6.8	50

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CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0.3	No. of days (sunrise to sunset): Partly cloudy, 4.7	No. of days (sunrise to sunset): Cloudy, 8.10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In	In.	In			In.	In	M.p.h		M.p.h							%
NEW MEXICO																																
ALBUQUERQUE	5310	846.6	1009.0	82	50	65.9	0.6	91	31	37	6	4	0	27	28	0.01	-0.86	0.01	1	0	0.0	0	10.0	S	43	E	23+	16	11	4	3.9	85
CLAYTON	4969	844.2	1011.2	76	44	60.3	0.4	90	31+	32	6	2	1			0.57	-2.02	0.23	10	8	0.0	0						3	19	9	5.9	
RATON	6379	804.6	1011.5	74	41	57.1	1.4	86	11	29	6	0	2			1.89	-0.28	1.31	7	7	T	0						6	19	6	5.5	
ROSWELL	3612	890.6	1009.8	90	49	69.3	1.2	102	31	34	6	17	0	37	37	0.44	-0.84	0.41	2	2	0.0	0	11.2		38	W	13	12	14	5	4.2	
SILVER CITY	5373	832.7	1009.7	83	47	64.7		90	19	36	6	1	0			0.00		0.00	0	0	0.0	0						19	10	2	3.2	
NEW YORK																																
ALBANY	277	1012.2	1016.1	67	44	55.4	- 2.1	87	14	28	1	0	3	44	67	4.44	1.64	0.97	15	5	T	0	9.5	WNW	31	NW	16	4	8	19	7.5	44
BINGHAMTON	1590	957.0	1016.4	62	43	52.3	- 2.6	80	14	32	1	0	1	42	71	3.13	-0.74	0.67	18	7	T	T	11.1	NW	35	NW	3	3	9	19	7.5	55
BUFFALO	693	988.8	1017.3	63	43	53.1	- 2.3	87	15	33	2	0	0	44	73	3.01	0.54	1.02	13	2	T	T	12.2	SW	34	SW	28	3	12	16	7.2	56
NEW YORK	19	1014.8	1016.9	66	51	58.6	- 2.7	81	25	41	27	0	0	45	66	3.97	0.64	1.73	15	4	T	0	11.8	NE	40	NW	26	6	6	19	7.1	
NEW YORK U	10	1005.0		69	51	59.9	- 2.0	85	25	41	27	0	0	44	61	3.60	-0.16	1.43	15	2	0.0	0	9.2	NW	26	NW	3	9	10	12	6.0	43
ROCHESTER	543	997.6	1017.0	65	43	53.9	- 2.5	88	15	30	2	0	1	42	67	2.96	0.32	1.00	15	3	T	0	13.0	WSW	45	W	28	3	13	15	6.8	59
SCHENECTADY	217			64	43	53.4	- 4.7	84	14	30	6	0	2			2.85	-0.13	0.51	12	1	0.0	0						17	9	5	4.0	
SYRACUSE	424	993.1	1016.5	66	45	55.5	- 2.2	85	14	33	1	0	0	42	63	2.40	-0.50	0.57	14	4	T	T	11.7	WNW	38	W	3	5	13	13	6.7	45
NORTH CAROLINA																																
ASHEVILLE U	2203	938.9		71	49	60.0	- 3.4	84	31+	35	28+	0	0			3.04	0.01	1.56	10	3	0.0	0	9.2		25	NW	26+	9	7	15	6.1	54
CAPE HATTERAS R	9	1017.2	1018.0	71	55	63.0	- 5.2	80	16+	43	3	0	0	56	77	4.36	0.43	1.47	13	5	0.0	0	12.5	SW	34	SW	2	8	13	10	5.7	62
CHARLOTTE	725	990.0	1018.1	73	54	63.8	- 4.5	82	8	41	27	0	0	53	70	3.19	0.21	1.14	12	2	0.0	0	7.4	NNE	21	SW	9+	7	11	13	6.2	62
GREENSBORO	891	986.5	1018.6	74	51	62.9	- 3.4	84	8	36	28+	0	0	50	66	4.31	0.67	2.14	16	5	0.0	0	7.9	SW	25	SW	1	9	11	11	5.7	64
RALEIGH	433	1004.1	1018.0	76	52	64.2	- 3.1	86	8	37	28	0	0	52	68	3.02	-0.38	1.44	12	5	0.0	0	8.7	SSW	24*	NW	27	8	12	11	5.7	50
WILMINGTON	30	1015.0	1017.9	77	58	67.3	- 2.7	85	26+	44	28	0	0	58	76	3.70	0.27	1.27	11	3	0.0	0	10.0	SSW	33	SW	1	5	14	12	6.2	67
WINSTON SALEM	967	982.8	1018.2	74	53	63.5	- 3.2	85	8	39	3	0	0	48	60	3.78	-0.15	1.37	13	4	0.0	0	9.5	SW	38*	NE	11	11	9	11	5.5	
NORTH DAKOTA																																
BISMARCK	1647	956.7	1017.5	68	41	54.3	- 0.5	92	30	20	1	1	5	38	59	0.80	-1.14	0.30	9	2	T	0	12.9	SE	42	NW	7	7	7	17	6.7	74
DEVILS LAKE U	1471	964.4		65	38	51.7	- 1.3	85	21	21	1	0	6		51	0.83	-1.30	0.62	5	2	0.2	T	9.2	NE#	28	S	30	11	11	9	5.3	74
FARGO	900	983.7	1018.5	67	39	53.2	- 1.8	90	31	20	2	1	8	37	58	2.71	0.54	0.93	6	3	T	T	14.2	S	36	S	30	11	8	12	5.4	64
WILLISTON U	1877	948.2	1016.1	66	45	55.4	0.8	88	30	31	1	0	2	38	56	0.58	-1.08	0.31	4	0	0.1	T	8.6	SE#	31	S	29	7	8	16	6.5	72
OHIO																																
AKRON	1210	979.8	1018.3	65	43	53.8	- 4.7	84	14	30	27+	0	4	43	68	2.64	-1.11	0.68	10	6	T	0	11.0	NW				7	7	17	6.7	
CINCINNATI OBS	761			70	48	59.3	- 4.3	84	14	34	27	0	0			6.46	2.92	2.76	15	4	0.0	0	6.1	N	26	N	8					62
CINCINNATI	869	986.2	1018.3	70	49	59.3	- 3.2	85	14	32	2	0	1	45	63	7.31	3.86	3.39	11	4	0.0	0	10.1	SSW	38*	NW	8	7	10	14	6.6	
CLEVELAND	787	989.7	1017.8	66	43	54.3	- 4.8	83	14	28	4	0	3	42	67	1.31	-1.42	0.39	11	2	T	0	11.0	S	40	SW	15	7	10	14	6.4	71
COLUMBUS	815	987.6	1018.4	68	45	56.5	- 4.3	84	14	32	2	0	1	46	69	2.90	-1.07	1.46	12	5	0.0	0	8.5	SSW	29	W	8	5	14	12	6.4	68
COLUMBUS U	724			68	48	58.2	- 4.0	85	14	34	2	0	0			3.03	-0.20	1.57	12	7	0.0	0										
DAYTON	1002	981.7	1018.2	67	46	56.8	- 4.2	81	14	31	2	0	1	44	65	2.81	-0.73	0.99	11	3	0.0	0	10.2	SSW	48	W	15	8	10	13	6.3	60
MANSFIELD	1296			65	44	54.2		80	14	30	2	0	2			1.50		0.41	11	5	T	0						5	11	15	6.7	
SANDUSKY U	603	996.1		65	48	56.4	- 2.9	85	14	37	2	0	0			2.06	-1.26	0.46	10	4	T	T	9.1		48	W	15	11	11	9	5.0	61
TOLEDO	676	992.6	1018.2	66	43	54.6	- 3.6	82	14	30	4+	0	3	42	64	2.15	-0.80	0.52	10	3	T	0	10.2	WSW	31	W	2	11	0	10	5.5	63
YOUNGSTOWN	1178	975.1	1018.1	64	42	52.8	- 5.5	83	14	29	2	0	4	41	66	1.94	-2.15	0.47	10	4	T	T	10.5	NNW	37*	SW	15	6	8	17	6.9	
OKLAHOMA																																
OKLAHOMA CITY	1280	971.2	1014.2	79	57	67.7	- 0.3	91	29	39	2	2	0	54	65	1.92	-2.33	0.65	7	10	0.0	0	15.1	SSE	42	SE	8	7	10	14	6.0	62
TULSA	650	990.5	1014.8	76	56	65.9	- 2.3	89	31+	35	2	0	0	56	73	9.09	4.32	3.66	11	12	0.0	0	12.9	SSE	40	W	8	6	12	13	6.0	63
OREGON																																
ASTORIA	8	1016.9	1017.4	60	45	52.6	- 0.9	81	19	36	11	0	0	46	79	2.90	-0.63	0.76	14	1	0.0	0	9.0	WNW	32*	S	1	3	5	23	8.0	
BURNS U	4151	871.3	1014.2	65	36	50.4	- 3.7	83	25	25	2	0	9	33	54	0.82	0.07	0.20	9	1	T	T						8	10	13	6.0	
EUGENE	361	1004.1	1017.8	65	45	54.9	- 1.5	84	19	38	4+	0	0			2.87	0.88	0.75	17	0	0.0	0	9.4		46*	SW	1	4	5	22	7.7	
MEACHAM	4050			55	38	46.7	- 1.3	81	25	27	5	0	4			2.59	0.22	0.72	18	3	3.3	T						4	7	20	7.7	
MEDFORD	1298	969.2	1017.0	69	42	55.6	- 3.1	89	19	33	24	0	0	43	68	1.86	0.64	0.53	12	0	0.0	0	5.3	WNW	21*	NW	22	7	8	16	6.5	
PENDLETON	1482	961.4	1015.2	69	46	57.4	- 2.4	87	25	37	4	0	0	39	55	0.94	-0.03	0.42	11	3	0.0	0	9.5	W	32*	W	1	5	10	16	6.7	
PORTLAND	21	1011.2	1016.9	66	47	56.6	- 1.0	91	19	39	12	1	0	47	74	2.80	1.04	0.61	17	2	0.0	0	7.2	NW	29	SW	1	3	5	23	8.0	48
ROSEBURG	505	998.6	1018.0	68	45	56.5	- 0.3	88	19	37	27+	0	0			2.49	0.76	0.55	14	0	0.0	0	4.8	N#	20	NW	19	3	9	19	7.5	53
SALEM	195	1009.8	1017.1	64	44	54.0	- 3.2	87	19	37	12	0	0	46	78	2.44	0.51	0.43	19	0	0.0	0	6.6	S	21*	S	10	4	4	23	7.7	
SEXTON SUMMIT R	3836	883.5	1016.9	55	36	45.5	- 5.0	78	19	28	4+	0	8			3.78	1.83	0.77	11	0	5.2	3	11.0	S				5	4	22	7.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

MAY 1961

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 01 inch or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb	Mb	F	F	F	F	F		F				F	%	In.	In	In			In	In.	M.p.h.		M.p.h							
PACIFIC AREA																																
CANTON ISLAND	8	1008.5	1008.9	89	79	84.1	- 0.1	91	26+	76	23	15	0	76	81	2.80	-0.06	0.73	16	0	0.0	0	12.6	ENE	26*	ENE	23+	2	11	18	7.7	
ENIWETOK	13	1009.8	1010.5	86	78	82.1		88	30+	74	16	0	0	76	80	7.18		1.70	20	0	0.0	0	20.2									
JOHNSTON	7	1014.2	1014.8	83	74	78.6		87	4+	72	25+	0	0	72	77	0.40		0.11	8	0	0.0	0	18.6		37	E	12	1	18	12	6.5	72
KOROR R	94	1006.1	1009.9	88	76	81.7	0.4	90	31+	73	19	8	0	76	88	20.14	5.99	3.99	26	2	0.0	0	5.2	SE	27	NW	21	0	0	31	9.8	36
KWAJALEIN	8	1009.8	1010.7	86	77	81.1		88	9	73	31+	0	0	76	84	13.71		2.70	27	1	0.0	0	16.3	ENE	33*	ENE	28	0	6	25	8.6	
MAJURO	10	1010.2	1010.5	86	78	81.5		88	17	74	28+	0	0	76	82	8.34		1.78	26	0	0.0	0	11.8	ENE	29	E	28	2	2	27	9.1	
PONAPE R	123	1004.4	1009.3	86	74	80.2	- 1.3	90	20	71	26	1	0	76	87	22.21	2.55	3.50	29	1	0.0	0	5.7	NE	22	NE	15	0	1	30	9.4	43
TAGUAC GUAM R	361			86	74	80.3	0.5	87	29+	68	21	0	0			5.37	1.33	1.04	24	1	0.0	0	8.8	E#	24	E	8+					38
TRUK MOEN ISLAND	5	1008.8	1009.1	86	77	81.6	0.7	89	1	74	11+	0	0	77	86	22.36	9.46	4.98	28	3	0.0	0	5.9	NNE	37	NE	23	0	0	31	9.6	82
WAKE ISLAND	11	1015.9	1016.3	84	74	79.2	- 0.2	86	31+	70	13+	0	0	70	75	0.50	-1.81	0.23	7	0	0.0	0	17.5	ENE	29*	ENE	11+	14	9	8	5.0	
YAP R	55	1006.4	1008.4	86	76	81.2	- 1.1	89	31+	73	22	0	0	77	86	18.08	8.93	3.50	28	0	0.0	0	9.3	NE	27	SE	21+	0	0	31	9.9	22
PENNSYLVANIA																																
ALLENTOWN	376	1003.2	1017.6	68	47	57.6	- 2.9	82	25+	36	4	0	0	46	68	2.36	-1.61	0.67	15	4	0.0	0	11.3	NW	46*	W	3	8	5	18	6.9	
ERIE	732	990.8	1017.3	63	44	53.6	- 1.5	82	15	32	2	0	1	43	69	2.05	-1.14	0.48	10	4	T	T	12.2	WSW	30*	S	15	7	8	16	6.6	
HARRISBURG	335	1003.5	1017.5	69	50	59.1	- 3.3	86	9	39	5	0	0	44	62	2.03	-1.67	0.57	14	5	0.0	0	8.8	W	33	W	9	5	9	17	7.1	53
PHILADELPHIA	7	1012.5	1017.0	69	49	58.6	- 4.5	84	9	37	4	0	0	47	67	3.38	-0.20	1.26	13	5	0.0	0	9.5	WSW	30	NW	3	6	9	16	6.9	54
PHILADELPHIA U	35			70	52	61.0	- 2.7	85	9	43	27	0	0																			
PITTSBURGH	1151	987.6	1018.4	67	44	55.2	- 4.6	83	15	32	5+	0	2	43	64	2.80	-0.97	0.71	13	7	T	0	9.5	WSW	35*	S	8	3	5	23	7.6	49
PITTSBURGH U	749			68	48	57.8	- 4.8	84	14	37	4	0	0			2.67	-0.82	0.62	12		0.0											42
READING U	266	1004.9		70	50	60.0	- 2.5	85	9	39	4	0	0			3.38	-0.31	1.55	12	5	0.0	0	11.6		45	SW	9	5	10	16	6.8	47
SCRANTON	940	982.8	1017.4	67	46	56.1	- 2.8	82	15+	35	5+	0	0	42	62	3.30	-0.81	1.42	13	3	0.0	0	10.3	NNW	27	NW	3+	3	10	18	7.4	48
WILLIAMSPORT	527	998.0		68	45	56.7	- 3.5	82	25	34	5	0	0			2.94	-1.37	0.76	17		0.0	0						3	9	19	7.6	
RHODE ISLAND																																
BLOCK ISLAND	110			57	45	51.4	- 2.8	65	25	37	31	0	0			5.38	2.42	2.35	12	1	0.0	0						6	8	17	7.1	
PROVIDENCE	55	1010.2	1016.3	64	46	55.2	- 1.6	82	25	36	6+	0	0	44	69	5.21	2.19	2.00	12	1	0.0	0	12.1	S	35*	SW	3	4	11	16	7.0	49
SOUTH CAROLINA																																
CHARLESTON	41	1015.5	1017.5	79	60	69.5	- 1.9	88	16	45	28	0	0	61	79	5.23	1.47	1.83	9	7	0.0	0	8.0	S	35	N	27	4	16	11	6.3	69
CHARLESTON U	9			76	64	70.1	- 2.8	87	16	53	27	0	0			4.09	0.73	1.15	9		0.0	0	10.2		39	N	27					
COLUMBIA	217	1004.6	1017.4	80	57	68.8	- 2.9	88	16+	41	28	0	0	57	69	2.98	-0.25	1.13	9	3	0.0	0	6.8	SSW	29	SSW	1	8	9	14	5.9	54
FLORENCE	146	1011.3	1017.2	79	57	67.8	- 3.5	89	16	44	28	0	0	57	71	5.35	1.57	2.20	11	5	0.0	0	7.7	S	20*	N	27	8	7	16	6.2	
GREENVILLE	1018	980.7	1018.0	76	55	65.8	- 2.7	87	8	43	27	0	0	52	67	2.60	-0.79	0.82	11	4	0.0	0	7.7	NE	32	N	27	9	8	14	6.2	56
SPARTANBURG	801	987.8	1017.8	75	55	64.8	- 4.0	84	16+	41	27	0	0	51	66	3.11	-0.34	1.16	10	3	0.0	0	6.0	N	21*	SW	8+	11	6	14	6.1	
SOUTH DAKOTA																																
HURON	1282	969.2	1016.6	66	42	54.2	- 3.8	87	10	17	1	0	5	43	70	4.36	2.11	1.73	11	6	0.0	0	12.9	SSE	49	NE	14	6	6	19	7.0	62
RAPID CITY	3165	901.1	1015.0	67	44	55.8	1.1	90	10	33	4+	1	0	39	59	1.29	-1.76	0.51	7	0	T	0	12.3	SE	38	N	14	8	6	17	6.6	49
SIOUX FALLS	1420	964.4	1016.2	66	44	55.0	- 3.1	86	31	25	2+	0	3	40	61	4.67	1.29	1.30	12	5	0.0	0	12.5	SE	31*	NNW	15	5	10	16	6.9	
TENNESSEE																																
BRISTOL	1519	963.2	1017.6	73	49	61.0	- 3.2	83	14	35	3	0	0	49	68	2.31	-1.13	0.60	10	5	0.0	0	7.0	WNW	25*	NW	9	7	10	14	6.4	
CHATTANOOGA	670	990.0	1017.6	77	54	65.8	- 1.9	88	31	39	3	0	0	54	69	5.46	1.30	1.61	10	8	0.0	0	7.7	S	29	S	8	7	11	13	6.4	58
KNOXVILLE	950	982.6	1018.2	73	51	62.1	- 5.3	82	31+	39	27+	0	0	51	69	4.18	0.60	1.44	9	4	0.0	0	8.5	NE	33	SW	8	6	8	17	6.7	66
MEMPHIS	263	1002.3	1017.0	77	57	66.7	- 3.4	88	31	41	27	0	0	55	66	4.40	0.48	1.43	8	6	0.0	0	9.8	S	34	N	26	8	11	12	5.9	68
MEMPHIS U	271			76	59	67.3	- 3.2	89	31	44	27	0	0			3.95	0.30	1.46	8		0.0	0										
NASHVILLE	577	993.5	1017.5	75	52	63.6	- 4.6	86	31	38	27	0	0	52	67	4.36	0.58	1.32	10	5	0.0	0	7.8	S	43	SW	8	7	7	17	6.4	60
OAK RIDGE	905	984.2		74	52	62.7	- 3.3	85	31	35	3	0	0			4.39	0.21	1.44	9	4	0.0	0	5.0		39		8	9	6	16	6.2	
TEXAS																																
ABILENE	1759	952.3	1012.2	87	62	74.2	2.5	97	12	46	9	13	0	55	56	1.29	-2.39	0.74	5	7	0.0	0	12.3	SSE	33	S	16+	10	11	10	5.1	81
AMARILLO	3607	887.2	1010.8	82	53	67.3	3.5	98	12	38	2	7	0	43	48	3.40	0.39	2.12	5	7	0.0	0	16.8	S	45	S	7	11	13	7	4.6	79
AUSTIN	615	992.2	1013.9	87	65	76.3	1.1	95	22	51	20	11	0	61	65	1.03	-3.34	0.60	3	2	0.0	0	12.1	SSE	36	S	4	8	10	13	6.0	65
BROWNSVILLE	16	1010.8	1013.4	88	71	79.7	0.8	92	15+	53	10	9	0	70	76	0.47	-2.62	0.47	1	2	0.0	0	14.1	SSE	34	SE	4	8	19	4	4.8	74
CORPUS CHRISTI	43	1012.9	1014.0	87	71	78.7	1.3	91	25+	54	10	4	0	68	72	T	-3.41	T	0	1	0.0	0	12.3	SE	32	SE	4	5	16	10	6.1	70
DALLAS	481	996.3	1014.7	83	64	73.3	- 0.4	92	21	50	9	4	0	60	65	1.31	-3.66	0.74	6	4	0.0	0	13.8	S	43	W	8	11	8	12	5.4	64
DEL RIO U	957			90	69	79.5	2.1	98	22+	58	10+	18	0			0.49	-1.98	0.24	4	3	0.0	0										
EL PASO	3918	884.2	1009.5	90	59	74.1	2.5	99	31+	46	15+	20	0	26	21	T	-0.41	T	0	0	0.0	0	10.6	WSW	56	SW	7	17	9	5	3.5	86
FORT WORTH	544	993.9	1014.6	83	63	73.1	- 0.2	93	21	49	27+	6	0	59	66	1.06	-3.86	0.50	6	5	0.0	0	14.4	S	44*	W	8	9	10	12	5.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max. 90 F. or above	No of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 01 inch or more	No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest m. + Speed	Wind: Fastest m. + Direction	Wind: Fastest m. + Date	No. of days sunrise to sunset: Clear 0 3	No. of days sunrise to sunset: Part cloudy 4 7	No. of days sunrise to sunset: Cloudy 8 10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In	In	M p h		M p h							%
TEXAS																																
GALVESTON U	7			79	71	74.9	- 0.8	85	23	57	27	0	0			0.09	-3.11	0.07	4		0.0	0	13.7		34	NW	8					83
GALVESTON	5	1014.2	1016.0	80	71	75.2	- 0.7	84	23+	57	27	0	0	64	70	0.30	-3.19	0.25	3	3	0.0	0	12.7	SE				7	16	8	5.5	
HOUSTON U	41			82	67	74.4	- 1.5	90	23+	54	27+	2	0			0.63	-4.21	0.59	3		0.0	0										
HOUSTON	50	1012.9	1015.6	87	67	77.0	2.3	93	23+	53	10	9	0	66	73	3.59	-1.32	2.35	6	3	0.0	0	9.2	SSE				9	9	13	6.1	63
LAREDO	500	996.6	1011.9	96	71	83.6	2.4	103	22+	59	11+	28	0	63	56	0.14	-3.04	0.10	3	4	0.0	0	13.9	SE	35*	NE	23	9	18	4	4.7	
LUBBOCK	3243	901.8	1011.9	84	55	69.5	1.7	97	12+	38	9	9	0	47	51	2.05	-1.31	0.84	5	5	0.0	0	18.2	S	46*	SW	13	14	12	5	4.2	
MIDLAND	2854	913.3	1010.7	88	60	73.7	0.4	99	12	48	9	15	0	46	46	2.63	0.56	1.66	2	2	0.0	0	13.0	SE	37#	W	13	15	9	7	4.5	
PORT ARTHUR	16	1014.2	1015.7	85	64	74.2	- 0.2	92	23	49	10	1	0	65	78	1.80	-2.60	0.93	4	7	0.0	0	10.8	S	39	S	8	9	8	14	5.8	55
SAN ANGELO	1903	945.5	1011.7	90	64	76.8	3.2	102	12	48	9	19	0	56	56	2.63	-0.33	1.94	4	5	0.0	0	15.0	S	40*	SSE	16	9	14	8	5.3	
SAN ANTONIO	792	988.8	1013.7	90	67	78.5	2.5	97	22	52	10	17	0	63	65	0.17	-3.35	0.15	2	3	0.0	0	11.6	SSE	31	N	23	8	13	10	5.9	63
VICTORIA	110	1009.5	1014.1	87	67	76.6	- 0.8	93	23	53	11+	6	0	65	70	0.70	-3.32	0.33	5	5	0.0	0	13.5	SSE	47Y	S	7	5	16	10	5.9	
WACO	500	993.2	1014.3	86	64	75.0	0.5	97	22	52	10	10	0	61	66	1.34	-2.81	0.64	5	4	0.0	0	16.0	SSE	40*	NNE	1	10	8	13	5.8	
WICHITA FALLS	994	976.6	1013.2	85	60	72.6	2.1	98	31	45	27+	9	0	56	60	1.82	-2.04	0.67	8	10	0.0	0	13.9	SSE	35*	ESE	4	13	9	10	5.1	
UTAH																																
MILFORD	5028	841.5	1011.5	75	39	56.7	- 0.1	87	25	23	5	0	3			0.30	-0.44	0.23	4	1	0.0	0						12	9	10	4.9	
SALT LAKE CITY	4220	864.2	1010.7	77	45	60.8	1.9	92	28+	28	5	6	2	34	42	0.24	-1.32	0.10	5	3	T	0	10.6	S	38	N	1	8	12	11	5.9	61
WENDOVER	4237	867.6	1009.5	73	51	61.7		88	25	32	5	0	1			0.51		0.33	7	4	T	T						11	11	9	5.1	
VERMONT																																
BURLINGTON	331	1000.5	1015.4	63	39	51.1	- 4.3	88	15	25	31+	0	10	42	72	2.63	-0.26	0.76	16	3	T	0	8.2	SSW	24	NW	29	4	10	17	7.2	47
VIRGINIA																																
LYNCHBURG	947	993.1		72	50	61.2	- 3.8	84	8	39	28	0	0			3.06	-0.03	0.93	12	6	0.0	0	8.4		30	S	25	10	10	11	5.6	67
NORFOLK	26	1017.0	1018.4	73	55	63.6	- 2.3	87	8	39	28	0	0	53	70	7.77	4.32	2.94	13	7	0.0	0	9.6	SW	26	NW	29+	8	13	10	5.7	66
RICHMOND	162	1012.3	1018.7	76	51	63.6	- 2.2	89	8	36	3	0	0	50	65	4.83	1.19	1.12	11	7	0.0	0	8.8	SSW	26	N	29+	9	8	14	6.0	62
ROANOKE	1174	975.8	1018.1	73	50	61.5	- 3.2	86	8	36	3	0	0	45	60	2.05	-1.57	0.89	12	6	0.0	0	9.4	NW				12	8	11	5.4	
WASHINGTON																																
OLYMPIA	190	1009.8	1017.0	64	41	52.5	- 1.6	86	19	30	11	0	2	45	77	2.93	1.27	0.68	15	0	0.0	0	6.3	SW	23*	SW	1	4	9	18	7.4	
SEATTLE TACOMA	400	1002.7	1016.9	62	45	53.8	- 1.3	85	19	38	11+	0	0	44	73	3.07	1.43	0.80	14	2	0.0	0	7.9	SW	23*	SW	20	5	7	19	7.1	
SEATTLE	14	1015.7	1016.8											47	73								7.2	S								
SEATTLE U	14			64	49	56.6	- 0.7	88	19	43	11+	0	0			3.07	1.46	0.80	12		0.0	0			34	SW	10					45
SPOKANE	2357	945.8	1014.9	64	42	53.0	- 1.7	87	25	34	4	0	0	41	69	1.77	0.73	0.57	13	1	0.0	0	8.1	SSW	36	SW	1	4	9	18	6.9	53
STAMPEDE PASS R	3958	878.8	1018.1	48	36	41.8	- 2.7	70	25	26	4	0	10			3.70	-1.04	0.61	23	2	8.0	93						4	5	22	7.9	
TATOOSH ISLAND	101	1014.2	1017.2	55	46	50.7	- 0.2	65	19	37	3	0	0	46	83	3.55	0.24	0.97	12	0	0.0	0	11.4	W	38	S	1	2	7	22	8.2	52
WALLA WALLA U	949	978.7	1014.6	70	49	59.3	- 1.9	90	25	39	4	1	0			1.56	0.30	0.59	10	3	0.0	0	5.9	W#	24	W	1	5	11	15	6.7	56
YAKIMA	1061	976.3	1015.2	70	42	55.9	- 3.2	90	25	29	6	1	4	39	56	0.96	0.49	0.61	9	3	T	0	8.5	WNW	46*	S	25	6	13	12	6.1	
WEST INDIES																																
SAN JUAN P.R. U	47			86	74	79.9	1.2	92	24	71	16+	5	0			3.12	-3.39	1.80	13		0.0	0										
SAN JUAN P.R.	15	1014.6	1017.5	88	72	79.7	1.1	92	25	68	16+	9	0	70	76	1.77	-4.81	0.33	16	0	0.0	0	5.9	ENE	25	E	26	1	25	5	5.9	62
SWAN ISLAND	33			88	77	82.0		91	20+	74	20+	3	0			1.35			14	0	0.0	0										
WEST VIRGINIA																																
CHARLESTON	950	982.6	1018.4	72	47	59.4	- 4.3	88	14+	33	3	0	0	46	65	4.23	0.45	1.12	12	6	0.0	0	6.4	SW	35*	NW	15	6	5	20	7.1	
HUNTINGTON U	567			73	48	60.4	- 5.3	90	14	36	27+	1	0			3.89	0.07	1.11	12		0.0	0										
PARKERSBURG U	615			72	47	59.6	- 3.9	89	14	37	4+	0	0			3.40	-0.10	1.18	12	4	0.0	0	5.9		27	W	8					49
WISCONSIN																																
GREEN BAY	689	994.9	1018.1	66	40	52.9	- 1.5	86	13	27	1	0	5	37	60	1.42	-1.11	0.55	10	2	T	T	12.3	SW	31	N	15+	13	10	8	4.8	64
LA CROSSE	652	992.6	1017.2	69	45	57.1	- 1.9	87	31+	32	2	0	1	42	61	2.76	-0.51	0.87	10	5	0.0	0	11.1	S	35*	SW	14	13	10	8	4.8	
MADISON	858	982.1	1017.6	67	41	54.0	- 3.5	84	13	25	1	0	6	43	67	1.17	-2.10	0.31	9	2	0.0	0	10.6		31	SW	14	10	7	14	5.5	53
MILWAUKEE	670	993.2	1018.8	62	40	50.8	- 3.5	80	13	27	1	0	5	40	66	1.25	-1.73	0.33	8	2	0.0	0	11.4	NNE	35	N	25	15	6	10	4.5	66
WYOMING																																
CASPER	5319	835.8	1011.5	67	41	54.4	1.3	85	10	29	7	0	3	35	56	0.71	-1.61	0.50	7	7	0.0	0	12.9	NNE	44*	SW	10	5	14	12	6.3	
CHEYENNE	6131	810.7	1012.5	64	41	52.8	2.7	82	11+	30	6	0	3	39	68	2.92	0.46	1.33	14	9	11.5	9	14.0	WNW	36	N	14	1	9	21	7.6	43
LANDER	5563	833.4	1012.1	67	41	53.7	1.3	84	10	30	8	0	2	35	56	2.21	-0.36	0.99	14	6	0.0	0	7.2	SW#	43	SW	6	4	17	10	6.3	68
SHERIDAN	3942	883.5	1010.1	66	41	53.8	0.9	88	10	26	8	0	3	41	65	2.95	0.31	1.42	6	5	0.0	0	8.2	NW	60	NW	10	6	14	11	6.1	56

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

A Maximum hourly average.
+ And also on an earlier date or dates.
B Number of days maximum 70 F. or above for Alaskan Stations.
\# Wind direction to 8 compass points only.
Y Peak Gust.

CLIMATOLOGICAL DATA

METRIC UNITS

MAY 1961

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C	C		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	186	992.4	1017.8	26.1	12.8	19.6	-1.2	32.2	31	5.0	3	1	0	12.8	68	62	- 33	21	9	6	0	0	3.8	N	20.1	S	8	7	10	14	6.4	67
HUNTSVILLE	184	994.6	1017.9	25.6	12.2	18.9		31.1	7+	3.9	3	0	0	12.2	67	119		30	11	8	0	0	3.2	NNW	12.5*	WSW	8	6	9	16	6.6	
MOBILE	64	1009.3	1017.5	28.3	16.1	22.4	-0.6	33.3	19	9.4	27+	3	0	16.1	73	117	- 1	43	9	8	0	0	4.3	S	14.3*	NW	26	7	12	12	5.9	
MONTGOMERY	59	1009.2	1017.4	27.2	13.9	20.4	-2.1	31.7	31+	6.1	28	0	0	15.0	74	46	- 42	19	7	5	0	0	2.0	SSW	14.3	NW	9	8	8	15	5.9	66
ALASKA																																
ANCHORAGE	27	1008.5	1013.4	13.9	3.3	8.8	1.2	18.9	24+	- 1.7	1	B 0	4	0.0	56	12	- 1	6	2	0	0	0	3.3	SSE	9.4*	SE	29	11	5	15	6.1	62
ANNETTE	34	1012.5	1016.7	13.9	7.2	10.6	1.2	21.1	10	2.8	5	1	0	5.0	73	86	- 28	48	17	0	0	0	3.2	SE	10.3*	SE	12	4	4	23	8.0	
BARROW	7	1018.3	1018.8	- 2.8	- 8.9	- 5.8	1.5	1.7	29	-18.9	1	0	31	- 7.8	85	T	- 3	T	1	0	5	381	4.5	E	13.9*	E	24	3	4	24	8.4	
BARTER ISLAND	12	1016.6	1018.5	- 1.1	- 8.9	- 5.1	1.4	8.9	29	-23.9	1	0	31	- 7.8	81	4	- 1	4	3	0	53	203	5.7	E	19.7*	E	25	7	7	17	6.7	
BETHEL	38	1009.1	1010.4	11.7	1.1	6.3	1.8	17.2	29	- 4.4	1	0	14	1.7	75	14	- 8	6	11	0	T	T	4.7	S	16.5*	ENE	30	6	5	20	7.2	
COLD BAY	29	1003.4	1007.2	7.8	2.2	5.2	1.1	11.1	31	- 2.8	11	0	4	2.2	83	24	- 19	9	13	0	T	T	7.2	SSE	18.3*	SE	24+	0	5	26	8.9	
CORDOVA	12	1013.2	1014.9	12.2	1.7	7.1	1.0	18.9	9	- 2.8	3+	0	10	3.9	79	241	77	73	17	0	0	0	2.6	E	9.4*	SE	24	6	5	20	7.4	
FAIRBANKS	133	995.6	1012.6	16.7	2.8	9.6	1.1	21.7	16	- 2.2	12+	5	6	0.0	52	6	- 13	3	5	0	0	0	3.2	N	9.4*	WSW	10	8	9	14	6.0	
JUNEAU	5	1015.2	1016.0	13.3	3.9	8.6	0.2	19.4	10	- 2.2	3	0	6	2.8	71	121	40	18	14	0	0	0	4.0	E	14.3*	ESE	24	7	3	21	7.5	41
KING SALMON	13	1008.1	1009.9	12.8	1.7	7.1	1.1	17.2	6+	- 3.3	1	0	11	1.7	72	30	- 2	8	15	0	0	0	3.9	E	15.6*	E	30	7	4	20	7.1	
KOTZEBUE	3	1013.9	1014.6	6.1	- 2.2	1.7	3.1	17.8	31	- 8.9	6+	0	22	- 0.6	85	9	1	6	7	0	10	356	3.9	WNW	10.7*	WNW	20	7	9	15	6.5	
MC GRATH	102	999.7	1012.3	15.0	2.2	8.5	2.3	21.1	7	- 4.4	3	1	11	- 0.6	56	6	- 18	3	4	1	T	T	3.3	ENE	11.6*	E	30	8	5	18	6.4	
NOME	4	1011.9	1012.5	7.8	0.0	3.7	2.8	18.3	30	- 6.7	5+	0	14	0.0	76	10	- 5	3	7	0	8	381	4.6	NNE	11.2*	E	31+	9	9	13	6.0	51
ST. PAUL ISLAND	7	1004.7	1005.8	5.0	0.6	2.9	1.1	7.2	30+	- 1.7	2	0	10	1.7	93	26	- 4	6	17	0	T	T						1	4	26	8.7	
SHEMYA	37	997.3	1001.0	5.0	2.2	3.4		6.7	8	1.1	29+	0	0	2.2	92	59		19	24	0	38	T	8.4	S	20.6*	WSW	24	0	1	30	9.5	
YAKUTAT	9	1014.9	1015.9	12.2	2.8	7.6	1.3	21.1	9	- 3.3	8+	1	9	4.4	80	251	50	89	16	0	0	T	3.2	ESE	9.4*	SSE	24	7	7	17	7.1	
ARIZONA																																
FLAGSTAFF	2131			19.4	- 0.6	9.3	-0.7	24.4	25	- 6.1	8	0	22			7	- 6	6	3	0	79	51						18	9	4	3.0	
PHOENIX	338	971.2	1009.8	33.9	14.4	24.2	0.1	38.3	10+	9.4	8	22	0	- 1.7	19	T	- 4	T	0	0	0	0	3.5	W	15.6*	WNW	12	24	3	4	2.1	97
PRESCOTT	1528	845.6	1010.9	25.0	7.2	16.0	-0.1	29.4	25+	2.2	8	0	0	- 6.7	24	2	- 5	2	1	0	0	0	4.9	SSW	20.1	SW	11	22	7	2	2.4	92
TUCSON	788	923.1	1009.8	32.2	13.3	22.7	-0.1	36.7	10	7.8	8	20	0	- 7.2	14	0	- 5	0	0	0	0	0	4.7	SSE	17.9	SW	3	20	7	4	2.8	93
WINSLOW	1487	849.6	1009.1	28.3	6.7	17.4	0.7	32.2	27+	1.7	8	3	0	- 7.2	21	1	- 7	1	1	0	T	0	5.9	SW	19.7*	WSW	29	21	7	3	2.6	
YUMA	61	1005.8	1010.8	34.4	16.7	25.4	-1.5	39.4	9	12.8	13+	24	0	0.0	22	T	- 1	T	0	0	0	0	3.5	WNW	11.6	NW	12	26	3	2	1.5	97
ARKANSAS																																
FORT SMITH	137	999.3	1016.1	26.7	13.3	19.9	-1.0	32.8	31	3.3	2	2	0	13.3	70	141	13	53	13	12	0	0	3.8	ENE	15.6	W	8	9	9	13	6.0	64
LITTLE ROCK	78	1003.7	1016.9	26.1	13.9	19.9	-1.1	31.7	31	6.7	28+	0	0	14.4	71	144	21	44	12	8	0	0	3.6	S	17.9	W	6	10	5	16	5.9	57
TEXARKANA	110		1016.0	27.2	15.6	21.6	-0.6	32.2	31	7.8	27	1	0	15.6	72	65	- 66	21	9	9	0	0	3.7	NE								
CALIFORNIA																																
BAKERSFIELD	151	998.0	1016.0	25.6	11.7	18.8	-2.4	30.6	9	8.3	4	0	0	6.1	47	1	- 8	1	1	0	0	0	3.7	NNW	10.3*	NNE	19	20	6	5	3.4	
BISHOP	1252	870.6	1010.5	26.7	6.1	16.4	-0.6	31.1	24+	1.7	8+	0	0			1	- 5	T	2	0	0	0						19	7	5	3.3	
BLUE CANYON	1609	838.5	1015.9	12.8	3.3	8.1	-3.2	21.1	18	- 2.2	7	0	5			106	43	30	12	4	142	25	3.6	SSW	12.5	SSW	9	11	7	13	5.5	
BURBANK	213	989.5	1015.6	22.2	11.7	16.9	-0.8	30.0	8	10.0	20	0	0	8.3	62	T	- 7	T	0	0	0	0	3.3	S	13.9*	NNW	12	16	6	9	4.1	
EUREKA U	13	1016.9	1020.0	13.9	8.9	11.4	-0.2	17.8	22	6.1	4	0	0			101	55	28	18	0	0	0	3.4	NW#	16.1	SW	8	1	9	21	8.4	43
FRESNO	101	1003.4	1015.2	25.0	10.6	17.7	-2.8	30.6	18+	6.7	7	0	0	6.1	52	10	3	4	3	2	0	0	4.0	WNW	9.8	NW	30+	19	7	5	3.3	88
LONG BEACH	10	1014.6	1015.8	21.7	11.7	16.7		29.4	8	10.0	13+	0	0	10.0	69	T		T	1	0	0	0	3.8	S	13.4*	W	12	12	13	6	4.5	
LOS ANGELES	30	1012.5	1016.3	20.0	12.2	16.1	-0.7	23.3	9	9.4	12	0	0	10.0	70	T	- 8	T	0	0	0	0	4.0	WSW	13.4*	W	12	11	14	6	4.5	
LOS ANGELES U	95			21.7	13.3	17.4	-0.8	30.0	8	11.1	14	0	0	10.6	68	T	- 7	T	0	0	0	0	3.0	W#	14.8	NW	12	14	10	7	4.6	71
MT SHASTA R	1080	892.0	1016.6	16.7	3.3	10.1	-1.9	25.6	19+	- 0.6	7	0	3			73	30	37	10	2	0	0						15	6	10	5.1	
OAKLAND	1	1018.0	1018.2	17.8	10.0	13.8	-0.8	21.1	14	5.6	7	0	0	7.8	70	15	- 1	7	6	1	0	0	5.1	W	13.0*	WNW	11	9	11	11	5.3	
POINT ARGUELLO	112	1004.1	1017.5	16.1	8.3	12.2		20.0	18	5.0	8	0	0			3		3	3	0	0	0	5.1		13.9*	NW	3	11	9	11	5.4	
RED BLUFF	104	1002.4	1015.0	24.4	10.6	17.5	-2.5	33.9	18	4.4	7	1	0	5.6	50	26	- 1	17	8	3	0	0	5.2	SSE	16.5	SE	25	12	7	12	5.0	78
SACRAMENTO	5	1015.2	1016.3	25.6	8.3	16.9	-0.9	30.6	15	3.9	7	0	0	8.3	64	5	- 9	3	5	1	0	0	4.2	SW	12.5	NW	4	13	13	5	4.2	87
SANDBERG R	1377	861.8	1014.2	16.7	5.6	11.1	-2.7	25.0	9	- 0.6	12	0	1			4	- 2	4	1	0	T	T	6.8	N	21.5*	NNW	4	20	6	5	2.9	
SAN DIEGO	4	1013.2	1016.2	19.4	13.3	16.4	-0.9	24.4	9+	11.7	29	0	0	10.6	70	T	- 6	T	1	0	0	0	3.5	WSW	10.3	S	3	11	6	14	5.5	56
SAN FRANCISCO	2	1017.6	1018.3	17.8	10.0	13.9	0.3	21.7	14+	6.7	7	0	0	8.3	72	15	5	8	7	2	0	0	5.9	WNW	17.4	WNW	12	11	10	10	5.3	
SAN FRANCISCO U	16			16.1	10.6	13.2	-0.8	19.4	14	8.9	7+	0	0			22	7	11	7	1	0	0	4.4	W#	13.9	W	5					72
SANTA MARIA	73	1009.1	1018.0	17.8	7.2	12.5	-1.8	23.9	8	3.3	5	0	0	7.8	75	4	- 4	4	3	0	0	0	4.7	WNW	16.1*	WNW	12	19	7	5	3.4	
COLORADO																																
ALAMOSA	2297	770.4	1013.1	20.6	1.1	10.9	0.4	25.6	19	- 3.9	9+	0	14			18	3	16	6	4	25	T						7	17	7	5.3	
COLORADO SPRINGS	1882	810.7	1014.1	20.0	5.0	12.6	-0.4	30.6	11	- 1.1	6	0	1	2.8	62	21	- 31	6	12	9	23	T	5.5	SSE	17.4*	NNW	13	6	11	14	6.5	
DENVER	1610	836.8	1013.0	20.0	6.7	13.2	-0.3	32.2	11	0.0	13	1	1	4.4	64	105	49	46	12	9	163	25	3.9	SSW	15.6	SW	20	4	13	14	6.6	55
GRAND JUNCTION	1478	856.8	1010.0	24.4	10.0	17.2	0.5	30.6	10	2.2	5	0	0	- 3.3	32	28	11	16	7	3	0	0	5.1	ESE	21.9	NW	16	13	11	7	5.0	70
PUEBLO	1414	854.4	1011.3	23.9	8.3	16.1	1.0	33.9	11	0.0	6	3	1	4.4	54	28	- 16	17	7	9	T	T	4.8	SE	29.5	NW	13	6	14	11	6.0	69

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

MAY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile (1.6 kilometers): Direction	Fastest mile (1.6 kilometers): Date	No of days (sunrise to sunset): Clear, 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm	Mm.			Mm	Mm	M.p.s		M p.s							%
CONNECTICUT																																
BRIDGEPORT	2	1016.5	1017.5	17.2	8.3	12.9	-1.1	25.6	31+	2.2	27	0	0	7.2	72	113	22	38	12	2	T	0	4.8	E	13.4	NW	3	5	8	18	7.3	
HARTFORD	52	1010.3	1016.4	19.4	7.2	13.3	-2.1	30.0	25	- 1.1	1	0	3	6.1	66	111	18	33	14	2	0	0	4.0	S	14.3	NW	26	3	11	17	7.2	44
NEW HAVEN	2	1016.5		17.2	7.8	12.6	-1.1	24.4	31	1.7	1	0	0			152	54	37	16	4	0	0	3.7		13.0	SW	28	5	8	18	7.2	48
DELAWARE																																
WILMINGTON	24	1013.2	1017.2	20.6	9.4	14.9	-2.2	28.9	9	2.2	4	0	0	8.9	69	62	- 35	20	14	3	0	0	4.7	NW	13.4	NNW	29	5	11	15	6.7	
DIST. OF COLUMBIA																																
WASHINGTON U	22			21.7	11.7	16.8	-1.7	30.6	9+	5.6	28	0	0			66	- 34	17	9													
WASH NATL AP	4	1013.3	1017.8	22.2	11.7	16.8	-1.4	30.6	9	5.6	28+	0	0	9.4	66	65	- 36	14	11	4	0	0	4.2	S	17.9	SSW	9	7	11	13	6.2	54
FLORIDA																																
APALACHICOLA U	4	1015.7		26.7	18.9	22.7	-0.8	31.7	21	13.9	27+	0	0			96	24	36	5	5	0	0	3.4		11.6	E	24+	16	8	7	4.6	81
DAYTONA BEACH	9	1015.9	1017.8	28.3	17.8	23.1	-0.5	33.9	20	12.8	11	5	0	17.8	75	61	- 22	41	6	7	0	0	4.2	SE	17.9*	WSW	26	9	10	12	5.6	
FORT MYERS	5	1016.3		32.2	18.9	25.4	0.4	34.4	25	16.1	12+	22	0			125	16	82	5	7	0	0	3.5		11.2*	ESE	5	14	11	6	4.8	
JACKSONVILLE	7	1016.5	1017.9	29.4	17.8	23.6	-0.2	34.4	20	11.7	28	6	0	17.2	72	78	- 9	30	9	5	0	0	4.6	NE	18.3	N	23	8	11	12	5.7	60
KEY WEST	2	1015.6	1016.8	29.4	24.4	26.9	0.4	31.7	24+	20.0	2	0	0	21.1	71	60	- 11	23	9	4	0	0	4.3	ESE	15.2	N	2	6	18	7	5.5	76
LAKELAND U	65			30.0	19.4	24.8	0.1	33.9	17	15.0	11	8	0			69	- 47	30	9	8	0	0	3.3					8	13	10	5.7	72
MIAMI BEACH	3			28.3	23.3	25.9	0.2	31.1	14	18.9	11	0	0			185	86	114	9		0	0	3.7		16.5	W	26	12	9	10	5.0	69
MIAMI	2	1015.9	1017.1	29.4	21.7	25.6	0.0	32.2	21	16.7	11	1	0	20.0	73	173	32	91	11	8	0	0	4.2	ESE	16.5*	NW	24	6	17	8	5.8	
ORLANDO	32	1013.0	1017.5	31.7	18.3	25.0	0.3	35.6	17	13.9	11	17	0	17.2	68	11	- 91	6	4	5	0	0	4.2	ESE	10.3*	W	26	9	13	9	5.3	
PENSACOLA U	4			26.7	18.3	22.3	-0.9	31.7	30	10.6	27	0	0			76	- 35	29	6	5	0	0	4.0		13.9	W	1					55
TALLAHASSEE	20	1014.8	1017.5	28.3	15.6	22.1	-1.3	33.3	21+	10.6	4	3	0	16.1	72	61	- 35	27	9	7	0	0	3.8	N	17.9*	WNW	21	7	14	10	5.7	
TAMPA	6	1016.0	1017.7	30.0	19.4	24.8	0.1	33.3	31+	17.2	28+	5	0	18.3	70	54	- 29	27	7	4	0	0	5.0	W	13.0*	W	9	12	11	8	5.1	66
WEST PALM BEACH	5	1015.9	1017.0	30.0	20.6	25.3	0.2	35.0	22+	13.9	11	5	0	19.4	72	129	1	37	12	10	0	0	4.6	ESE	15.6*	W	10	6	15	10	6.0	
GEORGIA																																
ATHENS	243	988.9	1018.0	25.0	12.8	18.6	-2.7	30.0	31+	4.4	27	0	0	13.3	74	86	- 11	27	7	2	0	0	2.7	NE	9.4*	NE	17	8	7	16	6.4	
ATLANTA	297	976.2	1017.6	23.9	12.8	18.4	-2.7	29.4	31	5.0	27	0	0	12.2	70	81	- 16	30	10	3	0	0	4.7	NW	13.0*	WSW	9	6	13	12	6.1	58
AUGUSTA	44	1009.9	1017.2	26.7	14.4	20.4	-1.5	31.7	8	7.2	28	0	0	15.0	75	104	21	37	9	4	0	0	2.5	SE	7.6*	SSE	25+	4	12	15	6.6	
COLUMBUS	117	1003.2		27.8	13.3	20.6	-1.7	32.2	31	6.1	28	1	0			100	22	36	8	4	0	0	3.1		15.6*	S	1	8	10	13	5.9	
MACON	109	1003.6	1017.2	27.2	14.4	21.0	-2.1	32.2	22+	7.2	27+	2	0	13.9	70	134	52	42	10	5	0	0	3.7	NW	13.4	SW	1	8	10	13	6.1	62
ROME	194	994.3		25.0	10.6	17.8	-2.8	30.0	31+	2.8	2	0	0			66	- 37	28	11	6	0	0						7	8	16	6.2	
SAVANNAH	15	1015.4	1017.9	27.2	16.1	21.8	-0.9	32.2	19	8.9	28	1	0	16.1	75	89	15	33	7	4	0	0	3.4	SSE	12.5	N	27	7	12	12	5.9	67
THOMASVILLE U	86			28.9	16.7	22.9	-0.6	33.3	19+	10.6	27	6	0			122	30	37	9	5	0	0										
HAWAII																																
HILO	9	1017.3	1018.6	27.2	18.9	23.2	0.3	28.9	16+	16.7	9	0	0	18.9	79	206	- 22	31	27	1	0	0	3.2	WSW	8.9*	SE	3+	0	11	20	8.2	31
HONOLULU	2	1018.0	1018.5	28.9	22.2	25.6	1.1	30.6	13+	21.1	26+	0	0	17.8	64	6	- 4	2	6	0	0	0	5.7	ENE	14.3	NE	20+	4	19	8	6.0	86
LIHUE	35	1013.9	1019.3	28.3	22.2	25.2	1.8	29.4	15	19.4	1	0	0	19.4	72	114	50	84	16	1	0	0	6.3	NE	21.9	NE	21	2	16	13	6.6	72
IDAHO																																
BOISE	866	917.0	1012.5	22.8	6.1	14.4	-0.1	35.6	25	- 1.7	5	1	2	2.2	50	14	- 14	5	9	2	T	0	4.2	WNW	13.0	E	26+	7	14	10	5.5	75
IDAHO FALLS 42NW R	1460			21.1	2.8	11.9	0.8	30.0	28	- 6.7	8	0	9			18	- 9	8	6				4.5	SSW	16.1A	SW	10					
IDAHO FALLS 46W R	1504	845.6	1011.5	20.0	3.3	11.6	0.1	28.9	28	- 5.6	3	0	9			39	13	28	5	1	0	0	4.4	SW	15.2A	WSW	10					
LEWISTON	431	963.4	1015.2	20.6	7.2	13.8	-1.2	33.3	25	2.2	3	1	0			47	11	10	12	4	0	0						4	10	17	7.3	
POCATELLO	1355	861.2	1013.0	20.6	5.6	12.8	-0.1	30.6	28	- 2.2	3	0	3	0.6	48	33	2	23	9	4	10	T	5.1	SW	17.0	W	1	6	11	14	6.5	61
ILLINOIS																																
CAIRO U	96	1004.4		23.3	12.8	18.0	-2.4	32.2	31	5.6	27	1	0			225	121	102	13	8	0	0	3.9	N#	21.9	SW	7	10	9	12	5.9	70
CHICAGO O HARE	201	992.9	1017.7	19.4	6.1	12.7		30.0	13	- 0.6	2	0	2	5.0	60	52		20	8	4	0	0	4.6	NNE	15.6*	N	25	15	3	13	5.1	
CHICAGO MIDWAY	186	995.3	1018.2	19.4	8.3	14.0	-1.1	30.6	31	1.7	27	0	0	4.4	56	39	- 54	16	9	3	0	0	4.9	SW	15.2	S	14	14	5	12	5.1	63
MOLINE	177	994.6	1016.9	21.1	7.8	14.5	-1.6	33.3	31	0.6	3+	1	0	6.7	61	50	- 37	22	7	3	0	0	4.4	SE	18.8	SW	14	9	11	11	5.7	65
PEORIA	199	995.6	1017.9	20.0	7.2	13.6	-2.5	30.0	31	- 0.6	2	0	1	6.7	65	56	- 44	24	7	4	0	0	5.0	S	13.0	SE	14	7	11	13	5.9	61
ROCKFORD	222	990.2	1017.7	20.0	7.2	13.5	-1.3	30.6	31	- 0.6	2	0	2	5.0	60	37	- 50	17	9	3	0	0	4.2	SSE	17.0*	WSW	14	12	7	12	5.2	
SPRINGFIELD	179	993.9	1017.3	21.1	8.3	14.7	-2.0	32.2	31	0.6	2	1	0	7.8	66	107	1	49	9	7	0	0	5.7	S	17.0	SE	7	7	11	13	5.9	66
INDIANA																																
EVANSVILLE	117	1001.7	1017.5	22.2	10.0	16.3	-2.3	31.1	31	1.7	27	0	0	9.4	66	310	211	154	8	7	0	0	4.1	NW	21.0	NW	7	11	6	14	5.7	67
FORT WAYNE	244	986.8	1018.0	19.4	7.2	13.4	-1.6	27.8	14+	- 0.6	27	0	1	6.1	63	55	- 32	35	9	3	0	0	6.1	NNW	17.9	SW	6	12	7	12	5.4	68
INDIANAPOLIS	242	987.8	1017.9	20.0	7.2	13.6	-2.8	27.8	14	- 0.6	27+	0	2	7.8	71	164	66	90	14	5	0	0	3.9	N	13.0	W	15+	10	9	12	5.9	61
SOUTH BEND	234	989.5	1017.6	18.9	5.6	12.3	-2.3	27.2	14+	- 1.1	27	0	2	5.6	65	30	- 67	11	9	2	T	0	5.4	NNW	13.0*	SSW	6	15	4	12	4.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

MAY 1961

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb.	C	C.	C.	C	C		C.				C	%	Mm.	Mm	Mm			Mm	Mm	M p.s.		M.p.s							%
IOWA																																
BURLINGTON	212	991.9	1017.7	21.1	7.8	14.6	-2.1	29.4	31+	0.0	2	0	1	6.7	62	41	- 56	16	8	4	0	0	5.2	ESE	17.0	E	5	8	11	12	6.0	72
DES MOINES	289	986.1	1017.5	21.1	8.9	14.8	-1.4	30.0	12	- 0.6	2	0	1	6.1	61	40	- 51	14	11	4	0	0	5.6	SSE	20.1	SE	5	7	10	14	6.5	69
DUBUQUE	325	991.9	1017.6	18.9	6.7	12.8	-1.6	30.0	31	- 0.6	1	0	1	4.4	56	42	- 46	17	6	1	0	0						10	8	13	5.5	
SIOUX CITY	334	974.6	1015.9	21.1	8.9	15.0	-0.8	30.6	12+	- 1.1	2	0	2	5.6	58	130	45	44	11	8	0	0	6.3	ESE	20.6	S	10	6	8	17	6.9	56
WATERLOO	265	984.8	1017.0	20.0	6.7	13.4	-1.9	30.0	31+	- 1.7	2	0	3	7.2	68	79	- 11	25	10	3	0	0	4.6	SSE	17.0*	ESE	5	10	7	14	5.9	
KANSAS																																
CONCORDIA U	419	967.8		20.6	10.6	15.6	-1.7	31.1	31	1.1	1	0	0		70	226	135	64	13	12	8	T	3.9	E*	14.3	W	17	8	11	12	6.0	63
DODGE CITY	791	925.5	1012.7	23.3	10.0	16.8	-0.4	34.4	30	1.7	2	4	0	8.3	63	72	- 2	45	5	4	0	0	6.5	SSE	24.1	S	30	7	11	13	6.2	67
GOODLAND	1111	886.6	1012.9	20.6	6.7	13.6	-0.9	32.2	30	1.1	15	1	0	7.2	72	94	25	30	15	13	0	0	6.5	SSE	25.9*	NNW	14	8	10	13	6.3	
TOPEKA	267	979.7	1015.7	21.1	10.0	15.4	-2.2	30.6	31	- 1.7	2	0	1	10.0	71	134	25	49	14	12	0	0	6.3	E	30.0	SE	5	8	8	15	6.6	52
WICHITA	403	965.5	1013.9	23.3	11.7	17.4	-0.9	32.8	31	1.1	2	1	0	10.1	71	102	6	59	11	10	0	0	6.0	S	25.0	SE	4	6	12	13	6.2	65
KENTUCKY																																
LEXINGTON	298	982.2	1018.2	21.1	9.4	15.2	-2.7	28.3	14	0.6	2	0	0	8.9	69	156	66	72	12	6	0	0	4.5	S				9	8	14	6.1	
LOUISVILLE	144	998.5	1017.7	21.7	8.9	15.0	-3.5	27.8	14	0.6	2	0	0	9.4	71	229	129	117	9	5	0	0	3.5	NNE	15.2	W	7	9	9	13	5.8	57
LOUISIANA																																
ALEXANDRIA	28	1012.2	1016.6	28.3	14.4	21.3		31.7	20+	6.1	11+	0	0	16.1	76	98		32	7	6	0	0	3.0	SSW				11	11	9	5.1	
BATON ROUGE	20	1013.9	1016.8	27.8	16.1	22.1	-1.1	31.1	19	8.3	28	0	0	17.2	77	97	- 28	37	8	8	0	0	4.1	S				10	12	9	5.1	
LAKE CHARLES	4	1014.6	1015.1	28.9	18.9	23.9	0.3	33.9	23	11.1	27	5	0	18.3	73	104	- 16	40	8	8	0	0	2.5	SSE	9.4*	S	7	8	8	15	5.8	
NEW ORLEANS U	3			28.3	19.4	23.9	-0.6	32.2	19+	12.2	27	2	0		72	218	81	90	9	8	0	0	3.1		12.1	SE	24	16	15	0	3.3	85
NEW ORLEANS	1	1014.9	1016.9	28.3	17.2	22.6	-1.1	31.1	23+	11.1	11	0	0	18.3	78	164	23	48	9	9	0	0	4.1	SSE	10.3*	NNW	23+	11	12	8	4.6	
SHREVEPORT	77	1007.1	1016.4	28.3	16.1	22.1	-1.1	32.8	25	7.8	28	3	0	14.4	66	37	- 78	19	6	3	0	0	4.8	SSE				10	10	11	5.4	71
MAINE																																
CARIBOU	190	991.0	1014.6	13.9	2.8	8.5	-0.7	27.2	14	- 2.8	18	0	9	2.8	72	120	40	53	18	2	25	102	5.6	NW	17.0*	W	28	3	8	20	7.6	
PORTLAND	19	1011.6	1015.7	16.7	5.0	10.6	-0.7	28.9	25	- 2.2	6	0	5	5.0	71	75	- 10	28	10	1	T	0	4.5	S	14.3	SE	25+	6	10	15	6.9	57
MARYLAND																																
BALTIMORE	45	1012.9	1017.9	22.2	9.4	15.7	-1.4	32.2	9	2.8	5	1	0	8.9	67	69	- 33	18	10	1	0	0	4.7	W	29.1	SW	9	7	11	13	6.2	67
BALTIMORE U	4			21.7	12.2	17.1	-1.4	31.7	9	6.7	28	0	0			63	- 39	15	12													
FREDERICK	90			20.6	8.3	14.4	-3.3	29.4	8	1.7	5	0	0			72	- 20	18	12		0	0										
MASSACHUSETTS																																
BLUE HILL OBS R	192	957.9		17.8	7.2	12.5		30.0	15	1.7	31+	0	0		71	104	15	52	11		0	0	6.8	NNW	19.2	NW	3					50
BOSTON	5	1010.9	1015.6	17.8	8.9	13.5	-0.8	31.1	15	3.3	3	0	0	6.1	67	115	41	59	11	1	0	0	5.7	SW	16.5	W	3	5	11	15	6.8	56
NANTUCKET	13	1015.8	1016.6	13.9	7.2	10.3	-0.9	18.9	13	1.1	6+	0	0	6.7	80	145	71	67	12	0	0	0	6.3	SW	14.3	W	28	7	7	17	7.0	55
PITTSFIELD	357			17.8	5.0	11.3	-1.1	28.3	14	- 3.3	1	0	6			90	- 5	20	17		3	T										
WORCESTER	301	978.5	1011.7	17.2	6.7	12.1	-1.3	30.6	14	0.6	31+	0	0	5.0	65	86	1	31	15	2	0	0	4.2	W	11.2*	ENE	2	3	12	16	7.2	
MICHIGAN																																
ALPENA	210	991.9		17.2	1.1	9.3	-1.9	30.0	13	- 5.0	17+	0	19	2.2	58	37	- 38	11	8	3	38	25	3.8	NW*	12.1	NW	9	7	10	14	6.0	58
DETROIT	189	991.2	1018.0	18.9	7.2	13.2	-1.1	27.8	14	0.6	4+	0	0	5.0	60	65	- 27	17	9	1	T	T	4.9	N	16.1	NW	2	11	7	13	5.7	61
DETROIT M WAYNE CO	192	993.2	1017.4	18.9	6.7	12.6		28.3	14	0.0	2	0	1	5.6	64	56		18	8	2	T	0	5.2	WSW				12	8	11	5.5	
DETROIT WILLOW RUN	220	988.8	1017.5	19.4	6.7	13.1	-1.5	28.9	14	0.0	2	0	1	4.4	60	46	- 42	16	9	1	T	0	5.8	SW	15.6*	W	2	13	8	10	5.7	
ESCANABA U	181	994.9		14.4	4.4	9.2	-0.7	29.4	24	- 2.2	1	0	2		67	43	- 23	17	10	3	T	T	5.0		20.1	N	15	10	9	12	5.5	58
FLINT	233	989.5	1018.1	18.3	4.4	11.4	-1.8	27.8	14	- 1.7	2	0	5	4.4	64	32	- 54	13	11	2	15	T	4.4	WSW	12.5*	WSW	28	11	5	15	6.0	
GRAND RAPIDS	208	992.6	1018.0	19.4	5.6	12.4	-1.1	29.4	13	- 1.1	27	0	4	3.3	58	26	- 61	9	9	1	T	T	4.7	WSW	14.8	W	28	13	4	14	5.1	67
LANSING	260	985.4	1017.7	18.9	4.4	11.6	-2.0	27.2	13	- 2.8	27	0	7	3.3	60	25	- 70	8	9	1	0	0	6.2	NNW	20.1	SW	15	12	5	14	5.6	75
MARQUETTE U	206	990.5		13.9	3.9	8.9	-0.9	28.3	24	- 2.8	1	0	5		60	60	- 7	25	10	2	43	25	3.8	NW*	15.2	S	11	10	8	13	6.0	66
MUSKEGON	191	994.6	1018.1	17.2	5.0	11.3	-1.1	27.2	12	- 2.8	27	0	4	1.7	54	26	- 46	5	9	3	T	0	4.9	W	12.1*	SW	25+	16	3	12	4.5	
SAULT STE MARIE	220	994.6	1017.5	14.4	2.2	8.3	-1.1	27.8	13	- 5.0	10	0	9	1.7	66	44	- 20	19	9	3	23	T	5.0	WNW	14.3*	NW	9	8	8	15	6.3	58
MINNESOTA																																
DULUTH	429	976.3	1018.3	16.7	3.3	9.9	0.1	27.8	31	- 3.3	2	0	8	1.1	60	83	2	34	10	2	64	51	6.0	E	20.6	NE	14	12	7	12	5.1	67
INTERNATIONAL FALLS	359	977.0	1018.6	17.8	2.8	10.2	-0.3	28.3	30+	- 3.9	2	0	10	0.6	56	45	- 20	13	7	3	T	0	3.7	N	11.2*	WNW	8	12	10	9	4.9	
MINNEAPOLIS	253	983.1	1017.5	19.4	6.1	12.6	-2.1	32.2	12	- 4.4	2	1	3	4.4	60	88	9	32	9	3	0	0	5.2	N	17.9	S	11	13	7	11	5.2	71
ROCHESTER	395	969.2	1017.2	18.9	5.6	12.3	-1.5	29.4	12	- 3.9	1	0	4	5.0	64	135	49	46	10	4	0	0	5.5	S				12	6	13	5.5	
ST CLOUD	315	979.3	1017.7	18.9	5.0	11.9	-0.9	32.2	31	- 4.4	1	1	5	2.2	57	70	- 8	35	9	3	T	0						12	6	13	5.3	
MISSISSIPPI																																
JACKSON	93	1004.8	1016.8	27.8	15.0	21.3	-1.1	32.2	31	6.1	28	1	0	14.4	66	75	- 29	51	7	5	0	0	2.5	S	16.5	NW	8	9	13	9	5.0	68

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days sunrise to sunset: Clear 0-3	No of days: Partly cloudy, 4-7	No of days: Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
MISSISSIPPI	M.	Mb.	Mb.	C.	C.	C.	C.	C		C.				C.	%	Mm.	Mm	Mm			Mm	Mm	M.p.s		M.p.s							%
MERIDIAN	89	1003.4	1017.5	27.8	13.3	20.7	-1.2	32.2	31+	5.6	28	2	0	15.0	73	77	- 25	23	8	6	0	0	3.3	SSW	9.4*	W	25	11	10	10	5.3	
VICKSBURG U	71	1007.8		26.7	16.7	21.6	-1.1	31.7	19	8.3	27	0	0			60	- 47	27	8	6	0	0	3.7		11.2	NE	26+	13	7	11	5.0	70
MISSOURI																																
COLUMBIA	237	987.5	1016.2	21.1	10.0	15.7	-1.9	31.1	13	0.6	2	0	0	8.3	65	161	38	57	8	8	0	0	5.1	SSE	21.0	NW	25	6	9	16	6.4	55
KANSAS CITY	226	981.0	1016.0	21.1	10.6	15.9	-2.7	30.6	31	1.1	2	0	0	8.9	65	132	20	53	10	7	0	0	4.8	ENE	19.2	SW	14	9	6	16	6.4	55
ST JOSEPH	247	981.0		21.7	10.0	15.8	-2.3	31.7	31	- 1.1	2	0	1			108	5	52	11	8	0	0	5.9	S	19.7*	WNW	7	9	7	15	6.5	
ST LOUIS	163	996.6	1017.5	21.1	8.3	14.6	-3.9	31.1	31	0.0	2	0	1	7.2	63	184	82	74	8	6	0	0	4.6	SSE	16.1	SE	14	8	9	14	6.2	59
ST LOUIS RFC	142			21.7	11.7	16.7	-2.3	31.7	31	5.6	26+	0	0			281	176	104	8		0	0										
SPRINGFIELD	386	968.8	1016.3	22.2	10.0	16.2	-1.4	29.4	31	- 1.1	2	0	1	10.6	71	238	110	73	13	11	0	0	5.7	SSE	18.8	SW	14	8	8	15	6.5	47
MONTANA																																
BILLINGS	1087	889.6	1012.7	20.0	7.2	13.7	0.3	30.6	29	1.7	8+	0	0	4.4	60	40	- 6	26	9	3	0	0	4.6	NE	25.9	NW	10	5	11	15	6.5	57
GLASGOW	694	940.1	1014.2	20.6	6.7	13.6	0.5	32.2	29	- 1.7	1	1	2	3.3	56	26	- 13	15	8	5	0	0						6	7	18	6.8	
GREAT FALLS	1116	886.9	1013.1	19.4	6.1	12.7	0.6	30.0	26	- 1.1	8	0	2	2.8	57	46	- 3	21	11	4	T	0	3.8	SW	18.3	NW	10	7	8	16	6.4	63
HAVRE U	787	924.8	1013.5	20.6	6.1	13.4	0.3	33.9	29	- 1.7	8+	1	2			33	- 4	18	11	4	0	0	3.9	E#	16.1	W	10+	9	7	15	6.3	66
HELENA	1187	872.0	1013.4	18.9	5.0	12.1	0.8	30.0	26	- 2.2	3	0	5	2.2	56	35	- 6	9	14	6	T	T	3.9	WNW	20.1	NW	10	6	11	14	6.5	60
KALISPELL	904	910.3	1013.5	17.8	5.0	11.3	0.0	30.6	25	0.0	3	0	1			60	18	16	13	5	104	25	2.9					5	11	15	6.5	
MILES CITY	801	930.2	1014.1	21.1	8.3	14.6	0.6	32.2	28	1.1	8	1	0	6.1	63	59	16	31	14	6	0	0	4.4	SE	15.6*	NW	10	7	8	16	6.9	
MISSOULA	975	901.1	1015.6	18.3	2.8	10.6	-1.4	30.0	25	- 3.3	3	0	10	5.0	72	66	24	25	19	5	165	127	3.3	NW	15.6	SW	26	5	11	15	6.6	56
NEBRASKA																																
GRAND ISLAND	561	948.9	1014.8	20.0	8.3	14.3	-1.9	31.1	30+	- 2.2	2	0	1	7.8	69	190	92	75	14	7	0	0	6.4	ESE				7	9	15	6.3	
LINCOLN U	351			20.6	9.4	15.2	-1.7	31.7	28	- 0.6	2	0	1			89	10	32	10	6	0	0	5.3	SE#	20.6	SE	11	10	7	14	5.8	62
NORFOLK	471	959.4	1014.9	20.0	8.3	14.1	-1.0	29.4	31	- 3.3	2	0	2	5.6	59	102	10	50	8	5	0	0						6	11	14	6.6	
NORTH PLATTE	847	915.0	1013.4	18.9	7.2	12.9	-2.1	30.6	30+	0.6	9+	0	0	6.7	69	131	63	35	17	9	0	0	6.4	SE	27.3	NW	31	7	7	17	7.0	47
OMAHA	298	975.6	1015.9	21.7	10.0	15.6	-1.4	31.1	31	- 0.6	2	0	1	6.7	61	152	82	85	9	6	0	0	5.9	SSE	18.9	E	30	7	10	14	6.5	56
OMAHA N OMAHA AP	403	967.5		20.6	8.9	14.7	-1.2	29.4	31	- 0.6	2	0	2			105	36	54	7	5	0	0						5	10	16	6.7	
SCOTTSBLUFF	1204	877.8	1013.3	19.4	5.6	12.6	-0.8	31.7	10	- 0.6	6	0	2	6.7	66	102	35	37	16	10	25	25	6.3	ESE	19.7*	NNE	13	6	9	16	6.7	
VALENTINE	789	923.8		18.9	6.7	12.7	-1.2	33.3	10	- 2.2	2	1	3		70	92	25	31	10	5	T	0	5.7	SE#	18.8	NE	13	7	6	18	6.8	47
NEVADA																																
ELKO	1547	842.2	1011.7	21.1	2.2	11.4	-0.3	30.0	25	- 9.4	5	0	11	- 3.9	36	13	- 11	6	5	2	T	0	3.0	SW	11.2*	S	19	8	13	10	5.8	
ELY	1907	806.6	1011.3	19.4	1.1	10.1	-0.8	26.1	25	- 9.4	5	0	14	- 5.6	39	16	- 14	7	7	1	104	51	5.6	S	24.1	SE	31	7	10	14	5.9	81
LAS VEGAS	659	943.8	1008.3	30.6	14.4	22.7	-0.7	35.6	25+	9.4	8	13	0	- 3.9	19	T	- 4	T	0	0	0	0	5.5	SSW	14.3*	NW	12+	23	4	4	2.6	92
RENO	1342	860.5	1013.6	21.7	2.2	11.9	-1.1	29.4	25	- 4.4	13	0	10	- 0.6	45	23	11	19	5	3	0	0	3.4	WNW	17.0	W	1	13	11	7	4.8	76
WINNEMUCCA	1310	866.2	1013.9	21.7	1.7	11.6	-1.7	32.2	25	- 8.9	5	1	12	- 1.7	44	15	- 6	7	6	2	T	0	4.3	W	21.0	W	1	8	13	10	5.5	70
NEW HAMPSHIRE																																
CONCORD	103	1005.1	1016.0	18.9	5.0	11.8	-0.9	32.8	14	- 3.3	6	2	7	4.4	65	72	- 5	24	12	2	0	0	2.9	NW	11.2	W	28	6	7	18	6.9	50
MT WASHINGTON OBS	1909	804.4		2.8	- 3.3	- 0.3	-2.1	13.9	15+	-13.3	5	0	23		86	76	- 59	28	15	3	165	381	12.8	W	50.1Y	W	3	4	8	19	7.5	35
NEW JERSEY																																
ATLANTIC CITY	18	1014.8	1017.6	20.6	9.4	15.1	-0.6	28.3	8	2.8	4	0	0	8.3	69	81	5	28	13	2	0	0	5.4	S	13.0	WNW	27	6	10	15	6.9	51
ATLANTIC CITY U	9			16.7	9.4	13.0	-2.1	22.2	31+	3.9	4	0	0			77	2	33	13				5.7		13.0	W	29+					
NEWARK	3	1015.7	1017.1	20.6	10.0	15.4	-0.8	30.0	25	5.6	28+	0	0	7.2	61	85	- 10	27	14	4	0	0	4.4	NW	12.1*	WNW	31+	7	7	17	7.0	
TRENTON U	17	1009.4		20.6	9.4	15.1	-1.5	29.4	9	5.0	27+	0	0			90	2	23	15	6	0	0	4.3	NW	14.8	NW	26	6	9	16	6.8	50
NEW MEXICO																																
ALBUQUERQUE	1618	846.6	1009.0	27.8	10.0	18.8	0.3	32.8	31	2.8	6	4	0	- 2.8	28	T	- 22	T	1	0	0	0	4.5	S	19.2	E	23+	16	11	4	3.9	85
CLAYTON	1515	844.2	1011.2	24.4	6.7	15.7	0.2	32.2	31+	0.0	6	2	1			14	- 51	6	10	8	0	0						3	19	9	5.9	
RATON	1944	804.6	1011.5	23.3	5.0	13.9	0.8	30.0	11	- 1.7	6	0	2			48	- 7	33	7	7	T	0						6	19	6	5.5	
ROSWELL	1101	890.6	1009.8	32.2	9.4	20.7	0.7	38.9	31	1.1	6	17	0	2.8	37	11	- 21	10	2	2	0	0	5.0		17.0	W	13	12	14	5	4.2	
SILVER CITY	1638	832.7	1009.7	28.3	8.3	18.2		32.2	19	2.2	6	1	0			0		0	0	0	0	0						19	10	2	3.2	
NEW YORK																																
ALBANY	84	1012.2	1016.1	19.4	6.7	13.0	-1.2	30.6	14	- 2.2	1	0	3	6.7	67	113	42	25	15	5	T	0	4.2	WNW	13.9	NW	16	4	8	19	7.5	44
BINGHAMTON	485	957.0	1016.4	16.7	6.1	11.3	-1.4	26.7	14	0.0	1	0	1	5.6	71	80	- 19	17	18	7	T	T	5.0	NW	15.6	NW	3	3	9	19	7.5	55
BUFFALO	211	988.8	1017.3	17.2	6.1	11.7	-1.3	30.6	15	0.6	2	0	0	6.7	73	76	14	26	13	2	T	T	5.5	SW	15.2	SW	28	3	12	16	7.2	56
NEW YORK	6	1014.8	1016.9	18.9	10.6	14.8	-1.5	27.2	25	5.0	27	0	0	7.2	66	101	16	44	15	4	T	0	5.3	NE	17.9	NW	26	6	6	19	7.1	
NEW YORK U	3	1005.0		20.6	10.6	15.5	-1.1	29.4	25	5.0	27	0	0	6.7	61	91	- 4	36	15	2	0	0	4.1	NW	11.6	NW	3	9	10	12	6.0	43
ROCHESTER	166	997.6	1017.0	18.3	6.1	12.2	-1.4	31.1	15	- 1.1	2	0	1	5.6	67	75	8	25	15	3	T	0	5.8	WSW	20.1	W	28	3	13	15	6.8	59
SCHENECTADY	66			17.8	6.1	11.9	-2.6	28.9	14	- 1.1	6	0	2			72	- 3	13	12	1	0	0						17	9	5	4.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

MAY 1961

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb	C.	C.	C.	C	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s.							%
NEW YORK																																
SYRACUSE	129	993.1	1016.5	18.9	7.2	13.1	-1.2	29.4	14	0.6	1	0	0	5.6	63	61	- 13	14	14	4	T	T	5.2	WNW	17.0	W	3	5	13	13	6.7	45
NORTH CAROLINA																																
ASHEVILLE U	671	938.9		21.7	9.4	15.6	-1.9	28.9	31+	1.7	28+	0	0			77	0	40	10	3	0	0	3.7		11.2	NW	26+	9	7	15	6.1	54
CAPE HATTERAS R	3	1017.2	1018.0	21.7	12.8	17.2	-2.9	26.7	16+	6.1	3	0	0	13.3	77	111	11	37	13	5	0	0	5.6	SW	15.2	SW	2	8	13	10	5.7	62
CHARLOTTE	221	990.0	1018.1	22.8	12.2	17.7	-2.5	27.8	8	5.0	27	0	0	11.7	70	81	5	29	12	2	0	0	3.3	NNE	9.4	SW	9+	7	11	13	6.2	62
GREENSBORO	272	986.5	1018.6	23.3	10.6	17.2	-1.9	28.9	8	2.2	28+	0	0	10.0	66	109	17	54	16	5	0	0	3.5	SW	11.2	SW	1	9	11	11	5.7	64
RALEIGH	132	1004.1	1018.0	24.4	11.1	17.9	-1.7	30.0	8	2.8	28	0	0	11.1	68	77	- 10	37	12	5	0	0	3.9	SSW	10.7*	NW	27	8	12	11	5.7	50
WILMINGTON	9	1015.0	1017.9	25.0	14.4	19.6	-1.5	29.4	26+	6.7	28	0	0	14.4	76	94	7	32	11	3	0	0	4.5	SSW	14.8	SW	1	5	14	12	6.2	67
WINSTON SALEM	295	982.8	1018.2	23.3	11.7	17.5	-1.8	29.4	8	3.9	3	0	0	8.9	60	96	- 4	35	13	4	0	0	4.2	SW	17.0*	NE	11	11	9	11	5.5	
NORTH DAKOTA																																
BISMARCK	502	956.7	1017.5	20.0	5.0	12.4	-0.3	33.3	30	- 6.7	1	1	5	3.3	59	20	- 29	8	9	2	T	0	5.8	SE	18.8	NW	7	7	7	17	6.7	74
DEVILS LAKE U	448	964.4		18.3	3.3	10.9	-0.7	29.4	21	- 6.1	1	0	6		51	21	- 33	16	5	2	5	T	4.1	NE#	12.5	S	30	11	11	9	5.3	74
FARGO	274	983.7	1018.5	19.4	3.9	11.8	-1.0	32.2	31	- 6.7	2	1	8	2.8	58	69	14	24	6	3	T	T	6.3	S	16.1	S	30	11	8	12	5.4	64
WILLISTON U	572	948.2	1016.1	18.9	7.2	13.0	0.4	31.1	30	- 0.6	1	0	2	3.3	56	15	- 27	8	4	0	3	T	3.8	SE#	13.9	S	29	7	8	16	6.5	72
OHIO																																
AKRON	369	979.8	1018.3	18.3	6.1	12.1	-2.6	28.9	14	- 1.1	27+	0	4	6.1	68	67	- 28	17	10	6	T	0	4.9	NW				7	7	17	6.7	
CINCINNATI OBS	232			21.1	8.9	15.2	-2.4	28.9	14	1.1	27	0	0			164	74	70	15	4	0	0	2.7	N	11.6	N	8					62
CINCINNATI	265	986.2	1018.3	21.1	9.4	15.2	-1.8	29.4	14	0.0	2	0	1	7.2	63	186	98	86	11	4	0	0	4.5	SSW	17.0*	NW	8	7	10	14	6.6	
CLEVELAND	240	989.7	1017.8	18.9	6.1	12.4	-2.7	28.3	14	- 2.2	4	0	3	5.6	67	33	- 36	10	11	2	T	0	4.9	S	17.9	SW	15	7	10	14	6.4	71
COLUMBUS	248	987.6	1018.4	20.0	7.2	13.6	-2.4	28.9	14	0.0	2	0	1	7.8	69	74	- 27	37	12	5	0	0	3.8	SSW	13.0	W	8	5	14	12	6.4	68
COLUMBUS U	221			20.0	8.9	14.6	-2.2	29.4	14	1.1	2	0	0			77	- 5	40	12	7	0	0										
DAYTON	305	981.7	1018.2	19.4	7.8	13.8	-2.3	27.2	14	- 0.6	2	0	1	6.7	65	71	- 19	25	11	3	0	0	4.6	SSW	21.5	W	15	8	10	13	6.3	60
MANSFIELD	395			18.3	6.7	12.3		26.7	14	- 1.1	2	0	2			38		10	11	5	T	0						5	11	15	6.7	
SANDUSKY U	184	996.1		18.3	8.9	13.6	-1.6	29.4	14	2.8	2	0	0			52	- 32	12	10	4	T	T	4.1		21.5	W	15	11	11	9	5.0	61
TOLEDO	206	992.6	1018.2	18.9	6.1	12.6	-2.0	27.8	14	- 1.1	4+	0	3	5.6	64	55	- 20	13	10	3	T	0	4.6	WSW	13.9	W	2	11	0	10	5.5	63
YOUNGSTOWN	359	975.1	1018.1	17.8	5.6	11.6	-3.1	28.3	14	- 1.7	2	0	4	5.0	66	49	- 55	12	10	4	T	T	4.7	NNW	16.5*	WSW	15	6	8	17	6.9	
OKLAHOMA																																
OKLAHOMA CITY	390	971.2	1014.2	26.1	13.9	19.8	-0.2	32.8	29	3.9	2	2	0	12.2	65	49	- 59	17	7	10	0	0	6.8	SSE	18.8	SE	8	7	10	14	6.0	62
TULSA	198	990.5	1014.8	24.4	13.3	18.8	-1.3	31.7	31+	1.7	2	0	0	13.3	73	231	110	93	11	12	0	0	5.8	SSE	17.9	W	8	6	12	13	6.0	63
OREGON																																
ASTORIA	2	1016.9	1017.4	15.6	7.2	11.4	-0.5	27.2	19	2.2	11	0	0	7.8	79	74	- 16	19	14	1	0	0	4.0	WNW	14.3*	S	1	3	5	23	8.0	
BURNS U	1265	871.3	1014.2	18.3	2.2	10.2	-2.1	28.3	25	- 3.9	2	0	9	0.6	54	21	2	5	9	1	T	T						8	10	13	6.0	
EUGENE	110	1004.1	1017.8	18.3	7.2	12.7	-0.8	28.9	19	3.3	4+	0	0			73	22	19	17	0	0	0	4.2		20.6*	WSW	1	4	5	22	7.7	
MEACHAM	1234			12.8	3.3	8.2	-0.7	27.2	25	- 2.8	5	0	4			66	6	18	18	3	84	0						4	7	20	7.7	
MEDFORD	396	969.2	1017.0	20.6	5.6	13.1	-1.7	31.7	19	0.6	24	0	0	6.1	68	47	16	13	12	0	0	0	2.4	WNW	9.4*	WNW	22	7	8	16	6.5	
PENDLETON	452	961.4	1015.2	20.6	7.8	14.1	-1.3	30.6	25	2.8	4	0	0	3.9	55	24	- 1	11	11	3	0	0	4.2	W	14.3*	W	1	5	10	16	6.7	
PORTLAND	6	1011.2	1016.9	18.9	8.3	13.7	-0.6	32.8	19	3.9	12	1	0	8.3	74	71	26	15	17	2	0	0	3.2	NW	13.0	SW	1	3	5	23	8.0	48
ROSEBURG	154	998.6	1018.0	20.0	7.2	13.6	-0.2	31.1	19	2.8	27+	0	0			63	19	14	14	0	0	0	2.1	N#	8.9	NW	19	3	9	19	7.5	53
SALEM	59	1009.8	1017.1	17.8	6.7	12.2	-1.8	30.6	19	2.8	12	0	0	7.8	78	62	13	11	19	0	0	0	3.0	S	9.4*	S	10	4	4	23	7.7	
SEXTON SUMMIT R	1169	883.5	1016.9	12.8	2.2	7.5	-2.8	25.6	19	- 2.2	4+	0	8			96	46	20	11	0	132	76	4.9	S				5	4	22	7.3	
PACIFIC AREA																																
CANTON ISLAND	2	1008.5	1008.9	31.7	26.1	28.9	-0.1	32.8	26+	24.4	23	15	0	24.4	81	71	- 2	19	16	0	0	0	5.6	ENE	11.6*	ENE	23+	2	11	18	7.7	
ENIWETOK	4	1009.8	1010.5	30.0	25.6	27.8		31.1	30+	23.3	16	0	0	24.4	80	182		43	20	0	0	0	9.0									
JOHNSTON	2	1014.2	1014.8	28.3	23.3	25.9		30.6	4+	22.2	25+	0	0	22.2	77	10		3	8	0	0	0	8.3		16.5	E	12	1	18	12	6.5	72
KOROR R	29	1006.1	1009.9	31.1	24.4	27.6	0.2	32.2	31+	22.8	19	8	0	24.4	88	512	152	101	26	2	0	0	2.3	SE	12.1	NW	21	0	0	31	9.8	36
KWAJALEIN	2	1009.8	1010.7	30.0	25.0	27.3		31.1	9	22.8	31+	0	0	24.4	84	348		69	27	1	0	0	7.3	ENE	14.8*	ENE	28	0	6	25	8.6	
MAJURO	3	1010.2	1010.5	30.0	25.6	27.5		31.1	17	23.3	28+	0	0	24.4	82	212		45	26	0	0	0	5.3	ENE	13.0	E	28	2	2	27	9.1	
PONAPE R	37	1004.4	1009.3	30.0	23.3	26.8	-0.7	32.2	20	21.7	26	1	0	24.4	87	564	65	89	29	1	0	0	2.5	NE	9.8	NE	15	0	1	30	9.4	43
TAGUAC GUAM R	110			30.0	23.3	26.8	0.3	30.6	29+	20.0	21	0	0			136	34	26	24	1	0	0	3.9	E#	10.7	E	8+					38
TRUK MOEN ISLAND	2	1008.8	1009.1	30.0	25.0	27.6	0.4	31.7	1	23.3	11+	0	0	25.0	86	568	240	126	28	3	0	0	2.6	NNE	16.5	NE	23	0	0	31	9.6	82
WAKE ISLAND	3	1015.9	1016.3	28.9	23.3	26.2	-0.1	30.0	31+	21.1	13+	0	0	21.1	75	13	- 46	6	7	0	0	0	7.8	ENE	13.0*	ENE	11+	14	9	8	5.0	
YAP R	17	1006.4	1008.4	30.0	24.4	27.3	-0.6	31.7	31+	22.8	22	0	0	25.0	86	459	227	89	28	0	0	0	4.2	NE	12.1	SE	21+	0	0	31	9.9	22
PENNSYLVANIA																																
ALLENTOWN	115	1003.2	1017.6	20.0	8.3	14.2	-1.6	27.8	25+	2.2	4	0	0	7.8	68	60	- 41	17	15	4	0	0	5.1	NW	20.6*	W	3	8	5	18	6.9	
ERIE	223	990.8	1017.3	17.2	6.7	12.0	-0.8	27.8	15	0.0	2	0	1	6.1	69	52	- 29	12	10	4	T	T	5.5	WSW	13.4*	SE	15	7	8	16	6.6	
HARRISBURG	102	1003.5	1017.5	20.6	10.0	15.1	-1.8	30.0	9	3.9	5	0	0	6.7	62	52	- 42	14	14	5	0	0	3.9	W	14.8	W	9	5	9	17	7.1	53

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 25 mm or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	No. of days: Partly cloudy 4-7	No. of days: Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm	Mm			Mm	Mm	M p s		M.p.s							%
PENNSYLVANIA																																
PHILADELPHIA	2	1012.5	1017.0	20.6	9.4	14.8	-2.5	28.9	9	2.8	4	0	0	8.3	67	86	- 5	32	13	5	0	0	4.2	WSW	13.4	NW	3	6	9	16	6.9	54
PHILADELPHIA U	11			21.1	11.1	16.1	-1.5	29.4	9	6.1	27	0	0																			
PITTSBURGH	351	987.6	1018.4	19.4	6.7	12.9	-2.6	28.3	15	0.0	5+	0	2	6.1	64	71	- 25	18	13	7	T	0	4.2	WSW	15.6*	S	8	3	5	23	7.6	49
PITTSBURGH U	228			20.0	8.9	14.3	-2.7	28.9	14	2.8	4	0	0			68	- 21	16	12		0											42
READING U	81	1004.9		21.1	10.0	15.6	-1.4	29.4	9	3.9	4	0	0			86	- 8	39	12	5	0	0	5.2		20.1	SW	9	5	10	16	6.8	47
SCRANTON	287	982.8	1017.4	19.4	7.8	13.4	-1.6	27.8	15+	1.7	5+	0	0	5.6	62	84	- 21	36	13	3	0	0	4.6	NNW	12.1	NW	3+	3	10	18	7.4	43
WILLIAMSPORT	161	998.0		20.0	7.2	13.7	-1.9	27.8	25	1.1	5	0	0			75	- 35	19	17		0	0						3	9	19	7.6	
RHODE ISLAND																																
BLOCK ISLAND	34			13.9	7.2	10.8	-1.6	18.3	25	2.8	31	0	0			137	61	60	12	1	0	0						6	8	17	7.1	
PROVIDENCE	17	1010.2	1016.3	17.8	7.8	12.9	-0.9	27.8	25	2.2	6+	0	0	6.7	69	132	56	51	12	1	0	0	5.4	S	15.6*	WSW	3	4	11	16	7.0	49
SOUTH CAROLINA																																
CHARLESTON	12	1015.5	1017.5	26.1	15.6	20.8	-1.1	31.1	16	7.2	28	0	0	16.1	79	133	37	46	9	7	0	0	3.6	S	15.6	N	27	4	16	11	6.3	69
CHARLESTON U	3			24.4	17.8	21.2	-1.6	30.6	16	11.7	27	0	0			104	19	29	9		0	0	4.6		17.4	N	27					
COLUMBIA	66	1004.6	1017.4	26.7	13.9	20.4	-1.6	31.1	16+	5.0	28	0	0	13.9	69	76	- 6	29	9	3	0	0	3.0	SSW	13.0	SSW	1	8	9	14	5.9	54
FLORENCE	45	1011.3	1017.2	26.1	13.9	19.9	-1.9	31.7	16	6.7	28	0	0	13.9	71	136	40	56	11	5	0	0	3.4	S	8.9*	N	27	8	7	16	6.2	
GREENVILLE	310	980.7	1018.0	24.4	12.8	18.8	-1.5	30.6	8	6.1	27	0	0	11.1	67	66	- 20	21	11	4	0	0	3.4	NE	14.3	N	27	9	8	14	6.2	56
SPARTANBURG	244	987.8	1017.8	23.9	12.8	18.2	-2.2	28.9	16+	5.0	27	0	0	10.6	66	79	- 9	29	10	3	0	0	2.7	N	9.4*	SW	8+	11	6	14	6.1	
SOUTH DAKOTA																																
HURON	391	969.2	1016.6	18.9	5.6	12.3	-2.1	30.6	10	- 8.3	1	0	5	6.1	70	111	54	44	11	6	0	0	5.8	SSE	21.9	NE	14	6	6	19	7.0	62
RAPID CITY	965	901.1	1015.0	19.4	6.7	13.2	0.6	32.2	10	0.6	4+	1	0	3.9	59	33	- 45	13	7	0	T	0	5.5	SE	17.0	N	14	8	6	17	6.6	49
SIOUX FALLS	433	964.4	1016.2	18.9	6.7	12.8	-1.7	30.0	31	- 3.9	2+	0	3	4.4	61	119	33	33	12	5	0	0	5.6	SE	13.9*	NNW	15	5	10	16	6.9	
TENNESSEE																																
BRISTOL	463	963.2	1017.6	22.8	9.4	16.1	-1.8	28.3	14	1.7	3	0	0	9.4	68	59	- 29	15	10	5	0	0	3.1	WNW	11.2*	NW	9	7	10	14	6.4	
CHATTANOOGA	204	990.0	1017.6	25.0	12.2	18.8	-1.1	31.1	31	3.9	3	0	0	12.2	69	139	33	41	10	8	0	0	3.4	S	13.0	S	8	7	11	13	6.4	58
KNOXVILLE	290	982.6	1018.2	22.8	10.6	16.7	-2.9	27.8	31+	3.9	27+	0	0	10.6	69	106	15	37	9	4	0	0	3.8	NE	14.8	SW	8	6	8	17	6.7	66
MEMPHIS	80	1002.3	1017.0	25.0	13.9	19.3	-1.9	31.1	31	5.0	27	0	0	12.8	66	112	12	36	8	6	0	0	4.4	S	15.2	N	26	8	11	12	5.9	68
MEMPHIS U	83			24.4	15.0	19.6	-1.8	31.7	31	6.7	27	0	0			100	8	37	8		0	0										
NASHVILLE	176	993.5	1017.5	23.9	11.1	17.6	-2.6	30.0	31	3.3	27	0	0	11.1	67	111	15	34	10	5	0	0	3.5	S	19.2	SW	8	7	7	17	6.4	60
OAK RIDGE	276	984.2		23.3	11.1	17.1	-1.8	29.4	31	1.7	3	0	0			112	5	37	9	4	0	0	2.2		17.4		8	9	6	16	6.2	
TEXAS																																
ABILENE	536	952.3	1012.2	30.6	16.7	23.4	1.4	36.1	12	7.8	9	13	0	12.8	56	33	- 61	19	5	7	0	0	5.5	SSE	14.8	S	16+	10	11	10	5.1	81
AMARILLO	1099	887.2	1010.8	27.8	11.7	19.6	1.9	36.7	12	3.3	2	7	0	6.1	48	86	10	54	5	7	0	0	7.5	S	20.1	S	7	11	13	7	4.6	74
AUSTIN	187	992.2	1013.9	30.6	18.3	24.6	0.6	35.0	22	10.6	20	11	0	16.1	65	26	- 85	15	3	2	0	0	5.4	SSE	16.1	S	4	8	10	13	6.0	65
BROWNSVILLE	5	1010.8	1013.4	31.1	21.7	26.5	0.4	33.3	15+	11.7	10	9	0	21.1	76	12	- 67	12	1	2	0	0	6.3	SSE	15.2	SE	4	8	19	4	4.8	74
CORPUS CHRISTI	13	1012.9	1014.0	30.6	21.7	25.9	0.7	32.8	25+	12.2	10	4	0	20.0	72	T	- 87	T	0	1	0	0	5.5	SE	14.3	SE	4	5	16	10	6.1	70
DALLAS	147	996.3	1014.7	28.3	17.8	22.9	-0.2	33.3	21	10.0	9	4	0	15.6	65	33	- 93	19	6	4	0	0	6.2	S	19.2	W	8	11	8	12	5.4	64
DEL RIO U	292			32.2	20.6	26.4	1.2	36.7	22+	14.4	10+	18	0			12	- 50	6	4	3	0	0										
EL PASO	1194	884.2	1009.5	32.2	15.0	23.4	1.4	37.2	31+	7.8	15+	20	0	- 3.3	21	T	- 10	T	0	0	0	0	4.7	WSW	25.0	SW	7	17	9	5	3.5	86
FORT WORTH	166	993.9	1014.6	28.3	17.2	22.8	-0.1	33.9	21	9.4	27+	6	0	15.0	66	27	- 98	13	6	5	0	0	6.4	S	19.7*	W	8	9	10	12	5.7	
GALVESTON U	2			26.1	21.7	23.8	-0.4	29.4	23	13.9	27	0	0			2	- 79	2	4		0	0	6.1		15.2	NW	8					83
GALVESTON	2	1014.2	1016.0	26.7	21.7	24.0	-0.4	28.9	23+	13.9	27	0	0	17.8	70	8	- 81	6	3	3	0	0	5.7	SE				7	16	8	5.5	
HOUSTON U	12			27.8	19.4	23.6	-0.8	32.2	23+	12.2	27+	2	0			16	-107	15	3		0	0										
HOUSTON	15	1012.9	1015.6	30.6	19.4	25.0	1.3	33.9	23+	11.7	10	9	0	18.9	73	91	- 34	60	6	3	0	0	4.1	SSE				9	9	13	6.1	63
LAREDO	152	996.6	1011.9	35.6	21.7	28.7	1.3	39.4	22+	15.0	11+	28	0	17.2	56	4	- 77	3	3	4	0	0	6.2	SE	15.6*	NE	23	9	18	4	4.7	
LUBBOCK	988	901.8	1011.9	28.9	12.8	20.8	0.9	36.1	12+	3.3	9	9	0	8.3	51	52	- 33	21	5	5	0	0	8.1	S	20.6*	WSW	13	14	12	5	4.2	
MIDLAND	870	913.3	1010.7	31.1	15.6	23.2	0.2	37.2	12	8.9	9	15	0	7.8	46	67	14	42	2	2	0	0	5.8	SE	16.5*	W	13	15	9	7	4.5	
PORT ARTHUR	5	1014.2	1015.7	29.4	17.8	23.4	-0.1	33.3	23	9.4	10	1	0	18.3	78	46	- 66	24	4	7	0	0	4.8	S	17.4	S	8	9	8	14	5.8	55
SAN ANGELO	580	945.5	1011.7	32.2	17.8	24.9	1.8	38.9	12	8.9	9	19	0	13.3	56	67	- 8	49	4	5	0	0	6.7	S	17.9*	SSE	16	9	14	8	5.3	
SAN ANTONIO	241	988.8	1013.7	32.2	19.4	25.8	1.4	36.1	22	11.1	10	17	0	17.2	65	4	- 85	4	2	3	0	0	5.2	SSE	13.9	N	23	8	13	10	5.9	63
VICTORIA	34	1009.5	1014.1	30.6	19.4	24.8	-0.4	33.9	23	11.7	11+	6	0	18.3	70	18	- 84	8	5	5	0	0	6.0	SSE	21.0Y	S	7	5	16	10	5.9	
WACO	152	993.2	1014.3	30.0	17.8	23.9	0.3	36.1	22	11.1	10	10	0	16.1	66	34	- 71	16	5	4	0	0	7.2	SSE	17.9*	NNE	1	10	8	13	5.8	
WICHITA FALLS	303	976.6	1013.2	29.4	15.6	22.6	1.2	36.7	31	7.2	27+	9	0	13.3	60	46	- 52	17	8	10	0	0	6.2	SSE	15.6*	ESE	4	13	8	10	5.1	
UTAH																																
MILFORD	1533	841.5	1011.5	23.9	3.9	13.7	-0.1	30.6	25	- 5.0	5	0	3			8	- 11	6	4	1	0	0						12	9	10	4.9	
SALT LAKE CITY	1286	864.2	1010.7	25.0	7.2	16.0	1.1	33.3	28+	- 2.2	5	6	2	1.1	42	6	- 34	3	5	3	T	0	4.7	S	17.0	N	1	8	12	11	5.9	61
WENDOVER	1291	867.6	1009.5	22.8	10.6	16.5		31.1	25	0.0	5	0	1			13		8	7	4	T	T						11	11	9	5.1	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

MAY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
VERMONT																																
BURLINGTON	101	1000.5	1015.4	17.2	3.9	10.6	-2.4	31.1	15	- 3.9	31+	0	10	5.6	72	67	- 7	19	16	3	T	0	3.7	SSW	10.7	NW	29	4	10	17	7.2	47
VIRGINIA																																
LYNCHBURG	289	993.1		22.2	10.0	16.2	-2.1	28.9	8	3.9	28	0	0			78	- 1	24	12	6	0	0	3.8		13.4	S	25	10	10	11	5.6	67
NORFOLK	8	1017.0	1018.4	22.8	12.8	17.6	-1.3	30.6	8	3.9	28	0	0	11.7	70	197	110	75	13	7	0	0	4.3	SW	11.6	NW	29+	8	13	10	5.7	66
RICHMOND	49	1012.3	1018.7	24.4	10.6	17.6	-1.2	31.7	8	2.2	3	0	0	10.0	65	123	30	28	11	7	0	0	3.9	SSW	11.6	N	29+	9	8	14	6.0	62
ROANOKE	358	975.8	1018.1	22.8	10.0	16.4	-1.8	30.0	8	2.2	3	0	0	7.2	60	52	- 40	23	12	6	0	0	4.2	NW				12	8	11	5.4	
WASHINGTON																																
OLYMPIA	58	1009.8	1017.0	17.8	5.0	11.4	-0.9	30.0	19	- 1.1	11	0	2	7.2	77	74	32	17	15	0	0	0	2.8	SW	10.3*	WSW	1	4	9	18	7.4	
SEATTLE TACOMA	122	1002.7	1016.9	16.7	7.2	12.1	-0.7	29.4	19	3.3	11+	0	0	6.7	73	78	36	20	14	2	0	0	3.5	SW	10.3*	SW	20	5	7	19	7.1	
SEATTLE	4	1015.7	1016.8											8.3	73								3.2	S								
SEATTLE U	4			17.8	9.4	13.7	-0.4	31.1	19	6.1	11+	0	0			78	37	20	12		0	0			15.2	SW	10					45
SPOKANE	718	945.8	1014.9	17.8	5.6	11.7	-0.9	30.6	25	1.1	4	0	0	5.0	69	45	19	14	13	1	0	0	3.6	SSW	16.1	SW	1	4	9	18	6.9	53
STAMPEDE PASS R	1206	878.8	1018.1	8.9	2.2	5.4	-1.5	21.1	25	- 3.3	4	0	10			94	- 26	15	23	2	203	2362						4	5	22	7.9	
TATOOSH ISLAND	31	1014.2	1017.2	12.8	7.8	10.4	-0.1	18.3	19	2.8	3	0	0	7.8	83	90	6	25	12	0	0	0	5.1	W	17.0	S	1	2	7	22	8.2	32
WALLA WALLA U	289	978.7	1014.6	21.1	9.4	15.2	-1.1	32.2	25	3.9	4	1	0			40	8	15	10	3	0	0	2.6	W#	10.7	W	1	5	11	15	6.7	56
YAKIMA	323	976.3	1015.2	21.1	5.6	13.3	-1.8	32.2	25	- 1.7	6	1	4	3.9	56	24	12	15	9	3	T	0	3.8	WNW	20.6*	S	25	6	13	12	6.1	
WEST INDIES																																
SAN JUAN P.R. U	14			30.0	23.3	26.6	0.7	33.3	24	21.7	16+	5	0			79	- 86	46	13		0	0										
SAN JUAN P.R.	5	1014.6	1017.5	31.1	22.2	26.5	0.6	33.3	25	20.0	16+	9	0	21.1	76	45	-122	8	16	0	0	0	2.6	ENE	11.2	E	26	1	25	5	5.9	62
SWAN ISLAND	10			31.1	25.0	27.8		32.8	20+	23.3	20+	3	0			34			14	0	0	0										
WEST VIRGINIA																																
CHARLESTON	290	982.6	1018.4	22.2	8.3	15.2	-2.4	31.1	14+	0.6	3	0	0	7.8	65	107	11	28	12	6	0	0	2.9	SW	15.6*	WNW	15	6	5	20	7.1	
HUNTINGTON U	173			22.8	8.9	15.8	-2.9	32.2	14	2.2	27+	1	0			99	2	28	12		0	0										
PARKERSBURG U	187			22.2	8.3	15.3	-2.2	31.7	14	2.8	4+	0	0			86	- 3	30	12	4	0	0	2.6		12.1	W	8					49
WISCONSIN																																
GREEN BAY	210	994.9	1018.1	18.9	4.4	11.6	-0.8	30.0	13	- 2.8	1	0	5	2.8	60	36	- 28	14	10	2	T	T	5.5	SW	13.9	N	15+	13	10	8	4.8	64
LA CROSSE	199	992.6	1017.2	20.6	7.2	13.9	-1.1	30.6	31+	0.0	2	0	1	5.6	61	70	- 13	22	10	5	0	0	5.0	S	15.6*	WSW	14	13	10	8	4.8	
MADISON	262	982.1	1017.6	19.4	5.0	12.2	-1.9	28.9	13	- 3.9	1	0	6	6.1	67	30	- 53	8	9	2	0	0	4.7	S	13.9	SW	14	10	7	14	5.5	69
MILWAUKEE	204	993.2	1018.8	16.7	4.4	10.4	-1.9	26.7	13	- 2.8	1	0	5	4.4	66	32	- 44	8	8	2	0	0	5.1	NNE	15.6	N	25	15	6	10	4.5	66
WYOMING																																
CASPER	1621	835.8	1011.5	19.4	5.0	12.4	0.7	29.4	10	- 1.7	7	0	3	1.7	56	18	- 41	13	7	7	0	0	5.8	NNE	19.7*	SW	10	5	14	12	6.3	
CHEYENNE	1869	810.7	1012.5	17.8	5.0	11.6	1.5	27.8	11+	- 1.1	6	0	3	3.9	68	74	12	34	14	9	292	229	6.3	WNW	16.1	N	14	1	9	21	7.6	43
LANDER	1696	833.4	1012.1	19.4	5.0	12.1	0.7	28.9	10	- 1.1	8	0	2	1.7	56	56	- 9	25	14	6	0	0	3.2	SW#	19.2	SW	6	4	17	10	6.3	68
SHERIDAN	1202	883.5	1010.1	18.9	5.0	12.1	0.5	31.1	10	- 3.3	8	0	3	5.0	65	75	8	36	6	5	0	0	3.7	NW	26.8	NW	10	6	14	11	6.1	56

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.
A Maximum hourly average.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
\# Wind direction to 8 compass points only.
Y Peak Gust.

Data in this table is obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

MAY 1961

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	48	2821	2780
Huntsville	65	3271	
Mobile	7	1767	1612
Montgomery	28	2466	2137
ALASKA			
Anchorage	526	9967	10450
Annette	424	6162	6775
Barrow	1341	20279	19061
Barter Island	1301	19654	
Bethel	666	12875	12508
Cold Bay	724	9155	9108
Cordova	624	8679	9144
Fairbanks	481	13829	13965
Juneau	538	7889	8546
King Salmon	620	10978	10821
Kotzebue	919	14968	15500
McGrath	537	13942	14107
Nome	808	13316	13510
St. Paul	855	10563	10134
Shemya	825	8961	
Yakutat	589	8166	8889
ARIZONA			
Flagstaff	495	6765	7313
Phoenix (U)	31	1018	1492
Phoenix	[illegible]	1371	1698
Prescott	134	4137	4516
Tucson	[illegible]	1674	1776
Winslow	87	4899	4694
Yuma	0	598	951
ARKANSAS			
Ft. Smith	46	3369	3188
Little Rock	44	3288	2982
Texarkana	19	2573	2362
CALIFORNIA			
Bakersfield	33	2367	2115
Bishop	122	3892	4184
Blue Canyon	566	5176	5517
Burbank	82	1185	1786
Eureka (U)	379	4336	4350
Fresno	57	2756	2532
Long Beach	94	1445	
Los Angeles (U)	61	859	1432
Los Angeles	122	1471	1959
Mt. Shasta (R)	455	5372	5739
Oakland	242	2910	3044
Point Arguello (R)	333	3450	
Red Bluff	90	2650	2546
Sacramento (U)	111	2595	2595
Sacramento	84	2653	2815
Sandberg (R)	402	4025	4187
San Diego	103	1096	1531
San Francisco (U)	277	3020	2889
San Francisco	241	2912	3257
San Jose (U)	180	2257	2364
Santa Maria	319	2930	2782
COLORADO			
Alamosa	407	8370	8456
Colorado Springs	324	6288	6179
Denver	299	5969	6067
Grand Junction	127	5262	5773
Pueblo	170	5368	5682
CONNECTICUT			
Bridgeport	296	5879	5858
Hartford	292	6875	6108
Middletown	317	6828	
New Haven	311	6123	5974
DELAWARE			
Wilmington	203	5444	4904
DIST. OF COLUMBIA			
Washington (U)	126	4475	4258
Washington	123	4635	4333
FLORIDA			
Apalachicola (U)	1	1332	1307
Daytona Beach	0	968	868
Fort Myers	0	353	405
Jacksonville	0	841	1243
Key West	0	84	77
Lakeland (U)	0	663	649
Miami	0	181	178
Miami Beach	0	113	123
Orlando	0	645	650
Pensacola (U)	6	1477	1435
Tallahassee	6	1599	1519
Tampa	0	616	674
West Palm Beach	0	249	248
GEORGIA			
Athens	56	3194	2800
Atlanta	66	3092	2826
Augusta	17	2671	2138
Columbus	24	2512	2396
Macon	23	2387	2049
Rome	72	3615	3138
Savannah	7	1991	1710
Thomasville (U)	7	1545	1472
IDAHO			
Boise	234	5312	5798
Idaho Falls 46W (R)	374	7788	8384
Idaho Falls 42NW (R)	351	8012	8753
IDAHO (Cont'd.)			
Lewiston	254	5142	5415
Pocatello	311	6523	6840
ILLINOIS			
Cairo (U)	81	4005	3756
Chicago (Midway)	265	5964	6252
Chicago (O'Hare)	332	6492	
Moline	242	6337	6319
Peoria	277	6311	6046
Rockford	288	6712	
Springfield	227	5647	5661
INDIANA			
Evansville	149	4680	4354
Ft. Wayne	281	6283	6234
Indianapolis	268	5904	5581
South Bend	342	6468	6462
IOWA			
Burlington	231	6007	6067
Des Moines	221	6302	6401
Dubuque	317	7130	7195
Sioux City	219	6604	6958
Waterloo	296	7255	7081
KANSAS			
Concordia (U)	195	5157	5303
Dodge City	154	4832	5043
Goodland	286	5830	6309
Topeka	197	5151	5194
Wichita	129	4593	4564
KENTUCKY			
Lexington	188	4922	4964
Louisville	193	4966	4434
LOUISIANA			
Alexandria	23	2261	
Baton Rouge	15	1864	1595
Lake Charles	2	1582	1543
New Orleans (U)	0	1187	1175
New Orleans	2	1510	1317
Shreveport	15	2253	2117
MAINE			
Caribou	540	9723	9972
Greenville (U)	533	9572	
Portland	427	7741	7564
MARYLAND			
Baltimore (U)	113	4436	4203
Baltimore	173	5122	4782
Frederick	222	5811	4854
MASSACHUSETTS			
Blue Hill Obs. (R)	338	6624	
Boston	287	5938	5749
Nantucket	439	6098	5963
Pittsfield	393	7731	7589
Worcester	363	7203	
MICHIGAN			
Alpena	508	8496	7938
Detroit (City AP)	295	6259	6344
Detroit (M. Wayne Co.)	324	6479	
Detroit (Willow Run)	299	6339	6414
Escanaba (U)	504	8144	8491
Flint	393	7120	7063
Grand Rapids	343	6695	6996
Lansing	379	6982	
Marquette (U)	523	8151	8340
Muskegon	402	6832	6973
S. Ste. Marie	554	8903	9251
MINNESOTA			
Duluth	468	9138	9759
Internat. Falls	446	9884	10429
Minneapolis	335	8118	7773
Rochester	348	7947	8003
St. Cloud	376	8331	8787
MISSISSIPPI			
Jackson	37	2435	2202
Meridian	41	2543	2333
Vicksburg (U)	30	2258	2000
MISSOURI			
Columbia	184	4936	5099
Kansas City	179	4804	4880
St. Joseph	185	5348	5322
St. Louis (RFC)	137	4436	4462
St. Louis	232	5045	4688
Springfield	164	4620	4677
MONTANA			
Billings	285	5933	6987
Butte	538	8604	9435
Glasgow	294	7762	8577
Great Falls	326	6375	7389
Havre	297	7166	8088
Helena	354	7025	8053
Kalispell	393	7566	7840
Miles City	246	6713	7744
Missoula	425	7616	7697
NEBRASKA			
Grand Island	260	6024	6272
NEBRASKA (Cont'd.)			
Lincoln (U)	211	5685	5833
Norfolk	257	6652	7005
North Platte	314	6426	6487
Omaha	188	5846	6128
Omaha N. Omaha AP	225	6287	
Scottsbluff	329	6607	6760
Valentine	335	6917	6992
NEVADA			
Elko	381	6871	7152
Ely	454	7066	7243
Las Vegas	5	2381	2425
Reno	352	5708	5871
Tonopah	272	5317	5722
Winnemucca	369	6173	6358
NEW HAMPSHIRE			
Concord	383	7608	7530
Mt. Washington Obs. (R)	1033	13695	
NEW JERSEY			
Atlantic City	198	5175	
Atlantic City (U)	290	5412	4717
Newark	169	5209	5241
Trenton (U)	201	5338	5057
NEW MEXICO			
Albuquerque	65	4321	4389
Clayton	181	5149	5114
Raton	243	6238	6330
Roswell	17	4080	3424
Silver City	63	3786	
NEW YORK			
Albany	314	7196	6912
Binghamton	394	7500	7449
Buffalo	385	7135	6766
New York (U)	172	5105	5032
New York (LaGuardia)	202	5027	4979
Rochester	366	6966	6809
Schenectady	360	6971	7010
Syracuse	317	6937	6483
NORTH CAROLINA			
Asheville (U)	169	4298	4067
Cape Hatteras (R)	109	2819	2392
Charlotte	74	3484	3205
Greensboro	100	4113	3810
Raleigh	83	3757	3369
Wilmington	29	2699	2323
Winston-Salem	90	3907	3721
NORTH DAKOTA			
Bismarck	344	8052	8917
Devils Lake (U)	413	9278	9803
Fargo	375	8757	9173
Grand Forks CAA	380	9169	
Pembina	334	9364	
Williston (U)	321	7883	8930
OHIO			
Akron	351	6477	6153
Cincinnati (U)	148	4576	4532
Cincinnati	196	5081	5172
Cincinnati Obs.	194	5023	4857
Cleveland	341	6527	5960
Columbus	267	5648	5584
Columbus (U)	227	5473	5255
Dayton	259	5801	5558
Mansfield	336	6412	
Sandusky (U)	275	5974	5818
Toledo	322	6573	6334
Youngstown	385	6643	6119
OKLAHOMA			
Oklahoma City	49	3551	3644
Tulsa	70	3602	3584
OREGON			
Astoria	378	4655	4773
Burns (U)	444	6652	6759
Eugene	309	4421	4654
Meacham	561	7253	7561
Medford	289	4435	4478
Pendleton	237	4837	5153
Portland (U)	227	3792	4073
Portland	261	4236	4539
Roseburg	261	4066	4444
Salem	334	4385	4483
Sexton Summit (R)	593	5989	5947
PENNSYLVANIA			
Allentown	239	6244	5855
Erie	370	6485	6480
Harrisburg	204	5675	5244
Philadelphia (U)	148	4672	4523
Philadelphia	214	5496	4866
Pittsburgh (U)	244	5368	5035
Pittsburgh	311	6241	5869
Reading (U)	178	5380	5049
Scranton	293	6907	6012
Williamsport	264	6523	5873
RHODE ISLAND			
Block Island	415	5951	5747
Providence	302	6215	6067
SOUTH CAROLINA			
Charleston (U)	5	1931	1769
Charleston	11	2258	1973
Columbia	15	2750	2435
Florence	25	2718	2507
Greenville	56	3175	3060
Spartanburg	64	3343	3044
SOUTH DAKOTA			
Huron	341	8207	7822
Pierre	318	7098	
Rapid City	314	6478	7387
Sioux Falls	321	7476	7768
TENNESSEE			
Bristol	138	4374	4148
Chattanooga	57	3643	3384
Knoxville	112	3886	3590
Memphis (U)	59	3195	3006
Memphis	70	3394	3137
Nashville	98	3893	3513
Oak Ridge (U)	105	3976	4028
TEXAS			
Abilene	10	2645	2657
Amarillo	54	4212	4345
Austin	0	1797	1713
Brownsville	0	727	617
Corpus Christi	0	1088	1011
Dallas	8	2327	2272
Del Rio (U)	0	1543	
El Paso	1	2821	2641
Ft. Worth	9	2455	2361
Galveston (U)	1	1281	1211
Galveston	0	1316	1233
Houston (U)	0	1344	1276
Houston	0	1328	1388
Laredo	0	1059	781
Lubbock	30	3679	3587
Midland	5	2788	2565
Port Arthur	[illegible]	1552	1517
San Angelo	1	2346	2107
San Antonio	0	1552	1579
Victoria	0	1341	1126
Waco	0	2086	2025
Wichita Falls	16	2940	3025
UTAH			
Milford	252	5957	6368
Salt Lake City	183	5432	5785
Wendover	169	5514	
VERMONT			
Burlington	454	8498	7793
VIRGINIA			
Lynchburg	137	4487	4148
Norfolk	110	3713	3454
Richmond	106	4216	3955
Roanoke	127	4409	4152
WASHINGTON			
Olympia	380	5229	5318
Seattle (U)	259	4073	4331
Seattle	253	4386	4665
Seattle-Tacoma	345	4850	5120
Spokane	367	6400	6706
Stampede Pass (R)	713	8724	8711
Tatoosh Island (R)	435	5257	5394
Walla Walla	213	4684	
Walla Walla (U)	187	4406	4810
Yakima	280	5707	5792
WEST VIRGINIA			
Charleston	201	4872	4409
Huntington (U)	171	4598	4068
Parkersburg (U)	197	4890	4737
WISCONSIN			
Green Bay	373	7744	8152
La Crosse	272	7195	7576
Madison	352	7380	7335
Milwaukee	434	7219	7096
WYOMING			
Casper	331	6905	7492
Cheyenne	377	6946	7389
Lander	348	7431	8140
Sheridan	351	6831	7742

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

MAY 1961

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS
Alabama										0	0	5	0	1	0	3	0												
Alaska *																													
Arizona *																													
Arkansas	14	5	6	33	6	0	0	5	4	0	5	5	5																
California						0	0	0	4	0	0	D4	D3	0	0	3	0												
Colorado	6	5	0	2	5	0	0	5	5	0	0	4	4	1	2	0	0												
Connecticut *																													
Delaware *																													
Florida	3	3	0	0	6	0	0	0	?					2	1	4	0												
Georgia	2	2	0	0	4	0	0	4	5	0	0	4	0																
Hawaii *																													
Idaho *																													
Illinois	3	1	0	8	6	0	0	4	4	1	1	5	0	0	2	4	0									2	0	7	5
Indiana	3	2	0	5	6					0	0	4	0	0	0	3	0									0	0	5	5
Iowa	2	1	0	2	4					0	0	4	0	1	0	4	0												
Kansas	7	3		11	6			5	6		2	5				4													
Kentucky	2	1	0	3	6					0	0	5	4	1	1	3	3												
Louisiana	1	1	0	0	4					0	0	5	0																
Maine	1	1	0	0	3					0	0	4	0													0	0	6	5
Maryland						0	0	1	0	0	0	°5	C																
Massachusetts																										0	0	0	5
Michigan										1	2	2																	
Minnesota	1	1	0	1	3																					0	0	3	0
Mississippi										0	0	°5	C																
Missouri	5	3	0	12	5																					0	0	5	5
Montana						0	0	3	5	0	0	4	0	0	1	0	0	0	0	4	0								
Nebraska	6	2	0	0	5	0	0	5	5	0	0	5	0	0	0	4	0	0	0	5	0					0	0	5	0
Nevada								1																					
New Hampshire														0	0	4	0									0	0	0	5
New Jersey *																													
New Mexico	2	2	0	0	4	0	0	4	5					0	1	3	0												
New York	2	2	0	3	6																								
North Carolina	1	1	0	0	2	0	0	4	5	0	0	3	0	0	0	3	0												
North Dakota *																													
Ohio	4	2	0	F	6					0	F	5	0																
Oklahoma	42	10	17	59	6	0	0	6	6	1	1	5	0													0	0	6	5
Oregon *																													
Pennsylvania	1	1	0	3	3					0	5	5	2	0	0	3	0												
Puerto Rico *																													
Rhode Island *																													
South Carolina					0	0	0	5	0	1	3	0																	
South Dakota	2	2			4						1	2																4	
Tennessee	1	1	0	0	5					0	6	?	0	0	2	4	0												
Texas	24	10	0	1	5	0	0	6	6	0	0	5	0	2	1	0	0									0	0	5	0
Utah								2			2					5													
Vermont																										0	0	0	5
U.S. Virgin Is. *																													
Virginia										0	5																		
Washington									4	1	1	5	4		2	3													
West Virginia *																													
Wisconsin	1	1	0	0	4					0	0	5	0																
Wyoming	2	2	0	0	4	0	0	3	3					1	0	0	0	0	0	°5	C								

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
C Crop Damage.
° Includes crop damage.
F Few.
D Sandstorm damage.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

MAY 1961

The most extensive flooding since the record year of 1951 occurred on the lower portions of the Solomon, Saline, and Smoky Hill Rivers in Kansas as well as in the Marais des Cygnes Basin and in the upper Kansas River during May. Record stages were reached in the Marais des Cygnes Basin on Big Sugar Creek and on the Little Osage River in Kansas in the Missouri Basin and on the Big Muddy River in Illinois in the Upper Mississippi Basin. Near record stages were reached on other streams. Widespread flooding occurred in the Ohio Basin which was particularly destructive in the smaller tributaries. Crests along the Salt River in Kentucky were the highest in at least 20 years. Pigeon Creek in the Evansville, Ind., area was the highest since 1937. The worst floods in 24 years occurred at a number of points in the Wabash Basin in Indiana. At one or two points flood crests were within a few tenths of a foot of the alltime highest stages of record. Record flash flooding occurred in the Howard-Longton, Kans., area in the Arkansas Basin and produced widespread major flooding along the lower Verdigris with the second highest stages of record. Severe flooding occurred on tributary streams of the Ouachita in the Red Basin with record flooding on the Caddo River in Arkansas. Record high flooding occurred on the Kootenai River in Idaho during the latter part of May.

ATLANTIC SLOPE DRAINAGE

Flooding occurred in the upper St. John and Aroostook River Valleys in Maine from the 11th to the 18th due to rapid snowmelt. Very warm and showery weather hastened the melting of the 2- to 3-foot snow cover. Heavy damage occurred in the town of Fort Kent which was inundated by 2 feet of water. Some pulpwood logs on the St. John River broke loose and were lost downstream. The second flood during the month occurred from the 27th to the 31st and affected the southeastern section of Maine, particularly the St. Croix, Machias, Narraguagus, and Dennys Rivers. The flooding was the result of 4 days of heavy rainfall (3 to over 7 inches). The floodwaters washed out many roads and closed highways, bridge, and rail traffic, temporarily isolating several communities. Thousands of cords of wood were lost downriver when log booms broke on the St. Croix and Machias Rivers. The Union Mills Bridge across the St. Croix River was damaged. Newspaper accounts placed damage of the second flood close to $1 million.

Minor flooding occurred on the Neuse and Cape Fear Rivers from rainfall on the 10th and 11th. Stages of 2 to 3 feet above flood stage occurred on the upper and central Neuse from the 12th to the 17th, with near or slightly above bankfull stages on the lower portion from about the 17th through the 22d. The lower Cape Fear was 2 to 3 feet above flood stage from the 13th through the 15th.

The Edisto River at Givhans Ferry, S. C., flooded moderately the first part of the month from runoff during the latter part of April and again slightly beginning mid-month. Generally heavy rains on the 10th to 12th caused slight rises on the Yadkin, a moderate rise on the upper Pee Dee, and slight flooding downstream in the vicinity of Peedee, S. C. The high water on the Edisto continued a period of poor commercial and sport fishing along this stream and caused suspension of sand pit operations for a few days. The rise on the Pee Dee delayed construction at Cheraw and movement of earth fill at Peedee, S. C.

Stages in the Savannah and the Ogeechee Rivers in Georgia continued to fall during May 1961, but still continued above flood stage in the lower reaches of the Savannah River through the middle of May. Monetary losses were incurred due to stoppage of work and the extra cost of feeding cattle and hogs, which ordinarily feed and stay in the swamps.

The Satilla River continued in flood at Atkinson, Ga., from April 7 to May 3. The river crested slightly over 6 feet above flood stage on April 23. Little, if any, flood damage occurred in the Atkinson area, as the flooded areas are sandy bottom land that is not cultivated.

EAST GULF OF MEXICO DRAINAGE

The Apalachicola River at Blountstown, Fla., continued in flood from April 2 to May 10. Crests during April were 4 feet higher than the crest of 17.5 feet on May 5. The rains of May created no significant river rises but rather slowed recessions pratically to a stationary basis. Only minor damages occurred along the Apalachicola during April and May.

MISSISSIPPI SYSTEM

Upper Mississippi Basin. --No damages resulted from the minor flooding which occurred on the Salt River at New London, Mo., from the 7th to the 11th.

Beginning on the 4th, a series of weather systems moved across central and southern Missouri and Illinois, producing frequent periods of general and intense shower and thundershower activity. From the 6th through the 8th, 24-hour totals at many stations ranged from more than 2 inches to around 5 inches. Six-day totals were quite variable over the area, but in general amounts were more than 5 inches with many local areas having 10 to 15 inches. The heaviest amounts were generally centered over the Big Muddy and Kaskaskia in Illinois and the Meramec in Missouri. At Murphysboro, Ill., the Big Muddy crested at 38.0 feet on the 12th, which was the highest stage of record. The previous high was 36.0 feet on January 28, 1949. At New Athens, Ill., the crest of 35.9 feet was the third highest of record, being exceeded on May 23, 1943, when the crest was 39.4 feet and on August 19, 1946, when the crest was 37.3. Floods of minor to moderate proportions were common on most major streams and their tributaries through central and southern Illinois. On the Mississippi damage was also largely confined to crops and some roads in the flood plain.

Missouri Basin. --Flash flooding occurred on Allen Creek between Columbus and Park City, Mont., on the 24th due to heavy thundershowers. Precipitation ranged from 1 inch at Columbus to 2.5 inches over Allen Creek area. Debris from nearby hills clogged Allen Creek and nearby Cove Ditch, resulting in overflow and considerable land erosion. Highway No. 10 about 7 miles west of Park City was flooded for a short time during the afternoon. No stuctural damage was reported.

Flooding occurred on the lower portion of the Bad River at Ft. Pierre, S. Dak., on the 16th and 17th. This flood was due to heavy thunderstorms. There was no loss of human life, although some cattle were reported drowned. The James River rose to near bankfull at Ashton and Huron, S. Dak., but overflow was limited to old channels and very

low ground. This rise was due to heavy rains from the 13th to the 17th ranging from 2.5 to 5 inches.

The most extensive flooding since the record year of 1951 occurred on the lower portions of the Solomon, Saline, and Smoky Hill Rivers in Kansas, as well as the Marais des Cygnes Basin and the upper Kansas River. Variable flooding, generally of light to moderate intensity, developed on the Little Blue River, parts of the Big Blue and Republican River Basins, the upper Solomon River, and tributary creeks of the Kansas River. Heavy tributary flooding developed on the lower Smoky Hill Basin, and record tributary flows occurred on School Creek near Harward on the outer portion of the West Fort Big Blue River. Record stages also were reached in the Marais des Cygnes Basin on Big Sugar Creek at Farlinville and on the Little Osage River at Fulton, Kans. Crests on the lower Solomon had been rarely exceeded, although they were 3 to 4 feet below the record stages of 1951. In the upper Solomon the crest of 32.96 feet at Beloit, Kans., on the 23d had been exceeded by over a foot in June 1957. At Glasco, Kans., the crest of 36.22 on the 25th (flood stage 22 feet) was 0.1 foot above the 1957 high water mark and some 4 feet below the record stage of 1951. On the lower Saline River at Tescott, Kans., the crest of 29.6 feet on the 25th (flood stage 25 feet) equalled that of 1915 and had been exceeded only in July 1951 by 0.5 foot. Upstream at Lincoln, Kans., a crest of 35.1 feet on the 23d (flood stage 30 feet) was some 4 feet below the record.

Heavy flooding on the Marais des Cygnes River increased downstream, with the crest at Trading Post, Kans., 30.75 feet on the 9th (flood stage 24 feet) being the third highest stage of record but exceeded by over 7 feet in 1951. Floods of record on Big Sugar Creek at Farlinville and the Little Osage River at Fulton, Kans., surpassed previous flows by about 0.5 foot. The crest on Pottawatomie Creek near Garnett, Kans., 31.2 feet on June 6 (flood stage 26 feet) had been exceeded only twice and was within a foot of the record stage of 1951. The Marmaton River at Ft. Scott, Kans., which crested at 44.2 feet on June 6 (flood stage 38 feet) was within 0.2 foot of the 1935 and 1958 levels and has been exceeded only 4 times since 1904. These floods were due to rainfall during the first week in May which was centered in the Marais des Cygnes and Marmaton River Basins and recurring rains from the 16th to the 23d centered from southern Nebraska to southeast Kansas. Precipitation totals during May ranged from near 8 inches on the Marais des Cygnes up to 11 inches in the Marmaton River Valley.

Minor to moderate flooding resulted on most major streams and their tirbutaries in Missouri during the first half of the month due to rainfall from the 4th to the 8th. Flood stages on the lower Missouri, while not of record proportions, caused considerable damage to crops and some roads in the flood plain. There was some road damage.

Ohio Basin.--Flooding on the upper Hocking River in Ohio was due to rainfall from the 6th to the 9th. Total rainfall during the 3-day period averaged about 3-1/4 inches in the upper portion and 2 inches in the lower. Sunday Creek, a tributary of Hocking River, overflowed into Chauncy, Ohio. Water was close to first floors of many homes. Main Street (Route 682) was closed and many homes were surrounded by water from Sunday Creek. Basements were flooded. City playground and athletic field in Nelsonville, Ohio, were under water. At Door Run, just north of Nelsonville, water was about 18 inches from the edge of route 33. State route 671, between routes 50 and 327, route 349 at Lake Alma, and several other routes were closed. About 15 homes at Rockbridge, Ohio, were evacuated when the Hocking River overflowed its banks. At Athens, Ohio, water covered low-lying areas in the city, flooding many basements.

Scattered heavy showers on the 5th and 6th followed by heavy rain on the 7th and 8th caused Paint Creek and the lower Scioto River in Ohio to rise rapidly to above flood stage. Paint Creek continued in flood at Bourneville from the 7th to the 10th and the Scioto at Piketon from the 8th to the 12th. Fifty percent or more of the monthly rainfall totals were recorded on the 7th and 8th. The rivers dropped to normal low stages during the rest of the month. Flood damage was confined to further delay in use of bottom lands for crop production.

Heavy rainfall from the 5th to the 8th, with the heaviest amount occurring on the 7th, resulted in widespread flooding which was particularly destructive in smaller Ohio River tributaries. Moderate flooding occurred on the Little Miami, with the most extensive inundation occurring in the summer resort area in the immediate vicinity of Cincinnati. On the Great Miami, damage was confined to the inundation of lowland, mostly farm areas. Flooding on the Whitewater was minor and of the same nature. The Licking River was in flood from Cynthiana, Ky., to its mouth, with major flooding at Falmouth, Ky., where the crest was 9.4 feet above flood stage. Damage was more extensive with inundation of dwellings in addition to farmland, tobacco beds, etc. A few communities were isolated by flooded roads for several hours. Crests along the Salt River and its smaller tributaries were the highest in at least 20 years. Shepherdsville, Ky., was inundated and isolated for several days. Due to the flash nature of the rises many of the evacuations from flooded urban and rural areas were carried out by boat and Army helicopters operating from nearby Army facilities. Twelve of the 13 pumping stations of the Louisville flood system were placed in operation during the flood, many of them for the first time since the system was completed. A malfunction in one of the flood closures in the flood wall at Taylorsville, Ky., resulted in considerable flooding in that community, with agricultural pumps, etc., pressed into use to drain the town.

Rains along the Ohio Valley during the period from the 5th to the 9th averaged slightly over 8 inches; near 10 inches from Evansville, Ind., to Mt. Vernon as well as the lower Wabash and Little Wabash. Rains over the Green River watershed averaged slightly less than 3 inches. In the immediate Evansville, Ohio, area rainfall for the 4-day period was quite variable, ranging from 7 to 13.5 inches, with the heaviest rainfall to the northeast along Pigeon Creek where extensive flooding developed. Pigeon Creek runs along the north side of Evansville and empties into the Ohio River in the near downtown district. According to some, there was higher water in the creek this year than in the flood of 1937. Backwater from the Ohio normally causes flooding on the creek. In the immediate area along this creek over 100 families were evacuated with losses estimated around $3 million. There has been

only one other instance since the station was established in 1897 when there were heavier 4-day rains and that was early in October 1910. Extensive flooding of the creek occurred at that time disrupting all surface transportation. Railroad traffic was curtailed in 1910 but not in 1961.

The worst floods in 24 years occurred at a number of points in the Wabash Basin in Indiana during the month. At one or two points, flood crests were within a few tenths of a foot of the alltime highest stages of record. Major flooding occurred along the East Fork of the White River below Indianapolis, Ind., and along the lower Wabash and Embarrass. Much flooding occurred also along other portions of the Wabash and White Rivers. At Columbus, Ind., on the East Fork, some 200 residents were evacuated as the river rose to a crest of 15.1 feet on the 9th, equalling the high stage of January 1952. Downstream at Seymour, Ind., thousands of acres were overflowed and many roads were closed. At Bedford, Williams, and Shoals the river was the highest since 1937. Trinity Springs and Indian Springs were isolated by flood waters and Williams was accessible only by back roads. At Shoals some 40 families left their homes as the rising flood waters threatened them. On the White River, the crest at Spencer of 23.1 feet on the 9th was within a tenth of a foot of the record floods of 1933 and 1937 and some 50 families were evacuated as the rising waters surrounded their homes. Farther downstream at Elliston and Newberry, the river was the highest since 1950, while just downstream at Elliston and Newberry hundreds of volunteers and the National Guard battled to sandbag the levee protecting Elnora. The highest crests since 1950 continued to roll down the White past Edwardsport and Petersburg towards Hazleton where several hundred workers were battling to sandbag the levee protecting the town. Meanwhile, on the Embarrass in Illinois, a concentration of heavy rainfall had caused that stream to rise steadily toward one of the highest crests of record at Ste. Marie. The highest stage of record was reported at Carmi, Ill., in White County, on the Little Wabash with some 40 percent of the county being flooded at one time. A number of highways and many county roads were flooded. As a result of the high water a number of counties in southwestern Indiana and southeastern Illinois were declared a disaster area. There has been some loss of small grains, and many fields will have to be reworked as a result of the heavy rains.

The Ohio River continued moderately high during April due to previous heavy rain and snowmelt, with stages some 15 to 20 feet below flood stages and slowly falling for the first 4 days of May. The Ohio River in the Evansville, Ind., area and below was near bankfull in the beginning of the month. The Ohio had just started to fall in the reach above Evansville. The heavy rains from the 5th to the 9th caused tributary streams and the main stem to go above bankfull stage on the 8th and 9th in the reach from New Richmond, Ohio, (Dam 35) to Owensboro, Ky., (Dam 46). In the reach below, bankfull stage was reached generally between the 6th and 10th, except at Mt. Vernon, Ind., where the Ohio was out of its banks on the 1st. Flooding along the main stem was considered minor in the reach above Madison, Ind. In the reach downstream to Evansville, Ind., the crests were generally the highest since 1955 and since 1950 in the reach below.

Arkansas Basin.--Heavy rains fell over Arkansas River tributary streams in southeastern Kansas during the first 8 to 9 days of the month. Another period of locally heavy rain was from the 20th to 22d of May. Rains up to 6 inches occurring the evening of the 5th over the Elk River, a Verdigris tributary, brought record flash flooding in the Howard-Longton, Kans., area and produced widespread major flooding along the lower Verdigris. Rather widespread flooding developed at this time along the Little Arkansas and Walnut Rivers, but overflow was confined generally to rural areas as protective works in and near major towns and cities were effective. Similar heavy rains on the 21st produced local flash flooding over the upper Neosho Basin, with crest at Council Grove, Kans., 8.4 feet over flood stage on the 22d. Protective works resulted in very little flooding within the city. Widespread lowland flooding occurred along the Neosho from Emporia, Kans., downstream from the 5th through the 11th and again from the 22d to the end of the month.

In Oklahoma, along the Verdigris River, the second highest stages on record were recorded at Lenapah, Okla., with 39.8 feet the crest, occurring May 8. At Claremore, Okla., the crest was 50.06 feet on May 11 (flood stage 38 feet). Flooding on the Verdigris caused serious breaching of temporary cofferdams at Oologah Reservoir, just above the mouth of the Caney River. Downstream at Inola, Okla., the last station on the Verdigirs, the highest stage observed was 53.7 feet on May 11 (flood stage 41.5 feet). The crests recorded at Claremore and Inola, Okla., have been exceeded only by the flood of 1943. The Caney River, a Verdigris tributary, was above flood stage from the 8th through the 13th. The crest of 29.5 on the 10th at Romona, Okla., was the third highest of record. Overflow was also reported along the Little Caney at Copan, Okla., and Bird Creek, another tributary in the lower Verdigris Basin, exceeded flood stage by more than 7 feet in the Sperry, Okla., area on May 10.

Major flooding developed along the Chikaskia River in the Salt Fork of the Arkansas drainage as a result of excessive precipitation falling during the period, May 4 to 9. The Chikaskia at Blackwell, Okla., crested during the afternoon of May 6 at a stage of 31.9 feet or nearly 6 feet above flood stage. Minor overflow was noted along the Salt Fork at Tonkawa, Okla., above the mouth of the Chikaskia.

On the 19th flash floods on Big Cabin Creek spawned by intense rainfall in the Vinita, Okla., area routed 35 to 40 families from their homes for a few hours. Spring River, a tributary of the Grand above Pensacola Dam, rose nearly 10 feet above flood stage at Quapaw, Okla., during early morning of the 9th. These additional heavy rains over the Grand River watershed in Oklahoma, plus the contributing heavy flow from the Neosho River in southeastern Kansas, produced major flooding along the Grand River in Oklahoma.

Major flooding resulted on the Illinois River in early May and the river at Tahlequah, Okla., rose well above flood stage on the 8th with 21.45 feet the highest stage observed. Flood stage is 11 feet.

There were two periods in May when flooding was reported along the Poteau River. Light overflow occurred at Panama, Okla., on the 6th and 7th. Major flooding developed along the entire Poteau from the 18th through 21st. Overflow of 4 to 5 feet was recorded during the night of

the 18th at Poteau, Okla., and the river crested 8.2 feet over flood stage at Panama, Okla., the afternoon of the 19th. An exceptionally heavy local flash flood occurred in Wister, Okla., along Mountain Creek in the Poteau drainage early in the morning of the 18th. A cloudburst which poured 5.5 inches of rain into the creek triggered the flood and a 4-foot wall of water swept through the town causing heavy damage but no deaths.

The main stem of the Arkansas River went above flood stage just below Wichita, Kans., near the mouth of the Ninnescah at Oxford, Kans., on May 5. The crest occurred on the 6th with about 2-foot overflow. As flooding progressed downstream overflow became more serious and at Arkansas City, Kans., the crest was nearly 6 feet above flood stage. Downstream at Ponca City, Okla., the Arkansas River crest was the second highest of record, due primarily to heavy local area runoff. Flooding extended downstream through Ralston, Okla., with the crest of 21.5 feet occurring during the evening of the 8th. Flood stage at Ralston is 16 feet. Flooding downstream in the Tulsa, Okla., area was limited mostly to rural areas. Minor local flash flooding was experienced in the city of Tulsa on the 8th. The only fatality reported during the entire flooding of May occurred during this flash flood in Tulsa. An infant was accidentally drowned when a basement apartment flooded. Major flooding occurred downstream from Tulsa past Webbers Falls, Okla., to Van Buren, Ark., where stages were generally 7 to 8 feet above flood stages during the period from the 8th through the 11th. Overflow continued in these areas until the 22d and there was minor flooding in the Van Buren area on the 6th and also from the 25th through the 27th.

Flooding along the Arkansas River in the State of Arkansas was quite light. Damage appeared to be confined mostly to agricultural losses, although there also was some damage to levees, roads, and bridges.

Red Basin.--Rains over the Little River on the 5th and 6th of May were heavy and totaled 4 to 8 inches. Light overflow of 2 to 3 feet was recorded at Horatio and Whitecliffs, Ark., on the 10th and 11th.

A period of severe thunderstorm activity, beginning on the 4th and continuing into the 8th, caused severe flooding on tributary streams in the Ouachita Basin. The Caddo River rose sharply on May 6 to a record alltime high at Glenwood, Ark., of 27.95 feet. The previous record stage was 27.0 feet registered March 30, 1945. Flood stage at Glenwood is 10 feet. A total of 10,900 acres were reported to have been inundated along the Caddo drainage. Crop and livestock damage was quite heavy. Minor lowland overflow developed along the Little Missouri River. Heavy rains over the Saline and Cossatot River drainages caused alltime record highs. Many roads and bridges were closed or destroyed and at least 200 cattle were drowned. The Ouachita River was above flood stage at Arkadelphia, Ark., on May 7, exceeding flood stage by 7 feet. Principal flood damage in this area was crop and livestock losses. Minor flooding occurred along the middle Ouachita in the vicinity of Camden, Ark.

Lower Mississippi Basin.--Heavy rains fell over the lower Mississippi Valley from May 5 to 9, the heaviest amounts being reported on the 7th, 8th, and 9th. Precipitation, as much as 7 to 7.5 inches, was recorded over the St. Francis drainage. The St. Francis went above flood stage during the night of the 7th at Fisk, Mo., and was above flood stage for about 22 days. The crest of 24.8 feet recorded May 11 to 12 was the highest stage at Fisk, Mo., since February 1938 when a stage of 24.9 feet was reached. At St. Francis, Ark., the river was in flood for 24 days and the crest of 21.9 feet recorded on the 13th equaled the flood peak registered during the March 1958 flood. Considering the time of year, damage was relatively minor. Flood stage was not reached at Parkin or Madison, Ark. The Yazoo River at Yazoo City, Miss., was above flood stage the first 12 days of May and rose again to flood stage the last day of the month.

Flooding began along the lower Mississippi River at Caruthersville, Mo., on the 9th primarily as a result of heavy runoff from the lower Ohio and middle Mississippi flood. Fortunately, only moderate flow came out of the Tennessee and Cumberland Basins. At Caruthersville, Mo., flooding continued for 19 days and a peak of 41.3 feet (provisional) was recorded on May 18. This crest at Caruthersville has been exceeded in only two other years since the record began in 1930; 46.0 feet in 1937 and 41.7 feet in 1950. Downstream at Memphis, Tenn., the crest of 40.2 feet on May 22 has been exceeded since 1930 by the flood of 1950 (40.5 feet) and the 1937 flood (48.7 feet). In the Helena, Ark., reach, the crest reached 48.0 feet from the 23d through the 25th. Except in west Tennessee and in the backwater area of the lower St. Francis River, levees effectively protected the area having high stages. Although the highest stages since March 1950 were recorded on the Mississippi River below Natchez, Miss., and along the Atchafalaya, only 3 stations on the Mississippi--Red River Landing, La., on the 25th, Baton Rouge on the 26th, and Donaldsonville, La., on the 31st--went over the flood stage. Atchafalaya, La., on the Atchafalaya River went above flood stage on the 27th. On the last day of May, Red River Landing was 2.3 feet above flood stage, Baton Rouge 1.9 feet above flood stage, Donaldsonville bankfull, and Atchafalaya, La., 0.2 foot over flood stage. These stations were expected to rise only a few more tenths. The above flooding can be classified as very minor.

WEST GULF OF MEXICO DRAINAGE

The Rio Grande flowed slightly above bankfull stage at Albuquerque, N. Mex., on May 4 through the 6th during the peak of the snowmelt season.

PACIFIC SLOPE DRAINAGE

Columbia Basin.--Subnormal temperatures continued through April until May 17 in all parts of the Columbia River Basin. Snow accumulation in the upper Columbia and Kootenai Basins of Canada actually showed a steady increase in water content from successive measurements made on April 1 through May 15. On May 18 temperatures suddenly began to rise and jumped into the high 70's. Succeeding days were progressively warmer and the snowmelt Columbia River freshet was officially on. The snow pack responded readily to the warm temperatures. Headwater streams rose sharply and main stem points experienced slight to moderate rises.

The Kootenai River at Bonners Ferry, Idaho, rose from 16.5 feet on May 15 to an alltime record high of 37.3 feet on May 29. The previous high was 37.1 feet in May 1956.

Flood stage at Bonners Ferry is 31 feet. A secondary crest of 37.1 occurred in early June after falling temporarily to 35.4 feet on June 2. This prolonged high water caused some breaks in soggy dikes and flooded 6,870 acres in the Bonners Ferry region.

The Columbia River flow past Grand Coulee Dam rose very sharply from 91,000 c.f.s. on May 1 to 375,000 c.f.s. on May 31. Inflow into Grand Coulee was 431,000 c.f.s. on the 31st and continued to increase during the first several days in June. Intervening Washington Cascade tributary streams between Grand Coulee and the mouth of the Snake River also responded significantly to the warm weather and added to the volume of water reaching the lower Columbia River at Vancouver, Wash. The 16-foot flood stage at Vancouver was reached on May 26 and on May 29 the Willamette at Portland, Oreg., reached its 18-foot flood mark. Only low-lying, undiked pastureland on Sauvies Island and the area surrounding Vancouver Lake was inundated as the Columbia rose to 20.4 feet at Vancouver on May 31. Another "hot spell" beginning on May 31 and lasting into early June with temperatures ranging 6° to 10° above normal throughout the upper Columbia Basin, triggered the snowmelt which caused the lower Columbia to rise to crest in early June.

FLOOD STAGE DATA

(All dates in May unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From—	To—	Crest* Stage	Date
	Ft.			Ft.	
ATLANTIC SLOPE DRAINAGE					
Neuse: Neuse, N. C.	14	12	16	15.8	14
Smithfield, N. C.	13	12	17	16.1	15
Goldsboro, N. C.	14	15	21	15.6	17
Kinston, N. C.	14	20	22	14.0	21
Cape Fear: Lock No. 3, Tarheel, N. C.	42	13	16	45.0	14
Lock No. 2, Elizabethtown, N. C.	20	13	16	22.9	15
Pee Dee: Peedee, S. C.	19	15	17	19.3	16
Edisto: Givhans Ferry, S. C.	10	2 15	10 21	12.2 10.8	5 18
Savannah: Clyo, Ga.	11	14 16	14 16	11.0 11.0	14 16
Satilla: Atkinson, Ga.	13	Apr. 7	3	19.2	23
EAST GULF OF MEXICO DRAINAGE					
Apalachicola: Blountstown, Fla.	15	Apr. 2	10	21.5 21.5 17.5	Apr. 5 Apr. 18,19 5
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Salt: New London, Mo.	19	7	11	25.8	9
Sangamon: Riverton, Ill.	13	8	20	#21.2	12
Illinois: Beardstown, Ill.	14	8	22	#17.1	16
Havana, Ill.	14	16	17	#14.1	16
Bourbeuse: Union, Mo.	15	8	11	#20.2	9
Meramec: Steelville, Mo.	12	8	9	#15.1	8
Sullivan, Mo.	11	7	10	#21.1	9
Pacific, Mo.	11	7	12	#23.2	10
Valley Park, Mo.	16	7	13	#28.7	10
Kaskaskia: Vandalia, Ill.	18	8	18	27.2	9
New Athens, Ill.	25	9	21	35.9	13
Big Muddy: Murphysboro, Ill.	16	7	31	38.0	12
Mississippi: Grafton, Ill.	18	9	12	#20.2	10
St. Louis, Mo.	30	9	14	33.2	11
Chester, Ill.	27	8	17	34.4	12
Missouri Basin					
Sappa Creek: Stamford, Nebr.	14	21	21	#15.5	21
Prairie Dog Creek: Woodruff, Kans.	18	22	22	20.6	22
Republican: Orleans, Nebr.	8	22	22	11.3	22
Clay Center, Kans.	15	22	24	19.35	22
Wakefield, Kans.	11	22	23	12.8	23
Saline: Wilson (nr), Kans.	15	23	23	16.3	23
Lincoln, Kans.	30	22	25	35.1	23
Tescott, Kans.	25	22	27	29.6	26,27
North Fork Solomon: Lenora, Kans.	10	21	21	10.3	21
Downs, Kans.	18	22	23	22.9	23
South Fork Solomon: Osborne, Kans.	12	20 21	20 24	12.2 21.75	20 22
Solomon: Beloit, Kans.	20	22	25	33.0	23,24
Glasco, Kans.	22	22	27	36.2	25
Minneapolis, Kans.	26	22	28	29.7 31.85	23 27
Niles, Kans.	24	22	30	28.9 28.9	23 27
Turkey Creek: Abilene 85, Kans.	15			25.6	22
Chapman Creek: Chapman, Kans.	14			16.2 23.0	3 23
Lyons Creek: Woodbine 7N, Kans.	15			28.6	22
Clark Creek: Junction City, Kans.	10			17.75	22
Smoky Hill: New Cambria, Kans.	25			#25.5	23
Abilene, Kans.	22	23	30	23.5 24.1	24 29
MISSISSIPPI SYSTEM (Cont'd.)					
Missouri Basin (Cont'd.)					
Smoky Hill (Cont'd.) Enterprise, Kans.	21	22	30	23.4	23
School Creek: Harvard (nr), Nebr.				17.6	22
Saronville (nr), Nebr.				19.9	22
Little Blue: Deweese, Nebr.	6	21	24	9.9	22
Gilead, Nebr.				#14.2	23
Fairbury, Nebr.	10	22	24	12.65 12.75	23 24
Waterville 9NW, Kans.	16	23	24	18.1	23,24
Black Vermillion: Frankfort, Kans.	19	5	5	18.95	5
Fancy Creek: Winkler, Kans.	11	22	22	E13	22
Big Blue: Blue Rapids, Kans.	20	22	24	21.85	24
Mill Creek: Paxico, Kans.	19	22	23	E25	22
Wakarusa: Lawrence 4S, Kans.	23	5 22	6 23	27.2 27.7	6 23
Stranger Creek: Tonganoxie, Kans.	22	7	9	23.8	8
Kansas: Fort Riley, Kans.	18	23	23	18.85	23
Manhattan, Kans.	17	22	27	22.35	23
Wamego, Kans.	19	23	24	19.8	23
Topeka, Kans.	21	23	23	21.7	23
Lecompton, Kans.	17	23	24	17.8	23
Lawrence, Kans.	18	24	24	18.0	24
Blue: Kansas City (nr), Mo. Bannister Road	21	5	6	#26.8	5
Little Blue: Lake City, Mo.	18	6	7	24.3	6
Crooked: Richmond, Mo.	18	6 8	6 8	#19.0 #21.1	6 8
Grand: Chillicothe, Mo.	24	6	6	#25.0	6
Sumner, Mo.	26	6	10	30.7	8
Brunswick, Mo.	12	7	11	#16.0	9
Lamine: Clifton City, Mo.	19	6 8	7 9	28.0 25.25	6 9
Blackwater: Blue Lick, Mo.	25	6	13	#33.5	8
Petite Saline: Boonville, Mo.	16	6	8	#21.0 #20.0	6 8
Moreau: Jefferson City, Mo.	20	8	9	25.0	8
Pottawatomie Creek: Garnett, Kans.	26	5	6	31.2	6
Big Sugar Creek: Farlinville, Kans.	24			29.9	6
Little Osage Creek: Fulton, Kans.	22			29.4	6
Marmaton: Ft. Scott, Kans.	38	6 8	7 9	44.2 39.8	6 8
Sac: Stockton, Mo.	18	6	10	25.3	9
South Grand: Brownington, Mo.	19	6	14	35.0	9
Niangua: Decaturville, Mo.	84	2 6	2 10	#89.0 #92.0	2 6
Marais des Cygnes: Quenemo, Kans.	28	5 23	8 25	35.1 34.4	6 24
Ottawa, Kans.	21	5 23	9 26	27.8 26.3	7 25
Osawatomie, Kans.	28	5 24	11 27	37.7 30.4	7 26
LaCygne, Kans.	25	6 25	12 28	31.8 27.2	8 27
Trading Post, Kans.	24	6	13	30.75	9
Melvern, Kans.	23			25.55	23
Osage: Osceola, Mo.	22	6	19	36.9	10
Gasconade: Hazelgreen, Mo.	21	8	10	23.6	9
Jerome, Mo.	15	6	11	23.9	10
Missouri: Boonville, Mo.	21	8	10	#22.3	9
Jefferson City, Mo.	23	7	11	#25.9	9
St. Charles, Mo.	25	7	19	#33.3	11
Hermann, Mo.	21	6	19	30.6	10

FLOOD STAGE DATA

(All dates in May unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest*	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Ohio Basin					
Hocking: Enterprise, Ohio	12	8	8	14.5	8
Athens, Ohio	17	9	10	19.3	10
Paint Creek: Bourneville, Ohio	10	7	10	15.6	9
Scioto: Piketon, Ohio	16	[illegible]	12	25.15	10
Little Miami: Kings Mill, Ohio	17	8	9	22.3	9
Perintown, Ohio	19	7	9	20.5	8
Milford, Ohio	12	8	9	16.1	9
South Fork Licking: Cynthiana, Ky.	20	8	8	20.1	[illegible]
Licking: Falmouth, Ky.	28	7	10	37.4	9
Whitewater: Brookville, Ind.	20	[illegible]	8	20.2	8
Rolling Fork: Boston, Ky.	40	8	13	47.1	10
Brashears Creek: Taylorsville, Ky.	20	7	9	32.2	8
Salt: Shepherdsville, Ky.	32	8	12	40.8	9
Rough: Dundee, Ky.	25	8	10	26.7	[illegible]
Green: Lock 6, Brownsville, Ky.	28	9	11	29.8	11
Lock 4, Woodbury, Ky.	33	9	13	35.7	11
Lock 2, Calhoun, Ky.	23	8	20	29.0	15
Embarrass: Ste. Marie, Ill.	18	8	15	25.1	[illegible]
Muscatatuck: Austin, Ind.	T16	7	12	25.5	9
East Fork: Columbus, Ind.	10	9	11	15.1	9
Seymour, Ind.	14	8	12	18.9	9
Bedford, Ind.	20	8	17	34.6	12
Williams, Ind.	10	9	17	22.4	12
Shoals, Ind.	25	9	17	33.6	13
White: Anderson, Ind.	10	10	10	10.2	10
Noblesville, Ind.	14	12	13	14.1	12
Centerton, Ind.	602	[illegible]	10	602.9	[illegible]
Spencer, Ind.	14	8	13	23.1	[illegible]
Elliston, Ind.	18	Apr. 25	2	25.8	Apr. 29
Edwardsport, Ind.	15	Apr. 25 7	3 17	22.3 25.8	Apr. 30 11
Petersburg, Ind.	16	7	21	26.3	13
Hazleton, Ind.	16	8	22	29.55	14
Skillet Fork: Wayne City, Ill.	15	6	13	27.3	8
Little Wabash: Wilcox, Ill.	16	6	15	26.6	10
Wabash: Wabash, Ind.	12	10	11	14.79	10
Lafayette, Ind.	11	Apr. 18 10	1 13	20.6 17.1	Apr. 26
Covington, Ind.	16	Apr. 19 10	2 14	24.5 20.6	Apr. 27 12
Montezuma, Ind.	14	Apr. 19 [illegible]	4 16	25.5 21.0	Apr. 27 10
Terre Haute, Ind.	14	Apr. 21 8	5 17	21.3 19.5	Apr. 28 10
Hutsonville, Ind.	20	Apr. 26 8	5 17	24.5 23.0	Apr. 30 11
Riverton, Ind.	18	Apr. 26 10	6 17	20.3	11
Vincennes, Ind.	16	Apr. 28	20	24.1	12
Mt. Carmel, Ill.	17		23	26.4	14
New Harmony, Ind.	15	Apr. 30	24	22.4	15
Saline: Harrisburg, Ill.	13	5	26	25.6	10
Tennessee: Gilbertsville, Ky.	320	6	26	333.7	18
Ohio: Dam 35, New Richmond, Ohio	48	9	10	49.3	9
Dam 36, Brent, Ky.	52	9	10	54.3	9
Cincinnati, Ohio	52	8	11	55.35	9
Dam 37, Fernbank, Ohio	50	9	12	55.6	[illegible]
Dam 38, Grant, Ky.	51	[illegible]	12	55.7	10
Dam 39, Markland, Ind.	48	[illegible]	12	53.1	10

River and station	Flood stage	Above flood stages -dates		Crest*	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Ohio Basin (Cont'd.)					
Ohio (Cont'd.) Madison, Ind.	46	8	12	49.5	9
Dam 41, Louisville, Ky.					
Upper Gage	28	8	13	35.0	10-11
Lower Gage	55	[illegible]	13	62.0	10-11
Dam 43, Evans Landing, Ind.	57	8	13	64.0	11
Dam 44, Leavenworth, Ind.	53	8	15	63.6	11
Dam 45, Addison, Ky.	47	8	15	54.6	11
Tell City, Ind.	38	8	16	46.8	12
Dam 46, Owensboro, Ky.	41	9	16	45.1	11
Dam 47, Newburgh, Ind.	38	Apr. 29 7	3 19	46.7	12
Evansville, Ind.	42	10	17	44.4	13
Dam 48, Cypress, Ind.	38	7	21	47.5	14
Mt. Vernon, Ind.	35	1	23	47.3	15
Dam 49, Uniontown, Ky.	37	2	24	51.4	15
Shawneetown, Ill.	33		25	52.5	16
Dam 50, Fords Ferry, Ky.	34		25	55.2	16
Dam 51, Golconda, Ill.	40	9	24	50.4	16
Paducah, Ky.	39	10	24	46.9	18
Dam 52, Brookport, Ill.	37	[illegible]	25	49.0	18
Dam 53, Grand Chain, Ill.	42	7	26	54.9	17
Cairo, Ill.	40	6	27	54.45	16
White Basin					
Black: Black Rock, Ark.	14	6		28.0	[illegible]
Little Red: Greers Ferry Dam, Ark.	24	5	7	40.0	6
Judsonia, Ark.	30	6	14	39.6	8
White: Calico Rock, Ark.	19	6	8	23.0	6
Batesville, Ark.	23	5	11	33.0	6
Newport, Ark.	26	[illegible]	19	30.5	9
Augusta, Ark.	32	9	27	35.1	12
Georgetown, Ark.	21	[illegible]		28.1	12
Des Arc, Ark.	24	10		30.9	15
Clarendon, Ark.	26			31.0	18
Arkansas Basin					
Little Arkansas: Sedgwick, Kans.	18	4	7	23.7	5
Ninnescah: Peck, Kans.	17	5	6	18.85	5
Walnut: Augusta, Kans.	23	5	7	29.5	6
Winfield, Kans.	30	5	8	35.9	[illegible]
Chikaskia: Blackwell, Okla.	26	6	7	31.9	6
Salt Fork: Tonkawa, Okla.	17	9	9	17.9	10
Little Caney: Copan, Okla.	21	1	11	24.9	9
Caney: Barlesville, Okla.	13	8	12	#17.45	9
Ramona, Okla.	27	8	13	29.5	10
Bird Creek: Sperry, Okla.	21	8	10	28.1	10
Verdigris: Altoona, Kans.	23	5	9	27.1	6
Independence, Kans.	30	5 23	10 23	46.8 30.3	6 23
Lenapah, Okla.	30	7	12	39.8	8
Claremore, Okla.	38	5	15	50.1	11
Inola, Okla.	41.5	6	17	#53.7	11
Cottonwood: Cottonwood Falls, Kans.	9	7 22	7 24	9.0 13.2	7 23
Emporia, Kans.	20	5 22	9 27	24.1 24.8	7 24
Spring: Quapaw, Okla.	19.5	6	11	29.1	9
Neosho: Council Grove, Kans.	25	22	23	33.4	22
Emporia, Kans.	22	6 22	7 24	25.3 28.6	6 23

FLOOD STAGE DATA

(All dates in May unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From—	Above flood stages -dates To—	Crest* Stage	Crest* Date
	Ft			Ft.	
MISSISSIPPI SYSTEM (Cont'd.)					
Arkansas Basin (Cont'd.)					
Neosho (Cont'd.) Neosho Rapids Kans.	22	6 22	8 26	24.8 27.9	7 23
Burlington, Kans.	27	6 23	10 28	32.25 34.2	8 24
LeRoy, Kans.	23	5 24	10 28	25.8 26.4	9 25
Iola, Kans.	15	5 24	11 29	20.3 19.5	6 27
Chanute, Kans.	20	5 26	12 30	28.45 24.65	7 29
Parsons, Kans.	24	6	14	26.7	10
Oswego, Kans.	17	5 26	15 1/	26.45 19.9	10 June 1
Commerce, Okla.	15	1	4	#18.1	3
Illinois: Tahlequah, Okla.	11	5	10	#21.45	8
Poteau: Poteau, Okla.	24	18	19	#28.7	18
Panama, Okla.	24	6 18	7 21	#26.3 #32.2	7 19
Arkansas: Ponca City, Okla.	14	6	9	#19.5	8
Ralston, Okla.	16	6	10	21.5	8
Webbers Falls, Okla.	23	8	20	#30.3	9,10
Van Buren, Ark.	22	6 8 25	6 22 27	23.35 28.17 22.84	6 11 26
Ozark, Ark.	22	10	15	24.1	11
Dardanelle, Ark.	20	6 10	7 22	23.3 25.1	6 12
Morrilton, Ark.	30	11	15	31.25	12
Red Basin					
Little: Horatio, Ark.	27	7	11	30.2	10
Whitecliffs, Ark.	25	8	14	27.4	11
Caddo: Glenwood, Ark.	10	6	7	27.95	6
Ouachita: Arkadelphia, Ark.	17	7	7	24.2	7

River and station	Flood stage	Above flood stages -dates From—	Above flood stages -dates To—	Crest* Stage	Crest* Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM (Cont'd.)					
Red Basin (Cont'd.)					
Ouachita (Cont'd.) Camden, Ark.	26	10	12	27.7	11
Lower Mississippi Basin					
St. Francis: Fisk, Mo.	20	7	24	24.8	11-12
St. Francis, Ark.	18	7	30	21.9	13
Yazoo: Yazoo City, Miss.	29	31	13 June 3	29.0	31-June 2
Mississippi: Cape Girardeau, Mo.	28	7	24	39.5	12
New Madrid, Mo.	34	9	26	42.2	17
Caruthersville, Mo.	32	9	27	41.3	18
Memphis, Tenn.	34	14	29	40.2	22
Helena, Ark.	44	17	30	48.0	23-25
Greenville, Miss.	48	18	1/	52.7	26
Vicksburg, Miss.	43	24	1/	44.95	30
Natchez, Miss.	48	25	1/	50.2	June 1
Red River Landing, La.	45		8	47.45	1,2
Baton Rouge, La.	35		8	37.1	1-3
Donaldsonville, La.	28		5	28.2	2-4
Atchafalaya Basin					
Atchafalaya: Atchafalaya, La.	29		7	29.4	3
WEST GULF OF MEXICO DRAINAGE					
Rio Grande: Albuquerque, N. M.	6	4	6	6.15	4
PACIFIC SLOPE DRAINAGE					
Columbia Basin					
Willamette: Portland, Ore.	18		15	23.0	9,10
Columbia: Vancouver, Wash.	16		15	24.3	9,10

* Provisional
1/ Continued at end of month
E Estimated
\# Highest stage observed
T Tentative

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	ALBANY, N. Y. (1006 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ALBUQUERQUE, N. MEX. (837 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	AMARILLO, TEXAS (891 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	86	10.1	82	234	2.1	31	1,619	11.4	39	82	2.5	31	1,095	12.8	69	183	5.4
1,000--	31	137			234	2.1	31	101					31	108				
950----	31	561	8.0	73	253	6.2	31	536					31	540				
900----	31	1,009	6.8	69	278	9.3	31	1,001					31	1,005				
850----	31	1,477	4.9	63	280	13.6	31	1,491					31	1,489	14.4	55	222	12.4
800----	31	1,970	2.1	63	279	15.7	31	2,002	12.6	37	240	4.9	31	2,001	13.5	47	245	11.6
750----	31	2,488	- .5	63	271	17.1	31	2,543	9.4	37	257	9.7	31	2,537	10.5	41	247	13.5
700----	31	3,038	- 3.6	63	269	19.2	31	3,109	5.2	40	265	12.4	31	3,113	7.1	37	245	15.5
650----	31	3,616	- 7.0	59	263	20.0	31	3,705	.7	41	261	16.1	31	3,707	2.3	38	252	16.1
600----	31	4,242	-10.6	56	265	21.2	31	4,347	- 3.9	38	257	19.2	31	4,355	- 2.9	38	254	17.3
550----	31	4,904	-14.4	48	265	23.1	31	5,019	- 9.0	40	254	22.7	31	5,029	- 7.6	38	259	21.6
500----	31	5,624	-18.9	14	266	28.0	31	5,759	-14.3	41	253	29.1	31	5,774	-13.0	37	261	24.5
450----	31	6,400	-23.8	38	265	32.6	31	6,544	-19.8	35	254	33.0	31	6,561	-18.6	35	259	27.4
400----	31	7,253	-29.9		265	34.6	31	7,416	-25.7		251	36.5	31	7,438	-25.0		261	31.3
350----	31	8,192	-36.5		263	37.7	31	8,370	-32.8		252	41.0	31	8,395	-32.4		260	35.9
300----	31	9,244	-43.6		263	43.3	31	9,438	-40.8		254	45.7	31	9,464	-40.6		261	43.9
250----	31	10,452	-49.8		266	44.3	31	10,655	-49.6		255	49.5	31	10,684	-49.3		261	50.3
200----	31	11,895	-54.2		268	42.9	31	12,092	-56.6		264	48.0	30	12,122	-57.7		265	58.5
175----	31	12,752	-54.7		267	41.2	31	12,934	-58.6		267	45.1	30	12,959	-59.9		265	52.5
150----	31	13,738	-54.2		268	37.1	31	13,904	-58.2		265	45.3	30	13,923	-59.6		266	47.0
125----	31	14,907	-54.7		268	34.4	30	15,053	-59.8		266	39.8	30	15,063	-60.9		265	38.1
100----	31	16,334	-55.2		268	29.3	30	16,435	-63.9		265	28.6	30	16,440	-63.8		270	26.6
80-----	30	17,753	-55.6		265	19.6	30	17,798	-64.7		277	14.0	30	17,801	-64.8		276	12.4
70-----	30	18,607	-55.4		258	13.0	30	18,615	-63.1		303	7.0	30	18,620	-63.8		269	6.4
60-----	30	19,585	-54.5		236	5.6	30	19,568	-60.7		84	2.5	30	19,567	-61.5		250	1.4
50-----	30	20,759	-53.7		205	3.3	30	20,708	-58.0		84	6.4	29	20,705	-58.1		91	6.4
40-----	28	22,198	-52.5		141	5.1	30	22,121	-55.6		88	7.6	28	22,122	-55.6		70	6.6
30-----	28	24,061	-51.2		104	12.0	30	23,966	-52.4		79	11.1	27	23,966	-52.1		81	7.4
25-----	27	25,254	-49.7		89	10.7	29	25,146	-50.3		77	12.0	25	25,149	-50.7		83	9.1
20-----	23	26,722	-48.0		87	10.5	29	26,610	-47.8		78	12.6	23	26,614	-48.7		83	10.3
15-----	10	28,610	-44.3				21	28,553	-44.4		82	15.3	16	28,522	-44.8		86	7.2
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Standard pressure surface (mb)	ANCHORAGE, ALASKA (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ANNETTE, ALASKA (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	30	5.9	68	173	3.9	27	37	8.1	81	84	.6
1,000--	31	110	6.5	63	178	3.9	27	138	8.3	78	98	2.5
950----	31	529	5.6	54	153	2.5	27	562	6.5	74	128	5.2
900----	31	971	2.7	56	127	4.9	27	1,003	3.6	75	147	7.2
850----	31	1,431	- .7	58	119	7.0	27	1,465	.6	76	161	7.6
800----	31	1,912	- 4.0	58	124	8.4	27	1,950	- 2.3	74	173	7.8
750----	31	2,415	- 6.9	56	133	10.3	27	2,458	- 5.2	67	178	7.6
700----	31	2,954	- 9.7	52	139	10.8	27	3,000	- 8.2	62	188	7.8
650----	31	3,518	13.1	50	145	9.7	27	3,568	-11.5	62	188	8.7
600----	31	4,128	-16.6	46	150	8.5	27	4,182	-15.1	60	188	8.9
550----	31	4,773	-20.5	43	145	6.8	27	4,832	-19.2	55	206	9.5
500----	31	5,476	-25.0	15	168	4.7	27	5,539	-23.8	53	212	10.3
450----	31	6,226	-30.3	15	159	4.9	27	6,295	-29.2	50	212	11.5
400----	31	7,060	-36.5		170	6.6	27	7,134	-35.0		219	13.2
350----	31	7,973	-42.8		175	7.2	27	8,053	-41.4		211	15.3
300----	31	9,000	-48.0		204	5.8	27	9,084	-48.4		215	17.3
250----	31	10,195	-50.0		196	4.5	27	10,272	-52.6		222	14.2
200----	31	11,659	-48.0		194	4.9	27	11,713	-52.1		243	12.4
175----	31	12,541	-47.7		192	2.1	27	12,579	-51.0		242	10.5
150----	31	13,558	-48.3		125	1.0	27	13,583	-51.2		244	6.8
125----	31	14,756	-49.5		136	2.7	27	14,766	-51.8		252	3.9
100----	31	16,215	-50.6		117	2.7	27	16,210	-52.7		226	2.9
80-----	31	17,669	-50.7		96	3.3	26	17,646	-52.8		253	1.6
70-----	31	18,543	-50.6		101	4.7	26	18,518	-52.6			.0
60-----	31	19,543	-50.4		97	5.1	26	19,504	-52.4		110	1.7
50-----	31	20,732	-50.3		98	6.2	26	20,683	-52.0		93	2.5
40-----	31	22,188	-50.3		96	7.6	24	22,142	-51.3		95	3.7
30-----	30	24,069	-49.9		86	8.4	23	24,017	-50.3		83	6.0
25-----	26	25,267	-48.9		86	8.4	22	25,216	-49.2		84	7.8
20-----	26	26,737	-47.2		90	8.2	17	26,661	-48.1		90	7.6
15-----	23	28,653	-44.7		80	9.3	7	28,557	-44.6			
10-----	6	31,424	-39.4									

Standard pressure surface (mb)	ATHENS, GA. (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BARROW, ALASKA (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BARTER IS., ALASKA (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	246	14.2	89	49	1.2	31	8	- 7.0	86	100	4.7	31	15	- 7.4	81	82	3.3
1,000--	31	157					31	149	- 5.6	84	114	4.5	31	143	- 4.6	82	93	5.2
950----	31	593	15.5	70	104	1.9	31	553	- 4.4	77	104	4.1	31	554	- .8	68	106	5.4
900----	31	1,052	13.4	70	212	5.2	31	979	- 2.5	60	107	4.5	31	982	.6	58	131	3.5
850----	31	1,531	10.7	68	236	7.6	31	1,433	- 2.7	46	232	1.0	31	1,437	- 2.3	54	176	1.4
800----	31	2,035	8.4	56	262	10.3	31	1,912	- 4.1	43	223	2.7	31	1,917	- 4.2	50	272	1.9
750---	31	2,560	5.9	47	272	11.9	31	2,420	- 6.5	42	213	5.1	31	2,420	- 6.7	47	284	3.5
700----	31	3,129	3.1	42	278	14.4	31	2,955	- 9.5	42	219	5.2	31	2,959	- 9.6	45	287	5.2
650----	31	3,721	- .3		284	16.1	31	3,523	-12.9	41	221	5.4	31	3,523	-12.9	44	296	4.5
600----	31	4,363	- 4.4	36	286	20.0	31	4,130	-16.5	37	231	6.6	31	4,134	-16.6	44	296	5.6
550----	31	5,034	- 8.4		284	22.0	31	4,775	-20.5		243	7.0	31	4,775	-20.9	45	293	6.0
500----	31	5,777	-13.3		281	24.5	31	5,478	-25.2		248	6.2	31	5,479	-25.9	42	299	5.1
450----	31	6,563	-18.5		280	24.1	31	6,228	-30.5		253	7.2	31	6,225	-31.2	41	288	5.8
400----	31	7,442	-24.7		280	29.3	31	7,062	-36.5		243	6.8	31	7,058	-37.3		284	7.8
350----	31	8,400	-31.9		283	36.3	31	7,975	-43.0		236	6.0	31	7,968	-43.7		285	8.0
300----	31	9,473	-39.6		284	38.7	31	8,999	-49.4		257	8.7	31	8,989	-49.7		295	8.7
250----	31	10,698	-48.4		286	41.4	30	10,180	-51.7		260	7.6	31	10,175	-51.3		299	7.4
200----	31	12,137	-57.6		289	48.2	30	11,640	-47.6		252	7.4	31	11,635	-48.2		298	9.1
175----	31	12,975	-60.4		288	44.7	30	12,524	-46.8		256	7.6	30	12,517	-47.7		283	7.8
150----	31	13,937	-60.0		283	40.4	29	13,553	-47.4		270	7.2	30	13,534	-48.0		299	6.6
125----	31	15,076	-60.7		282	37.7	29	14,753	-48.3		274	5.2	30	14,734	-48.7		308	5.8
100----	30	16,458	-62.9		284	25.8	28	16,218	-49.1		244	1.7	30	16,196	-49.6		328	3.5
80-----	30	17,828	-63.5		283	17.3	28	17,682	-48.8		200	1.4	30	17,659	-49.1		330	2.1
70-----	30	18,655	-62.3		288	10.7	28	18,564	-48.5		119	1.0	30	18,535	-48.8			.0
60-----	30	19,605	-60.1		302	5.6	26	19,568	-48.2		92	3.1	30	19,549	-48.6		49	2.1
50-----	30	20,749	-57.5		17	2.1	24	20,776	-48.0		101	3.1	29	20,751	-48.5		76	4.5
40-----	29	22,166	-55.0		81	5.1	23	22,253	-47.9		88	6.4	29	22,219	-48.3		82	6.0
30-----	26	24,021	-51.8		101	7.4	21	24,149	-47.8		93	6.8	26	24,119	-47.9		82	8.0
25-----	25	25,210	-49.9		95	9.5	21	25,353	-47.5		88	9.1	25	25,315	-47.7		83	9.9
20-----	24	26,682	-47.2		93	9.1	20	26,839	-46.6		84	8.7	24	26,800	-46.6		85	11.3
15-----	13	28,595	-44.1				15	28,743	-45.0		66	11.5	17	28,727	-43.7		78	10.3
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Standard pressure surface (mb)	BETHEL, ALASKA (1006 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BISMARCK, N. DAK. (958 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	3.1	86	146	2.5	27	509	5.6	78	90	3.3
1,000--	31	86			183	3.3	27	151				
950----	31	506	3.6	66	155	8.0	27	573	7.1	64	78	6.2
900----	31	941	.9	66	148	8.9	27	1,021	7.7	55	120	6.1
850----	31	1,398	- 2.1	63	143	7.8	27	1,491	6.2	55	84	3.1
800----	31	1,878	- 4.7	59	142	9.3	27	1,986	4.4	50	24	3.5
750----	31	2,388	- 7.3	56	136	10.5	27	2,503	1.5	49	334	4.5
700----	31	2,919	- 9.9	50	133	11.1	27	3,062	- 1.7	48	320	6.2
650----	31	3,486	-12.9	46	137	11.1	27	3,643	- 5.0	45	313	12.2
600----	31	4,094	-16.5	44	138	11.1	27	4,274	- 8.5		302	16.5
550----	31	4,741	-20.5	43	130	12.0	27	4,935	-12.6	38	291	19.2
500----	31	5,443	-25.1	43	134	12.0	27	5,666	-17.4		290	22.5
450----	31	6,196	-30.3	40	137	12.4	27	6,436	-22.9		286	23.3
400----	31	7,028	-35.9		144	10.1	27	7,301	-29.5		280	27.8
350----	31	7,945	-42.0		178	7.8	27	8,240	-36.7		280	31.9
300----	31	8,976	-47.4		212	5.6	27	9,289	-44.8		278	39.4
250----	31	10,176	-48.8		250	5.8	27	10,486	-52.9		276	40.6
200----	31	11,646	-47.1		213	1.9	27	11,910	-56.3		277	43.3
175----	31	12,529	-47.6		318	.8	27	12,760	-55.7		279	40.0
150----	31	13,546	-48.2		124	2.5	27	13,744	-54.6		278	33.0
125----	30	14,740	-49.4		116	2.7	27	14,913	-54.2		279	27.0
100----	29	16,200	-50.1		96	3.3	26	16,337	-56.1		287	18.5
80-----	29	17,657	-50.3		118	4.3	26	17,754	-56.6		304	11.1
70-----	29	18,532	-50.5		116	3.5	25	18,606	-55.5		318	6.8
60-----	29	19,534	-50.5		104	4.7	25	19,593	-54.8		11	8.3
50-----	28	20,725	-50.5		99	5.8	25	20,762	-53.7		47	3.9
40-----	28	22,180	-50.4		98	7.8	25	22,200	-52.7		75	6.2
30-----	26	24,064	-49.7		92	8.2	23	24,071	-51.0		73	7.4
25-----	26	25,259	-49.3		91	7.8	22	25,263	-49.8		73	10.3
20-----	20	26,717	-48.5		72	8.4	18	26,732	-47.6		77	13.0
15-----	10	28,589	-45.9				14	28,647	-43.9		81	11.1
10-----							9	31,430	-38.7			

Standard pressure surface (mb)	BOISE, IDAHO (914 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BROWNSVILLE, TEX. (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BUFFALO, N. Y. (992 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	868	8.8	66	240	2.5	31	7	22.6	89	140	6.1	31	218	8.8	81	223	4.5
1,000--	31	116					31	115	23.1	84	134	8.9	31	147				
950----	31	548					31	559	20.6	79	156	18.8	31	569	8.5	69	233	8.0
900----	31	998	10.0	58	267	2.3	31	1,030	19.0	64	166	18.7	31	1,018	6.8	62	268	9.9
850----	31	1,473	9.2	51	306	6.6	31	1,521	17.9	45	168	13.0	31	1,486	4.3	60	277	10.5
800----	31	1,973	5.9	52	308	6.8	31	2,038	15.9	33	162	4.1	31	1,977	1.1	64	275	13.4
750----	31	2,497	2.2	56	280	5.4	31	2,581	13.7	27	177	2.7	31	2,490	- 1.9	64	282	14.2
700----	31	3,052	- 1.7	59	239	7.0	31	3,162	10.4		349	1.4	31	3,040	- 4.6	57	279	16.5
650----	31	3,636	- 5.5	53	237	10.3	31	3,768	6.1	26	325	5.4	31	3,614	- 7.5	51	278	19.6
600----	31	4,262	- 9.6	53	238	14.8	31	4,425	1.5	27	319	8.7	31	4,239	-11.2	43	276	21.8
550----	31	4,929	-14.4	50	236	17.7	31	5,109	- 3.5	31	306	11.7	31	4,896	-15.2	38	273	24.5
500----	31	5,644	-19.6	47	236	19.2	31	5,864	- 9.0	31	302	13.6	31	5,617	-19.6	35	278	25.6
450----	31	6,415	-25.3	41	228	20.4	31	6,669	-14.4		298	13.4	31	6,386	-24.5		277	29.1
400----	31	7,264	-31.7	37	235	22.5	31	7,555	-20.8		291	19.4	31	7,242	-30.2		276	31.5
350----	31	8,195	-38.6		241	25.8	31	8,528	-27.8		287	23.7	31	8,178	-36.6		267	38.1
300----	31	9,238	-45.7		242	23.7	31	9,617	-36.1		287	31.3	31	9,231	-43.8		271	41.2
250----	31	10,434	-52.5		238	26.6	31	10,856	-45.8		285	37.7	31	10,439	-49.8		271	46.2
200----	30	11,864	-55.2		242	27.8	30	12,307	-56.3		284	41.7	30	11,880	-53.4		279	44.1
175----	30	12,718	-54.8		246	22.0	30	13,146	-60.9		286	45.1	30	12,738	-54.0		281	36.1
150----	30	13,705	-54.1		242	19.8	30	14,097	-64.1		281	41.2	29	13,725	-54.2		284	32.6
125----	30	14,874	-54.8		240	17.3	30	15,202	-67.5		279	29.1	28	14,903	-55.0		276	21.4
100----	30	16,296	-56.5		239	15.7	30	16,533	-72.3		276	17.3	27	16,324	-55.7		278	18.1
80-----	30	17,709	-57.2		235	9.5	30	17,840	-72.5		297	5.8	27	17,745	-55.5		281	10.7
70-----	30	18,556	-57.0		244	5.1	30	18,638	-69.2		45	3.7	27	18,597	-55.1		284	6.0
60-----	30	19,531	-56.1		208	1.9	30	19,564	-64.2		91	10.1	26	19,580	-54.1		287	2.7
50-----	29	20,686	-55.5		131	1.6	30	20,691	-59.9		94	12.4	26	20,750	-53.7		73	1.2
40-----	29	22,114	-54.0		89	4.3	29	22,096	-56.6		89	14.6	26	22,186	-53.0		72	4.5
30-----	28	23,963	-51.9		76	7.6	29	23,938	-52.4		88	17.5	23	24,043	-50.8		84	6.8
25-----	26	25,157	-50.1		72	8.2	27	25,125	-49.5		80	15.9	21	25,237	-49.4		87	7.4
20-----	24	26,618	-48.0		74	11.3	26	26,597	-46.4		89	13.6	19	26,702	-48.4		86	7.4
15-----	16	28,528	-44.5		83	9.1	9	28,544	-41.1				12	28,591	-45.9			
10-----													5	31,472	-37.5			

Standard pressure surface (mb)	BURRWOOD, LA. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CAPE HATTERAS, N. C. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	20.5	91	155	1.6	31	4	15.8	86	112	0.8
1,000--	31	143	20.7	81	164	3.1	31	148	16.7	75	210	3.5
950----	31	588	18.7	72	167	5.6	31	582	14.5	66	238	5.6
900----	31	1,048	16.5	64	174	6.8	31	1,040	12.2	61	256	6.8
850----	31	1,533	14.5	45	199	4.9	31	1,517	9.9	59	259	9.7
800----	31	2,044	12.3	38	226	5.8	31	2,019	7.2	61	257	11.9
750----	31	2,581	9.8	34	256	7.2	31	2,550	4.5	57	260	13.4
700----	31	3,153	7.1	31	284	8.7	31	3,107	1.8	48	257	17.3
650----	31	3,756	3.4	32	294	10.5	31	3,698	- 1.4	45	259	20.2
600----	31	4,402	- .8	29	295	13.8	31	4,336	- 4.9	44	260	21.6
550----	30	5,086	- 5.4	29	300	16.9	31	5,009	- 9.0	40	261	24.1
500----	30	5,833	-10.5		296	20.0	31	5,748	-13.5	35	267	27.6
450----	30	6,634	-15.7		293	21.8	31	6,535	-18.9	34	268	29.9
400----	30	7,516	-22.3		294	25.3	31	7,409	-25.1	35	266	32.6
350----	30	8,483	-29.2		293	29.0	31	8,366	-32.0		265	36.7
300----	30	9,567	-37.2		291	32.3	31	9,436	-40.1		267	41.4
250----	30	10,801	-46.6		294	38.5	31	10,656	-49.3		270	45.7
200----	30	12,249	-56.5		295	44.7	31	12,090	-57.3		271	46.2
175----	30	13,088	-60.3		290	43.5	31	12,929	-59.9		269	41.6
150----	29	14,043	-62.0		284	46.1	31	13,889	-60.1		275	40.4
125----	29	15,166	-63.7		283	39.4	31	15,029	-59.4		274	31.7
100----	29	16,523	-67.7		289	28.0	30	16,420	-61.0		266	23.7
80-----	29	17,863	-68.4		302	12.4	30	17,806	-60.8		278	14.6
70-----	29	18,676	-66.6		333	5.2	30	18,638	-59.7		289	7.4
60-----	29	19,608	-63.5		65	4.7	29	19,500	-58.2		301	2.7
50-----	29	20,739	-59.4		85	8.9	29	20,753	-56.0		77	4.7
40-----	29	22,150	-55.8		85	13.4	29	22,179	-53.8		91	8.0
30-----	28	24,003	-51.8		84	14.4	26	24,042	-50.7		92	8.5
25-----	23	25,195	-49.0		90	16.7	22	25,230	-49.1		92	10.2
20-----	18	26,674	-46.3		88	16.1	21	26,702	-46.5		83	9.3
15-----	12	28,601	-42.1				7	28,583	-44.9			
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	CARIBOU, ME. (992 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CHARLESTON, S. C. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	191	5.5	82	299	1.9	31	13	17.0	93	11	2.5
1,000--	31	123					31	151	18.0	83	54	1.2
950----	31	542	4.5	71	295	3.5	31	587	16.6	73	232	2.3
900----	31	982	3.1	70	305	4.1	31	1,050	14.2	65	251	4.5
850----	31	1,445	1.3	68	293	6.8	31	1,531	11.5	64	257	7.6
800----	31	1,931	- .9	64	276	9.5	31	2,036	8.9	58	263	10.7
750----	31	2,444	- 3.2	60	267	13.8	31	2,564	6.4	50	268	13.2
700----	31	2,989	- 5.6	59	262	14.8	31	3,133	3.4	43	266	13.2
650----	31	3,564	- 8.4	52	254	18.3	31	3,725	.4	35	273	14.2
600----	31	4,185	-11.9	49	253	21.6	31	4,370	- 3.4	32	273	16.5
550----	31	4,842	-15.9	46	255	23.1	31	5,043	- 7.8	31	275	19.4
500----	31	5,559	-20.4	42	255	25.1	31	5,788	-12.7	34	274	21.2
450----	31	6,325	-25.6	39	253	28.2	31	6,577	-18.2		269	24.7
400----	31	7,177	-31.7	36	250	28.8	31	7,455	-24.1		266	28.2
350----	31	8,108	-38.5		245	32.6	31	8,415	-31.3		267	31.9
300----	31	9,152	-44.9		247	37.3	31	9,490	-39.5		269	35.4
250----	31	10,357	-50.1		253	39.6	31	10,716	-48.7		275	40.8
200----	31	11,805	-52.6		253	38.3	31	12,150	-58.5		278	43.9
175----	31	12,668	-52.3		253	33.2	31	12,985	-61.1		279	46.4
150----	31	13,667	-51.9		258	23.7	31	13,943	-60.7		276	41.8
125----	31	14,849	-52.1		253	22.2	31	15,079	-61.2		279	36.3
100----	31	16,290	-53.1		255	14.4	31	16,457	-63.5		281	25.5
80-----	31	17,728	-53.0		260	6.8	31	17,826	-63.8		284	13.4
70-----	31	18,586	-53.0		218	2.9	31	18,656	-62.4		282	9.1
60-----	31	19,585	-52.5		168	2.5	31	19,604	-60.2		342	2.1
50-----	31	20,764	-52.4		122	3.9	31	20,749	-57.5		69	5.6
40-----	31	22,208	-51.8		101	7.0	31	22,168	-54.7		85	11.3
30-----	30	24,081	-50.2		100	9.7	27	24,024	-51.7		93	12.0
25-----	29	25,281	-49.0		92	10.3	25	25,210	-49.5		89	10.5
20-----	27	26,754	-47.2		96	11.7	20	26,672	-46.7		92	14.8
15-----	17	28,640	-43.7		88	10.9	11	28,597	-42.8			
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Standard pressure surface (mb)	COLD BAY, ALASKA (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	COLUMBIA, MO. (988 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	27	3.5	90	164	8.2	31	238	11.0	80	122	4.1
1,000--	31	58			169	10.7	31	137				
950----	31	476	1.8	80	154	11.1	31	570	12.7	60	141	5.8
900----	31	908	- .3	75	147	8.9	31	1,021	10.7	61	195	3.7
850----	31	1,364	- 2.2	72	146	7.4	31	1,496	9.0	58	269	5.2
800----	31	1,843	- 4.5	67	160	6.6	31	1,997	7.4	51	300	8.5
750----	31	2,352	- 6.7	63	167	6.4	31	2,527	5.2	49	294	11.5
700----	31	2,886	9.3	63	171	6.0	31	3,087	2.3	49	286	14.8
650----	31	3,454	-12.0	57	177	4.9	31	3,678	- 1.2	48	281	17.5
600----	31	4,065	-15.3	49	187	5.4	31	4,316	- 5.2	45	282	20.2
550----	31	4,715	-19.4	46	201	5.6	31	4,988	- 9.3	41	285	22.7
500----	31	5,419	-23.5	41	208	7.6	31	5,725	-14.0	40	287	26.8
450----	31	6,179	-28.7	40	229	6.4	31	6,512	-19.4	38	281	29.1
400----	31	7,015	-34.6		246	7.8	31	7,383	-25.5	36	280	32.4
350----	31	7,935	-40.9		245	9.9	31	8,338	-32.3		280	36.5
300----	31	8,972	-45.4		249	11.1	31	9,406	-40.5		278	42.2
250----	31	10,182	-46.7		253	13.8	31	10,624	-49.6		277	45.7
200----	31	11,656	-48.1		253	12.6	31	12,054	-58.3		277	53.8
175----	30	12,537	-48.8		266	9.1	31	12,890	-60.1		278	52.7
150----	30	13,548	-49.2		260	7.2	31	13,857	-58.3		284	43.9
125----	30	14,740	-50.5		254	4.3	31	15,005	-58.2		288	35.9
100----	29	16,188	-51.5		237	2.1	31	16,404	-60.5		292	27.2
80-----	29	17,636	-51.5		166	2.5	30	17,794	-60.6		292	17.1
70-----	29	18,510	-51.5		147	1.9	30	18,629	-60.0		302	10.9
60-----	29	19,503	-51.3		118	2.9	30	19,593	-58.4		342	5.4
50-----	28	20,690	-51.2		101	3.9	30	20,745	-56.5		34	5.2
40-----	27	22,145	-50.8		99	3.9	30	22,167	-54.7		60	5.6
30-----	26	24,017	-50.4		98	4.5	27	24,013	-52.0		79	7.0
25-----	23	25,210	-49.5		85	4.9	25	25,200	-50.7		76	8.7
20-----	23	26,676	-48.2		87	6.6	22	26,662	-48.9		81	11.5
15-----	13	28,558	-45.9				15	28,574	-45.8			
10-----							5	31,364	-39.3			

Standard pressure surface (mb)	DAYTON, OHIO (983 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DENVER, COLO. (837 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	297	8.9	75	61	0.6	31	1,611	7.6	80	245	1.4
1,000--	31	157					31	119				
950----	31	583	10.5	65	316	.6	31	551				
900----	31	1,034	8.3	64	272	5.8	31	1,007				
850----	31	1,505	5.8	63	273	7.2	31	1,483				
800----	31	1,999	3.6	54	280	8.9	31	1,985	9.1	66	275	4.3
750----	31	2,520	1.6	45	282	11.5	31	2,517	6.7	61	281	5.4
700----	31	3,076	- 1.0	39	280	15.3	31	3,083	4.0	54	279	6.6
650----	31	3,660	- 4.1	35	280	18.1	31	3,675	- .3	52	281	10.9
600----	31	4,293	- 7.4	32	279	22.0	31	4,316	- 4.9	53	273	15.7
550----	31	4,960	-11.4		282	26.0	31	4,984	-10.0	52	268	16.3
500----	31	5,691	-16.0		284	29.3	31	5,722	-15.4	51	261	17.5
450----	31	6,471	-21.5		285	31.7	31	6,501	-21.3	46	256	20.0
400----	31	7,337	-27.5		284	36.9	31	7,368	-27.8	41	257	24.1
350----	31	8,285	-34.5		284	41.2	31	8,313	-35.0	35	259	28.4
300----	31	9,345	-42.4		279	45.1	31	9,370	-43.0		256	34.6
250----	31	10,556	-50.3		278	52.3	31	10,578	-51.1		252	40.8
200----	31	11,989	-57.1		283	56.0	31	12,007	-56.6		252	40.8
175----	31	12,835	-57.1		286	46.8	30	12,852	-57.6		254	39.4
150----	31	13,812	-56.9		284	38.5	30	13,826	-56.8		257	38.3
125----	31	14,966	-57.4		282	29.9	30	14,981	-57.4		261	29.5
100----	31	16,374	-58.0		283	23.1	30	16,384	-59.8		264	21.8
80-----	31	17,774	-58.8		285	15.3	30	17,775	-60.3		262	11.9
70-----	31	18,616	-57.9		290	11.3	30	18,615	-60.1		261	5.2
60-----	31	19,589	-56.7		293	4.7	30	19,574	-58.4		314	1.9
50-----	31	20,748	-55.4		3	1.4	30	20,726	-56.5		65	3.3
40-----	31	22,177	-53.6		74	4.5	30	22,147	-54.7		65	5.8
30-----	31	24,034	-51.4		82	7.8	29	23,997	-52.2		67	8.5
25-----	31	25,222	-50.0		85	9.3	29	25,181	-50.5		76	9.9
20-----	30	26,690	-48.2		86	8.7	28	26,645	-48.3		78	10.3
15-----	27	28,606	-44.4		79	10.1	16	28,496	-46.9		95	9.3
10-----	13	31,336	-40.0		86	10.9	5	31,127	-43.3			

Standard pressure surface (mb)	DODGE CITY, KANS. (923 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	EL PASO, TEX. (881 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	792	11.4	80	152	2.1	31	1,197	16.1	32	269	1.4
1,000--	31	117					31	98				
950----	31	551					31	546				
900----	31	1,006	12.7	65	182	7.8	31	1,018				
850----	31	1,486	12.8	53	235	9.7	31	1,501	17.6	29	241	3.3
800----	31	1,995	11.4	46	258	9.9	31	2,017	14.9	26	253	9.5
750----	31	2,531	8.3	48	257	12.8	31	2,556	11.6	23	258	14.0
700----	31	3,098	4.7	49	256	14.6	31	3,132	7.5		247	17.1
650----	31	3,696	.4	49	257	16.7	31	3,732	3.2	24	249	20.4
600----	31	4,335	- 4.1	45	257	19.4	31	4,381	- 1.6		248	22.9
550----	31	5,010	- 9.1	46	261	21.2	31	5,059	- 6.8	29	250	28.8
500----	31	5,747	-14.3	42	264	23.9	31	5,805	-12.1		249	33.2
450----	31	6,534	-19.8	38	263	27.0	31	6,601	-17.8		254	35.9
400----	31	7,403	-26.2		264	28.6	31	7,476	-24.2		254	40.4
350----	31	8,355	-33.3		267	33.2	31	8,436	-31.0		256	46.8
300----	31	9,421	-41.3		267	40.0	31	9,513	-39.0		258	49.7
250----	31	10,637	-49.7		265	44.7	31	10,739	-48.3		261	52.5
200----	30	12,067	-57.9		267	46.0	31	12,177	-57.9		263	57.9
175----	30	12,905	-59.8		266	44.1	30	13,011	-60.6		264	55.6
150----	30	13,870	-58.7		263	36.3	30	13,970	-60.9		260	50.7
125----	31	14,981	-57.4		274	34.2	30	15,099	-62.9		261	42.7
100----	31	16,384	-59.8		271	24.9	30	16,462	-66.6		268	28.6
80-----	31	17,775	-60.3		277	14.0	30	17,805	-67.9		277	11.5
70-----	31	18,615	-60.1		281	7.0	29	18,611	-66.4		273	4.7
60-----	30	19,574	-58.4		310	3.7	29	19,548	-62.7		76	4.3
50-----	30	20,726	-56.5		280	.6	29	20,680	-59.4		91	8.2
40-----	30	22,147	-54.7		68	5.2	28	22,082	-56.8		81	7.2
30-----	29	23,997	-52.2		64	7.6	28	23,918	-52.9		73	9.9
25-----	29	25,181	-50.5		73	8.5	27	25,097	-51.0		78	11.7
20-----	28	26,645	-48.3		78	11.1	27	26,554	-48.8		81	12.0
15-----	16	28,496	-46.9		95	9.3	25	28,452	-45.5		83	8.4
10-----	5	31,127	-43.3				10	31,166	-39.0			

Standard pressure surface (mb)	ELY, NEV. (807 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FAIRBANKS, ALASKA (997 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,908	2.4	55	171	6.4	31	135	5.0	68	3	4.3
1,000--	31	129					31	106			1	5.6
950----	31	557					31	525	6.8	47	99	3.5
900----	31	1,006					31	970	4.0	49	142	2.7
850----	31	1,481					31	1,432	1.0	51	172	1.7
800----	31	1,978	5.7	50	171	6.8	30	1,918	- 2.3	53	152	2.5
750----	31	2,505	5.8	40	188	4.1	30	2,428	- 5.4	54	141	4.7
700----	31	3,067	1.9	42	232	6.8	30	2,966	- 8.8	50	144	5.6
650----	31	3,653	- 2.4	44	234	10.1	30	3,532	-12.3	49	146	5.1
600----	31	4,290	- 7.1	46	232	12.6	30	4,143	-16.4	47	149	5.6
550----	31	4,952	-11.9	42	230	15.0	30	4,786	-20.6	45	138	7.8
500----	31	5,684	-17.0	38	230	18.5	30	5,492	-25.5	46	142	9.9
450----	31	6,458	-22.6	36	236	22.3	30	6,242	-30.6	43	146	9.3
400----	31	7,319	-29.2	37	238	20.8	30	7,076	-36.6		145	9.9
350----	31	8,260	-36.6		239	22.9	30	7,989	-43.2		119	12.4
300----	31	9,310	-44.8		245	26.2	30	9,014	-48.8		153	7.8
250----	31	10,511	-51.6		245	32.1	30	10,205	-50.8		169	4.7
200----	31	11,944	-55.8		243	31.9	30	11,665	-48.4			.0
175----	31	12,794	-55.9		247	33.8	30	12,546	-47.6		187	1.2
150----	31	13,774	-55.2		244	29.1	30	13,564	-48.2		287	1.0
125----	31	14,936	-56.6		246	24.9	29	14,762	-49.3		82	.8
100----	30	16,345	-59.0		240	17.7	27	16,225	-49.8		110	2.1
80-----	30	17,740	-60.0		238	9.9	24	17,688	-50.0		97	4.3
70-----	30	18,579	-59.7		224	4.9	24	18,561	-49.8		93	4.3
60-----	30	19,541	-58.1		182	2.7	23	19,569	-49.6		85	5.8
50-----	30	20,693	-56.6		118	3.9	23	20,763	-49.4		87	7.6
40-----	29	22,109	-55.0		79	5.1	21	22,222	-49.5		94	8.7
30-----	29	23,957	-52.4		78	8.0	19	24,093	-49.5		88	9.9
25-----	27	25,143	-50.4		73	8.7	17	25,306	-48.2		84	10.7
20-----	25	26,609	-47.8		84	12.2	13	26,746	-47.6		88	12.6
15-----	22	28,532	-44.0		87	13.0	9	28,658	-45.1			
10-----	7	31,249	-39.8				6	31,421	-38.0			

Standard pressure surface (mb)	FLINT, MICH. (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FORT WORTH, TEXAS (994 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	234	7.5	80	261	1.2	31	180	18.5	79	172	3.3
1,000--	31	153					31	125				
950----	31	579	8.3	62	306	4.3	31	569	18.4	68	183	12.4
900----	31	1,023	6.2	59	307	6.4	31	1,030	17.3	63	200	14.4
850----	31	1,490	4.2	55	306	7.6	31	1,517	15.7	55	216	12.6
800----	31	1,982	2.0	51	296	9.9	31	2,031	13.6	46	230	9.9
750----	31	2,501	- .4	45	292	14.2	31	2,570	10.7	39	251	9.5
700----	31	3,050	- 3.0	40	293	14.8	31	3,143	6.8	37	263	9.1
650----	31	3,632	- 6.4	39	293	17.5	31	3,745	2.6	40	268	11.1
600----	31	4,256	-10.1	36	293	19.8	31	4,389	- 2.1	37	275	15.2
550----	31	4,915	-14.5	35	293	22.9	31	5,069	- 6.9	35	275	19.4
500----	31	5,637	-19.1		292	27.2	31	5,812	-11.8	35	278	23.7
450----	31	6,405	-24.4		287	30.9	31	6,609	-16.8		279	28.2
400----	31	7,263	-30.2		285	35.2	31	7,488	-22.9		282	31.9
350----	31	8,200	-36.8		280	38.3	31	8,452	-30.2		282	34.8
300----	31	9,253	-43.1		280	43.9	31	9,531	-38.6		284	40.4
250----	31	10,463	-50.0		281	46.4	31	10,757	-48.3		280	46.6
200----	31	11,906	-53.9		281	47.4	31	12,192	-58.6		278	53.2
175----	31	12,763	-54.4		285	39.2	30	13,027	-60.9		278	52.1
150----	31	13,749	-55.0		284	33.4	30	13,986	-60.0		278	50.5
125----	31	14,913	-55.6		285	28.2	30	15,121	-61.6		280	39.1
100----	31	16,335	-56.2		283	21.4	30	16,490	-66.4		278	27.0
80-----	31	17,753	-56.3		285	14.2	30	17,839	-66.6		281	15.2
70-----	31	18,603	-55.9		291	9.3	29	18,658	-64.6		302	4.9
60-----	31	19,585	-55.2		297	4.5	29	19,597	-61.8		61	2.9
50-----	31	20,751	-54.3		56	1.7	28	20,735	-58.5		87	6.8
40-----	31	22,187	-53.0		91	2.7	28	22,148	-55.8		80	7.8
30-----	30	24,050	-51.4		83	5.8	27	23,992	-52.5		83	10.9
25-----	30	25,238	-50.1		79	7.8	26	25,175	-50.2		87	12.2
20-----	26	26,708	-48.2		89	8.5	23	26,631	-48.3		92	12.6
15-----	20	28,603	-46.2		93	8.2	17	28,528	-45.1		109	8.5
10-----	10	31,285	-41.3									

Standard pressure surface (mb)	GLASGOW, MONT. (934 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GRAND JUNCTION, COLO. (850 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	696	7.7	73	100	8.0	31	1,474	12.0	44	120	7.8
1,000--	31	126					31	84				
950----	31	553					31	518				
900----	31	1,003	9.5	68	140	10.5	31	987				
850----	31	1,477	7.8	62	175	6.4	31	1,472			121	9.3
800----	31	1,974	4.9	61	177	5.1	31	1,980	11.9	37	149	8.4
750----	31	2,495	1.6	60	198	3.9	31	2,514	8.5	38	201	6.0
700----	31	3,051	- 1.9	59	229	2.1	31	3,084	4.3	40	237	8.7
650----	31	3,629	- 6.0	60	254	4.5	31	3,675	- .3	42	248	11.9
600----	31	4,258	- 9.8	54	259	7.2	31	4,317	- 5.5	48	248	15.7
550----	31	4,917	-14.1	51	264	9.3	31	4,985	-11.0	53	243	19.0
500----	31	5,641	-19.1	49	268	10.3	31	5,718	-16.7	52	240	22.2
450----	31	6,409	-24.6	45	265	12.8	31	6,497	-21.8	36	245	22.5
400----	31	7,265	-30.7	40	255	14.6	31	7,359	-28.2		247	25.3
350----	31	8,199	-38.0		255	15.5	31	8,303	-35.5		251	27.4
300----	31	9,243	-46.1		259	17.9	31	9,357	-43.8		252	34.4
250----	31	10,434	-53.8		270	21.4	31	10,559	-51.5		253	38.1
200----	31	11,857	-55.8		267	22.9	31	11,989	-55.7		257	40.2
175----	31	12,708	-55.0		267	24.3	31	12,837	-56.6		255	35.0
150----	31	13,694	-54.0		266	19.2	30	13,816	-55.9		257	34.2
125----	31	14,864	-54.5		270	19.8	30	14,975	-57.0		255	30.9
100----	31	16,293	-55.3		272	14.6	30	16,378	-60.3		251	23.5
80-----	31	17,713	-56.0		280	9.5	30	17,763	-61.3		255	12.4
70-----	31	18,571	-55.6		294	6.8	30	18,600	-60.3		265	5.2
60-----	31	19,548	-54.3		313	3.9	30	19,556	-59.0		199	1.6
50-----	30	20,717	-53.8		338	2.1	30	20,704	-57.0		120	3.3
40-----	29	22,155	-52.4		45	3.7	28	22,123	-55.3		91	4.3
30-----	26	24,031	-51.0		85	8.0	27	23,973	-52.7		69	7.6
25-----	25	25,222	-49.4		87	10.3	27	25,154	-51.2		81	8.9
20-----	24	26,687	-47.5		82	10.9	24	26,613	-49.0		85	8.7
15-----	21	28,601	-43.5		89	12.8	22	28,520	-45.5		72	8.5
10-----							7	31,268	-41.2			

Standard pressure surface (mb)	GREAT FALLS, MONT. (886 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,123	7.2	74	233	4.3
1,000--	31	113				
950----	31	542				
900----	31	994				
850----	31	1,468	8.4	57	237	8.2
800----	31	1,967	5.6	59	232	5.4
750----	31	2,487	2.1	61	230	5.8
700----	31	3,047	- 1.7	65	240	7.0
650----	31	3,628	- 5.7	62	243	8.4
600----	31	4,257	- 9.9	55	244	8.5
550----	31	4,916	-14.4	49	248	10.1
500----	31	5,640	-19.3	44	245	10.9
450----	31	6,408	-24.8	45	240	12.0
400----	31	7,264	-31.0	44	248	11.9
350----	31	8,196	-38.3		237	15.0
300----	31	9,239	-45.9		238	18.3
250----	31	10,435	-52.7		242	19.4
200----	31	11,861	-55.7		248	18.5
175----	31	12,713	-54.8		250	20.4
150----	31	13,702	-53.8		255	15.5
125----	31	14,873	-54.0		258	16.9
100----	31	16,303	-55.2		254	12.6
80-----	31	17,724	-56.0		266	8.0
70-----	31	18,573	-55.7		265	9.1
60-----	31	19,556	-55.0		262	2.9
50-----	30	20,722	-54.2		5	.8
40-----	30	22,154	-53.4		56	3.5
30-----	30	24,013	-51.4		75	7.2
25-----	30	25,199	-50.4		83	8.2
20-----	27	26,666	-48.4		80	9.5
15-----	22	28,574	-45.3		74	10.5
10-----	7	31,307	-40.1			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

MAY 1961

Standard pressure surface (mb.)	GREEN BAY, WIS. (993 MB.)						GREENSBORO, N. C. (987 MB.)						HILO, HAWAII (1018 MB.)						INTERNAT. FALLS, MINN. (976 MB.)						JACKASS FLATS, NEV. (888 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind		Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed					Direction	Speed					Direction	Speed					Direction	Speed					Direction	Speed
SURFACE	31	210	6.3	76	328	1.2	31	273	12.3	86	291	0.8	31	11	20.3	89	245	3.9	31	360	4.1	75	351	1.0	31	1,100	12.2	29	27	3.7
1,000--	31	147					31	164					31	164	21.3	81	231	2.5	31	156					31	88				
950----	31	571	7.9	59	304	5.4	31	595	12.8	67	301	3.1	31	604	18.2	85	89	4.7	31	577	6.9	61	284	1.7	31	522				
900----	31	1,015	6.2	56	312	6.2	31	1,050	11.0	68	291	4.7	31	1,069	14.9	88	83	7.4	31	1,020	5.7	53	306	3.5	31	988				
850----	31	1,482	3.8	56	310	8.0	31	1,526	8.5	67	268	8.0	31	1,552	12.1	86	81	8.0	31	1,486	3.7	48	333	4.7	31	1,471	14.7	27	187	4.7
800----	31	1,973	1.4	53	305	8.7	31	2,025	6.2	61	262	11.5	31	2,059	9.9	75	77	9.5	31	1,976	.9	42	337	7.6	31	1,981	11.2	29	198	6.8
750----	31	2,492	- 1.1	43	305	10.9	31	2,553	3.8	57	263	14.2	31	2,595	8.2	51	83	9.9	31	2,494	- 1.9	39	333	8.9	31	2,508	7.5	30	203	6.6
700----	31	3,038	- 3.8	41	300	12.2	31	3,111	1.0	50	267	16.5	31	3,162	5.5	42	89	9.1	31	3,038	- 4.8	44	324	10.9	31	3,079	3.4	31	206	6.8
650----	31	3,617	- 7.2	40	306	15.9	31	3,702	- 1.9	38	273	18.8	31	3,764	2.6	33	95	7.2	31	3,613	- 8.0	40	312	13.6	31	3,667	- 1.2	36	213	7.2
600----	31	4,239	-10.8	37	304	20.0	31	4,337	- 5.5		271	21.6	31	4,409	- .7	27	109	4.1	31	4,235	-11.7	37	309	15.3	31	4,308	- 5.6	35	227	10.5
550----	31	4,898	-14.7	37	304	22.5	31	5,009	- 9.5	37	274	24.1	31	5,095	- 4.9		162	1.4	31	4,894	-15.7	35	300	18.3	31	4,974	-10.2	35	232	13.4
500----	31	5,618	-19.4		307	26.0	31	5,746	-14.1		268	25.3	31	5,843	- 9.4		213	2.7	31	5,610	-20.4	36	294	20.6	31	5,711	-15.6		238	18.3
450----	31	6,388	-24.8		307	30.7	31	6,531	-19.5		265	28.6	31	6,646	-15.1		246	7.0	31	6,379	-25.8	37	292	21.4	31	6,484	-21.5		244	21.6
400----	30	7,240	-31.0		301	35.0	31	7,404	-25.7		268	30.9	31	7,531	-21.7		255	10.9	31	7,225	-32.0		294	25.3	31	7,354	-28.0	35	245	25.5
350----	30	8,175	-37.3		295	38.3	31	8,357	-33.0		269	36.3	31	8,501	-28.5		261	17.5	31	8,155	-38.7		296	30.9	31	8,299	-35.0		250	30.3
300----	30	9,224	-44.2		293	43.1	31	9,425	-40.7		273	38.7	31	9,588	-36.8		271	25.5	31	9,197	-46.0		297	35.8	31	9,359	-42.2		256	34.8
250----	30	10,428	-50.6		288	48.6	31	10,642	-49.5		277	45.7	31	10,824	-46.6		276	33.6	31	10,392	-52.2		293	35.0	31	10,571	-50.0		256	42.0
200----	29	11,860	-54.8		291	46.0	31	12,076	-57.7		281	48.4	31	12,268	-57.7		272	46.2	31	11,825	-54.2		292	35.4	31	12,010	-55.2		258	43.9
175----	29	12,713	-55.2		293	42.9	31	12,914	-59.8		282	45.3	31	13,100	-62.8		270	47.8	31	12,683	-52.8		290	34.8	31	12,860	-56.5		258	40.2
150----	29	13,698	-54.5		297	33.6	31	13,877	-59.8		280	39.4	31	14,041	-66.6		274	46.0	31	13,678	-52.6		289	28.6	30	13,846	-55.8		256	37.5
125----	29	14,866	-54.8		298	27.6	31	15,018	-59.8		281	32.1	31	15,139	-68.4		273	32.6	31	14,855	-52.8		291	22.3	29	15,002	-57.6		257	34.6
100----	29	16,289	-56.1		299	20.8	31	16,408	-61.4		279	24.7	30	16,473	-69.2		274	15.9	31	16,289	-54.1		293	16.3	29	16,403	-60.3		254	26.4
80-----	29	17,709	-55.5		299	16.9	31	17,791	-61.3		282	16.9	30	17,806	-69.6		139	.6	31	17,721	-53.8		294	11.5	29	17,788	-61.7		249	14.2
70-----	29	18,565	-55.2		310	11.5	31	18,625	-60.6		288	9.7	30	18,603	-68.3		76	7.2	31	18,579	-53.3		308	8.2	29	18,617	-61.2		248	7.6
60-----	29	19,546	-54.5		321	7.4	30	19,581	-59.2		315	2.7	29	19,535	-65.2		81	12.8	31	19,574	-53.1		336	5.4	29	19,577	-59.2		214	2.9
50-----	28	20,715	-53.8		19	5.8	30	20,729	-57.3		76	3.9	28	20,656	-62.1		84	17.7	31	20,752	-52.2		40	3.3	28	20,725	-57.7		125	2.1
40-----	27	22,150	-52.5		69	10.3	29	22,148	-55.0		82	6.0	27	22,049	-58.2		85	22.7	30	22,201	-51.3		73	5.1	28	22,135	-56.5		88	3.9
30-----	26	24,020	-50.7		71	9.1	29	23,996	-52.4		79	8.0	26	23,876	-53.5		87	19.0	30	24,075	-50.1		74	7.8	26	23,977	-53.6		81	7.2
25-----	23	25,200	-49.8		61	8.7	28	25,175	-50.9		79	9.9	25	25,060	-50.6		87	15.3	29	25,273	-48.9		80	8.7	24	25,153	-52.1		72	9.5
20-----	18	26,669	-48.0		64	10.5	26	26,636	-48.6		88	8.2	24	26,526	-46.7		81	9.9	27	26,749	-46.7		81	10.9	24	26,602	-50.2		80	10.5
15-----	10	28,576	-44.6				22	28,528	-46.0				14	28,418	-44.2		337	2.7	21	28,650	-44.1		65	10.3	19	28,509	-47.0		87	9.9
10-----							11	31,233	-40.9				5	31,112	-40.8										10	31,229	-42.8			

Standard pressure surface (mb.)	JACKSON, MISS. (1005 MB.)						JACKSONVILLE, FLA. (1017 MB.)						JOHNSTON IS., PACIFIC AREA (1015 MB.)						KING SALMON, ALASKA (1009 MB.)						KOTZEBUE, ALASKA (1014 MB.)					
SURFACE	31	101	16.3	86	195	0.8	31	6	19.2	91	257	1.4	31	3	26.0	79	85	15.0	31	15	2.9	87	105	3.1	31	5	- 0.2	89	9	1.0
1,000--	31	140	17.1	80	146	1.9	31	153	19.8	82	207	1.[illegible]	31	136	24.9	80	83	16.3	31	83			139	2.9	31	114	3.6	74	66	2.5
950----	31	580	17.2	67	200	4.7	31	590	18.2	73	226	4.1	31	580	21.2	81	82	19.8	31	500	4.1	65	119	8.7	31	529	4.3	59	124	3.9
900----	31	1,040	15.1	63	229	5.6	31	1,057	15.5	70	244	5.8	31	1,054	18.0	80	82	21.0	31	940	1.4	66	124	8.7	31	970	2.0	57	142	3.7
850----	31	1,523	13.0	58	244	8.2	31	1,540	12.9	66	257	8.2	31	1,542	15.2	71	82	17.7	31	1,398	- 1.6	70	118	8.7	31	1,429	- .6	57	147	4.1
800----	31	2,032	11.1	47	267	8.9	31	2,048	10.3	58	261	8.5	31	2,054	12.9	52	84	15.2	31	1,879	- 4.3	68	128	10.5	31	1,911	- 3.7	58	153	4.5
750----	31	2,571	8.8	40	269	10.9	31	2,578	7.6	48	266	8.9	31	2,589	10.4	40	86	11.5	31	2,383	- 6.9	62	136	11.1	31	2,414	- 6.9	55	159	6.0
700----	31	3,136	5.6	38	279	12.8	31	3,149	4.7	43	272	10.9	31	3,166	7.[illegible]	32	83	8.0	31	2,922	- 9.9	58	132	10.1	31	2,953	-10.0	50	155	7.8
650----	31	3,740	1.9	37	284	14.4	31	3,743	1.2	38	280	13.6	31	3,768	4.7	28	82	3.9	31	3,486	-12.7	49	139	11.1	31	3,517	-13.5	46	158	9.7
600----	31	4,379	- 2.5	36	288	15.9	31	4,390	- 2.7	36	284	16.3	31	4,424	1.4	23	83	1.4	31	4,099	-16.1	49	140	10.9	31	4,126	-17.0	40	160	9.7
550----	31	5,059	- 7.3	37	289	17.3	31	5,064	- 7.1	33	285	18.1	31	5,112	- 2.7		258	1.2	31	4,746	-19.9	46	141	9.3	31	4,767	-21.5	42	155	9.7
500----	31	5,799	-12.4		284	19.8	31	5,813	-11.5		284	20.[illegible]	31	5,870	- 7.4		262	2.9	31	5,452	-24.5	46	140	[illegible].9	31	5,469	-26.2	44	151	9.7
450----	31	6,592	-17.4		289	27.0	31	6,605	-16.9		282	24.1	31	6,676	-12.7		265	7.4	31	6,201	-30.0	43	150	8.9	31	6,217	-31.5		162	9.9
400----	31	7,469	-23.7		286	26.2	31	7,490	-23.1		276	26.4	31	7,573	-18.7		268	13.0	31	7,041	-35.9	44	161	7.6	31	7,048	-37.5		157	10.5
350----	31	8,431	-30.6		292	30.7	31	8,454	-30.3		278	29.0	31	8,557	-25.5	34	265	20.4	31	7,958	-41.[illegible]		188	7.6	31	7,957	-43.7		153	11.[illegible]
300----	31	9,510	-38.5		295	33.8	31	9,533	-38.4		278	34.0	31	9,658	-33.6		266	33.0	31	8,991	-46.5		235	7.4	31	8,979	-49.1		146	10.5
250----	31	10,739	-47.8		294	36.9	31	10,762	-47.2		280	38.9	31	10,913	-42.9		265	45.9	31	10,192	-49.3		261	7.8	31	10,172	-49.4		164	5.2
200----	31	12,179	-57.6		290	40.0	30	12,209	-56.9		282	46.0	31	12,382	-54.5		264	57.9	31	11,658	-48.5		263	4.9	31	11,644	-46.9		191	3.1
175----	31	13,015	-60.9		289	45.5	30	13,044	-60.2		289	46.0	30	13,226	-60.7		263	62.2	31	12,539	-47.7		232	4.1	31	12,529	-46.8		160	2.1
150----	31	13,973	-60.9		288	44.9	29	14,001	-61.1		285	43.5	29	14,172	-67.5		262	60.2	31	13,555	-48.5		235	1.7	31	13,549	-47.7		169	1.9
125----	31	15,107	-61.8		287	39.6	29	15,132	-62.4		283	39.2	29	15,254	-73.2		274	48.0	30	14,752	-49.9		174	1.6	30	14,750	-49.4		130	2.3
100----	31	16,476	-65.4		290	26.6	28	16,502	-65.7		289	27.4	25	16,553	-75.0		271	25.1	30	16,209	-50.8		122	1.7	30	16,209	-50.1		132	2.3
80-----	31	17,830	-65.7		297	14.0	28	17,856	-65.7		294	11.5	17	17,864	-70.[illegible]		323	2.1	29	17,664	-51.0		110	3.5	30	17,665	-50.0		114	2.9
70-----	31	18,653	-64.5		312	7.4	27	18,665	-64.1		313	6.4	16	18,661	-68.0		79	11.3	28	18,534	-50.9		110	3.7	30	18,543	-49.6		106	3.3
60-----	31	19,590	-62.0		45	3.5	27	19,619	-61.1		37	4.1	16	19,593	-64.7		83	17.1	27	19,538	-50.7		105	3.1	29	19,552	-49.1		99	4.9
50-----	31	20,727	-58.6		81	7.0	27	20,760	-58.1		66	9.9	16	20,716	-61.2		81	22.5	27	20,725	-50.8		93	4.9	28	20,746	-49.1		102	6.0
40-----	29	22,138	-55.4		96	9.3	25	22,177	-55.0		89	14.4	13	22,111	-57.5		80	19.0	27	22,177	-50.7		87	6.8	26	22,206	-49.1		97	7.8
30-----	29	23,986	-52.1		80	11.9	25	24,029	-51.9		92	16.3	11	23,962	-51.9		72	18.1	24	24,049	-50.5		93	8.7	23	24,098	-48.9		91	9.3
25-----	29	25,171	-50.2		83	11.9	22	25,214	-49.4		88	15.7	11	25,152	-48.6		77	12.8	22	25,248	-49.8		96	7.8	20	25,301	-47.9		88	9.7
20-----	25	26,631	-47.9		86	10.1	21	26,688	-46.5		89	15.7	11	26,631	-45.0		64	9.7	19	26,719	-48.5		89	8.7	15	26,772	-46.7		96	10.3
15-----	18	28,555	-43.4		93	9.1	8	28,562	-42.8				10	28,575	-41.8				8	28,629	-45.5				12	28,709	-43.2			
10-----	5	31,237	-38.4																											

Standard pressure surface (mb.)	LAKE CHARLES, LA. (1016 MB.)						LANDER, WYO. (828 MB.)						LAS VEGAS, NEV. (934 MB.)						LIHUE, HAWAII (1015 MB.)						LITTLE ROCK, ARK. (1007 MB.)					
SURFACE	30	5	19.1	89	63	3.3	31	1,696	6.4	72	273	3.1	31	660	16.6	28	215	7.6	31	36	23.3	79	56	10.5	31	79	15.5	85	230	0.6
1,000--	30	140	20.0	80	135	3.5	31	113					31	71					31	167	22.3	79	65	13.4	31	143	15.5	76	203	.6
950----	30	581	18.0	76	170	8.5	31	543					31	513					31	606	18.5	83	74	16.3	31	576	15.4	64	196	5.6
900----	30	1,045	16.4	62	179	9.7	31	999					31	980	18.7	21	217	8.7	31	1,074	15.1	84	75	15.5	31	1,037	13.6	62	221	7.4
850----	30	1,531	15.0	45	201	8.9	31	1,476					31	1,468	16.2	21	239	6.0	31	1,557	12.2	80	78	15.0	31	1,517	11.7	57	241	11.9
800----	30	2,042	12.7	42	226	9.3	31	1,977	7.2	55	285	3.1	31	1,979	12.4	23	228	6.8	31	2,064	9.8	61	85	14.6	31	2,024	10.0	53	258	15.3
750----	30	2,584	10.6	32	243	8.5	31	2,502	4.4	54	284	1.6	31	2,510	8.2	26	216	7.4	31	2,596	8.8	41	94	12.6	31	2,555	7.4	48	266	16.3
700----	30	3,154	7.6		260	10.1	31	3,064	.7	54	263	3.1	31	3,081	3.7	29	213	7.8	31	3,168	5.6	37	99	9.9	31	3,123	4.5	47	274	16.1
650----	30	3,757	3.6		275	12.8	31	3,651	- 3.1	50	255	7.6	31	3,672	- .7	30	216	8.9	31	3,767	2.4		101	8.2	31	3,715	.[illegible]	43	274	18.5
600----	30	4,405	- 1.0	34	279	15.3	31	4,285	- 7.5	48	257	14.0	31	4,310	- 5.2	32	226	13.6	31	4,414	- 1.2		105	5.4	31	4,361	- 3.6	41	270	19.0
550----	30	5,088	- 5.7	34	286	17.3	31	4,948	-11.8	43	254	17.3	31	4,980	- 9.8	30	236	17.5	31	5,096	- 5.4		115	2.5	31	5,035	- 8.1	38	285	19.6
500----	30	5,834	-10.5		286	20.0	31	5,680	-17.0	39	254	18.5	31	5,718	-15.0		243	20.4	31	5,844	-10.2		161	1.2	31	5,777	-12.8	39	289	24.7
450----	30	6,637	-15.7		286	23.5	31	6,454	-22.8	40	247	19.8	31	6,497	-21.0		242	23.9	31	6,644	-15.8		251	2.1	31	6,567	-18.2	39	286	26.6
400----	30	7,516	-22.2		288	28.2	31	7,317	-29.4	37	246	21.6	31	7,364	-27.5		242	27.6	31	7,527	-22.0		273	6.0	31	7,444	-24.3	37	288	29.9
350----	30	8,485	-29.2		287	32.6	31	8,256	-36.6		246	25.6	31	8,312	-34.3		247	34.[illegible]	31	8,495	-29.3		276	10.7	31	8,404	-31.3		290	33.8
300----	30	9,569	-37.2		291	37.1	31	9,306	-44.7		245	29.0	31	9,374	-41.8		248	41.4	31	9,578	-37.6		283	16.7	31	9,478	-39.2		289	36.9
250----	30	10,804	-46.5		287	43.1	31	10,502	-53.0		248	32.8	31	10,588	-49.7		252	49.9	31	10,811	-47.1		284	22.2	31	10,704	-48.3		290	46.6
200----	30	12,251	-56.9		285	46.2	28	11,944	-56.5		251	32.3	31	12,024	-55.9		255	53.0	31	12,252	-57.9		279	36.1	31	12,140	-58.3		293	50.5
175----	30	13,088	-60.5		281	48.0	28	12,793	-56.[illegible]		252	32.4	31	12,871	-56.7		255	48.6	31	13,083	-62.9		279	41.2	31	12,973	-61.3		295	44.7
150----	30	14,044	-61.6		280	45.3	28	13,773	-56.1		253	26.0	31	13,850	-55.9		254	40.6	31	14,026	-65.6		282	40.6	31	13,931	-59.8		289	42.9
125----	30	15,169	-64.2		282	40.0	28	14,935	-55.4		253	24.7	31	15,005	-57.9		253	35.9	31	15,130	-67.4		280	30.5	31	15,072	-60.2		235	41.8
100----	30	16,523	-68.0		282	27.4	27	16,355	-58.0		261	16.5	31	16,402	-61.1		251	26.2	31	16,467	-68.8		276	15.3	31	16,451	-63.9		284	28.0
80-----	30	17,858	-68.3		293	12.2	27	17,757	-58.3		271	9.5	31	17,780	-62.3		252	14.4	31	17,810	-67.8		129	.6	31	17,816	-64.4		294	14.0
70-----	29	18,668	-66.4		316	5.2	27	18,603	-57.8		269	5.2	31	18,610	-61.5		249	7.4	30	18,613	-67.0		86	6.0	30	18,634	-63.3		297	8.2
60-----	29	19,600	-63.4		70	5.4	27	19,571	-57.0		224	1.2	31	19,566	-59.2		186	3.1	29	19,547	-64.3		87	12.8	30	19,586	-60.6		341	3.5
50-----	29	20,734	-58.8		89	10.5	27	20,729	-55.6		55	3.9	31	20,712	-57.5		86	3.5	29	20,670	-61.8		87	17.7	30	20,729	-57.5		43	4.7
40-----	28	22,143	-55.7		92	12.6	27	22,155	-53.9		64	6.2	29	22,130	-55.7		81	4.7	28	22,059	-58.7		86	20.8	29	22,143	-55.2		95	7.8
30-----	25	23,997	-52.2		88	20.8	25	24,010	-51.6		74	8.2	25	23,980	-52.3		73	6.8	28	23,889	-53.9		89	20.4	28	23,990	-52.1		102	9.5
25-----	23	25,178	-49.8		91	16.5	24	25,206	-49.6		77	10.1	22	25,169	-50.3		74	8.2	28	25,069	-50.8		91	18.8	27	25,180	-50.2		96	9.5
20-----	21	26,641	-47.5		84	15.3	22	26,670	-46.9		83	12.0	20	26,630	-47.9		70	8.0	26	26,534	-47.1		99	15.0	26	26,646	-47.9		99	8.0
15-----	9	28,603	-42.4				14	28,584	-42.8		81	9.9	18	28,536	-43.8		91	6.8	21	28,464	-43.6		80	9.3	19	28,554	-43.8		101	7.8
10-----																			5	31,218	-40.8				6	31,397	-37.9			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

McGRATH, ALASKA (1000 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	103	4.6	72	243	1.0
1,000	31	102			[illegible]	1.4
950	31	526	6.0	54	204	3.1
900	31	963	3.0	55	185	3.3
850	31	1,423	- .3	58	149	3.9
800	31	1,906	- 3.6	60	138	5.1
750	31	2,416	- 6.6	58	138	6.2
700	31	2,949	-10.0	59	144	6.4
650	31	3,518	-13.1	55	138	6.8
600	31	4,122	-16.9	51	139	8.0
550	31	4,770	-20.9	49	126	8.2
500	31	5,469	-25.5	47	130	6.6
450	31	6,220	-30.8	48	135	7.0
400	31	7,051	-36.9	46	147	7.4
350	31	7,963	-43.3		150	7.0
300	31	8,988	-48.8		163	7.6
250	30	10,184	-50.3		173	4.9
200	30	11,651	-48.0		141	3.9
175	30	12,533	-47.7		131	3.7
150	30	13,551	-48.3		120	2.1
125	30	14,749	-49.3		122	2.9
100	30	16,205	-50.7		125	3.5
80	30	17,659	-50.5		120	4.3
70	30	18,534	-50.6		111	4.1
60	30	19,534	-50.5		109	5.1
50	30	20,723	-50.3		104	6.2
40	29	22,180	-50.2		95	7.0
30	23	24,044	-50.3		93	8.5
25	19	25,213	-50.0		84	8.9
20	12	26,644	-48.8		82	9.1
15						
10						

MEDFORD, OREG. (970 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	401	7.6	85	287	1.4
1,000	31	150				
950	31	573	8.5	78	295	3.3
900	31	1,022	6.9	75	259	2.3
850	31	1,490	4.2	76	220	3.1
800	31	1,982	1.8	71	207	6.4
750	31	2,497	- .6	62	229	10.3
700	31	3,049	- 3.5	52	246	10.9
650	31	3,624	- 7.0	48	248	13.8
600	31	4,251	-10.9	42	247	13.[illegible]
550	31	4,908	-14.9	40	244	15.9
500	31	5,630	-19.4	38	249	18.5
450	30	6,394	-24.8	40	260	19.6
400	30	7,248	-31.2	39	252	17.9
350	30	8,182	-37.8		259	22.0
300	30	9,229	-44.9		262	26.2
250	30	10,429	-51.8		263	26.2
200	30	11,864	-54.6		268	25.5
175	30	12,721	-54.1		260	22.0
150	30	13,711	-54.0		259	21.4
125	30	14,881	-54.5		254	18.3
100	30	16,306	-56.1		246	15.0
80	30	17,724	-56.5		239	10.1
70	30	18,573	-56.7		230	7.4
60	30	19,551	-55.5		210	3.9
50	30	20,714	-54.9		131	2.3
40	28	22,137	-54.3		94	4.9
30	26	23,975	-52.3		97	6.8
25	25	25,164	-50.8		84	7.4
20	24	26,625	-49.1		79	8.5
15	20	28,532	-45.3		81	9.1
10	9	31,249	-39.7			

MIAMI, FLA. (1017 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	4	22.6	86	64	2.1
1,000	31	148	22.9	80	91	2.5
950	31	591	20.0	79	150	3.7
900	31	1,061	17.1	76	157	2.7
850	31	1,547	14.1	70	233	1.7
800	31	2,058	11.5	58	227	3.3
750	31	2,595	9.3	42	239	6.8
700	31	3,166	6.2	37	251	7.4
650	31	3,767	2.8	30	269	7.2
600	31	4,415	- .8		273	8.0
550	31	5,098	- 5.1		275	10.5
500	31	5,849	- 9.8		278	13.8
450	31	6,650	-15.3		277	18.5
400	31	7,535	-21.5		273	19.2
350	31	8,506	-28.2		275	26.8
300	31	9,593	-36.8		278	28.0
250	31	10,828	-46.8		279	34.8
200	31	12,272	-57.3		278	45.1
175	31	13,108	-61.3		276	47.0
150	31	14,058	-64.1		277	44.5
125	31	15,168	-66.9		280	31.9
100	31	16,504	-70.5		291	17.9
80	30	17,828	-70.5		322	6.4
70	30	18,627	-68.2		33	4.1
60	30	19,561	-63.3		71	8.0
50	30	20,690	-60.3		81	14.0
40	30	22,092	-56.7		91	18.5
30	29	23,935	-52.2		91	16.9
25	27	25,123	-49.3		85	18.1
20	23	26,592	-45.8		84	15.2
15	14	28,528	-41.8			
10						

MIDLAND, TEX. (914 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	871	16.3	64	149	5.2
1,000	31	100				
950	31	542				
900	31	1,007	17.2	62	159	7.8
850	31	1,496	17.6	49	212	10.7
800	31	2,013	16.0	37	246	12.6
750	31	2,554	12.6	31	251	13.4
700	31	3,134	8.8	28	253	13.6
650	31	3,736	4.0	29	256	15.7
600	31	4,387	- .7	30	261	20.2
550	31	5,066	- 5.8	34	264	24.3
500	31	5,816	-11.3	38	266	26.4
450	31	6,615	-16.8	36	264	30.5
400	31	7,492	-23.1	36	261	37.5
350	31	8,456	-30.2		257	39.6
300	31	9,535	-38.4		256	45.5
250	31	10,764	-47.7		259	51.3
200	31	12,203	-57.9		262	57.9
175	30	13,039	-60.7		264	57.1
150	30	13,998	-60.9		265	52.7
125	29	15,128	-62.7		266	41.4
100	29	16,489	-67.3		264	23.3
80	29	17,830	-67.6		259	9.5
70	29	18,640	-66.4		264	3.9
60	29	19,575	-62.9		66	1.4
50	28	20,712	-58.8		85	5.4
40	26	22,122	-56.0		88	5.8
30	24	23,974	-52.9		95	8.7
25	23	25,157	-50.9		90	9.9
20	20	26,617	-48.4		93	9.1
15	14	28,522	-44.2			
10						

MONTGOMERY, ALA. (1010 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	61	15.3	91	8	0.8
1,000	31	150	16.8	81	36	.6
950	31	591	16.6	68	225	2.1
900	31	1,048	14.8	65	228	5.2
850	31	1,530	12.7	59	255	7.4
800	31	2,038	10.6	50	276	10.9
750	31	2,573	7.8	46	279	12.4
700	31	3,139	4.7	41	282	13.2
650	31	3,739	1.1	42	289	14.8
600	31	4,379	- 3.0	40	292	18.1
550	31	5,053	- 7.3	36	287	20.0
500	31	5,799	-12.3	39	288	23.3
450	31	6,595	-17.5	33	291	26.6
400	31	7,469	-23.5		292	31.1
350	31	8,432	-30.6		294	34.2
300	31	9,509	-38.4		296	38.1
250	31	10,739	-47.7		295	41.6
200	31	12,180	-57.1		294	46.0
175	31	13,017	-60.9		290	46.6
150	31	13,975	-60.5		286	48.2
125	31	15,108	-61.5		287	38.9
100	31	16,481	-64.9		286	29.0
80	31	17,837	-65.8		285	14.2
70	31	18,659	-64.1		291	8.2
60	30	19,600	-61.6		331	2.1
50	30	20,737	-58.5		75	5.8
40	30	22,152	-55.1		88	9.9
30	30	24,002	-51.9		87	10.9
25	30	25,187	-50.4		84	11.3
20	25	26,660	-47.7		88	11.1
15	14	28,585	-43.[illegible]		84	11.5
10						

NANTUCKET, MASS. (1015 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	14	10.2	81	265	2.7
1,000	30	140	10.6	76	249	2.7
950	30	564	10.4	69	247	6.8
900	30	1,017	8.6	65	263	9.3
850	30	1,488	6.3	61	255	12.0
800	30	1,982	3.1	58	262	15.0
750	30	2,502	.4	52	267	16.[illegible]
700	30	3,054	- 2.3	48	268	17.1
650	30	3,638	- 5.6	41	267	18.1
600	30	4,263	- 9.0	38	264	21.4
550	30	4,929	-13.2	37	258	22.7
500	30	5,652	-17.6	38	255	26.4
450	30	6,430	-22.7	36	253	26.8
400	30	7,289	-28.9		253	29.7
350	30	8,231	-35.8		254	33.0
300	30	9,287	-43.2		257	35.8
250	30	10,498	-49.6		259	39.2
200	30	11,940	-54.8		263	40.0
175	30	12,792	-55.7		262	35.9
150	30	13,774	-55.9		262	28.8
125	30	14,936	-55.9		260	23.3
100	30	16,355	-56.6		264	16.1
80	30	17,771	-56.3		255	9.3
70	30	18,623	-55.9		254	5.4
60	29	19,605	-54.9		219	1.9
50	29	20,772	-54.1		112	3.9
40	26	22,196	-53.0		81	5.8
30	26	24,059	-50.8		89	9.3
25	24	25,255	-49.1		86	10.1
20	21	26,737	-46.7		91	12.6
15	13	28,666	-43.0			
10						

NASHVILLE, TENN. (997 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	177	12.9	84	317	0.6
1,000	31	150				
950	31	585	13.6	65	220	2.7
900	31	1,038	11.5	62	232	6.8
850	31	1,514	9.3	57	265	8.9
800	31	2,016	7.6	53	276	11.3
750	31	2,545	5.3	50	281	14.4
700	31	3,107	2.6	47	281	18.1
650	31	3,700	- .7	45	284	18.8
600	31	4,339	- 4.5	40	285	20.6
550	31	5,012	- 8.9		283	22.3
500	31	5,751	-13.7		286	25.5
450	31	6,537	-19.4		285	28.0
400	31	7,410	-25.4		287	30.9
350	31	8,366	-32.3		289	34.6
300	31	9,436	-40.2		290	38.9
250	31	10,656	-49.5		288	46.0
200	31	12,086	-59.0		286	50.9
175	31	12,920	-60.6		289	47.4
150	31	13,882	-60.0		290	40.0
125	31	15,021	-59.9		287	35.6
100	31	16,409	-62.0		285	27.6
80	31	17,783	-63.0		288	16.3
70	31	18,610	-61.8		299	11.3
60	30	19,563	-59.7		323	5.1
50	30	20,707	-57.9		53	4.9
40	30	22,122	-55.1		85	7.8
30	30	23,968	-52.7		81	9.5
25	29	25,150	-50.9		81	10.1
20	29	26,607	-49.2		79	8.7
15	14	28,491	-46.0			
10						

N. Y. INT. AP. IDLEWILD (1017 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	11.2	74	296	3.9
1,000	31	147	11.1	70	309	4.1
950	31	575	10.7	63	290	6.6
900	31	1,025	9.1	63	275	9.7
850	31	1,497	6.6	64	269	11.5
800	31	1,992	3.9	62	272	12.6
750	31	2,513	1.0	60	268	15.0
700	31	3,065	- 2.3	60	269	17.7
650	31	3,647	- 5.4	52	268	21.4
600	31	4,275	- 9.1	52	270	23.3
550	31	4,937	-12.7	47	269	28.0
500	31	5,664	-17.2	43	268	32.1
450	31	6,437	-22.4	38	269	34.2
400	31	7,300	-28.7		270	35.4
350	31	8,243	-35.4		271	39.2
300	31	9,301	-42.3		272	44.3
250	31	10,514	-49.6		269	47.2
200	31	11,954	-55.2		268	46.0
175	31	12,803	-56.1		270	41.0
150	31	13,783	-55.8		273	34.6
125	31	14,944	-56.3		272	26.8
100	31	16,360	-56.4		276	22.3
80	31	17,774	-56.9		271	11.9
70	31	18,625	-56.4		266	6.2
60	31	19,600	-55.7		296	1.4
50	31	20,763	-54.4		126	1.7
40	31	22,197	-53.1		104	3.9
30	30	24,060	-51.2		106	6.2
25	29	25,248	-49.8		100	7.2
20	24	26,719	-47.6		100	6.6
15	18	28,642	-43.[illegible]		88	8.4
10						

NOME, ALASKA (1012 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	7	2.2	82	19	4.3
1,000	31	105	4.6	68	49	5.2
950	31	523	3.6	61	98	7.0
900	31	960	1.3	59	117	7.8
850	31	1,418	- 1.3	57	122	9.3
800	31	1,899	- 4.0	58	129	9.9
750	31	2,404	- 7.0	56	133	10.3
700	31	2,941	-10.0	49	139	9.9
650	31	3,507	-13.4	46	137	10.1
600	31	4,114	-17.0	41	136	9.9
550	31	4,759	-20.9	37	134	9.3
500	31	5,460	-25.3		131	9.7
450	31	6,211	-30.7		139	8.5
400	31	7,043	-36.6		140	8.2
350	31	7,957	-42.6		148	6.8
300	31	8,983	-48.4		165	5.2
250	31	10,180	-48.6		170	2.1
200	31	11,653	-46.8		132	2.5
175	31	12,539	-47.0		126	3.1
150	30	13,560	-47.7		119	2.9
125	30	14,760	-49.3		124	3.3
100	30	16,220	-50.3		142	3.1
80	30	17,678	-50.0		119	2.9
70	30	18,555	-50.0		105	3.7
60	30	19,560	-49.7		108	4.7
50	30	20,754	-49.7		106	6.4
40	29	22,213	-49.5		102	7.6
30	28	24,101	-49.4		94	8.4
25	28	25,298	-48.8		92	9.9
20	28	26,769	-47.5		88	10.3
15	18	28,747	-42.4		78	13.8
10						

NORFOLK, VA. (1018 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	9	14.7	80	282	1.0
1,000	31	158	14.6	72	262	2.7
950	31	591	13.1	64	265	6.8
900	31	1,045	10.8	66	269	6.8
850	31	1,520	8.2	66	264	9.1
800	31	2,019	6.0	62	259	13.0
750	31	2,544	3.4	56	259	16.3
700	31	3,103	.4	52	260	19.4
650	31	3,691	- 2.8	46	257	22.0
600	31	4,325	- 6.4	39	259	24.1
550	31	4,994	-10.1	32	265	27.2
500	31	5,728	-14.8		265	31.1
450	31	6,508	-20.1	32	266	33.0
400	31	7,379	-26.4		269	34.6
350	31	8,329	-33.7		270	38.5
300	31	9,392	-42.0		268	43.3
250	31	10,603	-50.5		270	48.2
200	31	12,034	-57.1		277	46.8
175	31	12,876	-58.7		272	39.6
150	31	13,843	-59.1		268	37.7
125	31	14,989	-58.8		271	29.1
100	31	16,388	-60.1		271	22.5
80	31	17,781	-59.6		277	13.0
70	31	18,623	-58.7		281	7.4
60	31	19,588	-57.2		286	.6
50	30	20,746	-55.8		96	4.7
40	30	22,173	-53.5		99	6.4
30	30	24,032	-51.0		82	11.7
25	27	25,221	-49.4		87	12.2
20	24	26,703	-46.8		81	12.4
15	19	28,653	-42.4		90	13.2
10	5	31,306	-37.1			

NORTH PLATTE, NEBR. (916 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	848	8.5	86	79	2.1
1,000	31	119				
950	31	547				
900	31	998	9.0	80	118	4.1
850	31	1,472	8.8	72	149	1.4
800	31	1,974	7.6	65	249	2.1
750	31	2,500	5.5	63	272	5.4
700	31	3,066	2.3	62	277	11.3
650	31	3,658	- 1.4	58	280	14.[illegible]
600	31	4,295	- 5.5	53	274	15.3
550	31	4,965	-10.2	47	273	17.3
500	31	5,700	-15.5	43	273	20.4
450	31	6,481	-21.0	39	275	20.6
400	31	7,348	-27.5	38	262	24.3
350	31	8,294	-34.8		261	27.6
300	31	9,352	-42.7		261	30.7
250	31	10,560	-50.9		258	35.9
200	31	11,989	-57.1		261	42.2
175	31	12,831	-58.2		265	40.6
150	31	13,803	-56.9		271	37.9
125	31	14,959	-57.0		277	29.1
100	31	16,364	-59.4		280	22.0
80	31	17,758	-59.7		288	12.6
70	31	18,598	-59.4		287	9.9
60	31	19,562	-57.6		299	4.9
50	31	20,717	-56.2		31	3.9
40	30	22,149	-54.3		66	4.7
30	28	24,010	-51.8		81	6.0
25	27	25,196	-50.7		79	8.4
20	25	26,657	-48.8		85	8.7
15	19	28,562	-45.7		76	8.2
10	6	31,289	-40.7			

OAKLAND, CALIF. (1017 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	6	11.1	81	272	4.1
1,000	31	147	10.7	80	266	4.7
950	31	572	8.4	80	282	7.4
900	31	1,020	7.[illegible]	67	296	8.9
850	31	1,491	7.3	52	296	6.4
800	31	1,989	5.2	47	283	6.0
750	31	2,510	2.6	43	282	8.7
700	31	3,069	- .3	34	281	10.1
650	31	3,653	- 3.7		281	10.3
600	31	4,286	- 7.6		274	12.0
550	31	4,950	-11.9		279	15.3
500	31	5,681	-16.8		274	18.8
450	31	6,452	-22.1		267	22.3
400	31	7,320	-28.4		273	25.6
350	31	8,265	-35.1		276	29.3
300	31	9,323	-43.0		271	32.6
250	31	10,532	-50.9		273	35.0
200	31	11,966	-55.8		269	41.2
175	31	12,815	-56.5		263	38.7
150	31	13,794	-56.0		261	33.2
125	31	14,953	-56.5		258	30.7
100	31	16,363	-58.4		253	21.8
80	31	17,764	-59.5		249	15.2
70	31	18,602	-59.0		240	9.7
60	31	19,570	-58.3		243	4.9
50	31	20,722	-57.2		110	1.0
40	31	22,139	-55.7		74	6.8
30	30	23,983	-53.4		77	10.3
25	29	25,165	-51.4		79	12.6
20	28	26,626	-48.6		83	9.1
15	21	28,530	-45.7		86	10.5
10						

OKLAHOMA CITY, OKLA. (969 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	392	15.2	80	133	4.7
1,000	31	122				
950	31	561	16.0	69	154	7.6
900	31	1,019	15.5	61	198	12.4
850	31	1,503	14.1	57	219	15.2
800	31	2,013	12.1	50	229	14.[illegible]
750	31	2,551	9.3	43	237	15.0
700	31	3,121	5.6	41	252	16.3
650	31	3,720	1.6	38	263	17.7
600	31	4,363	- 2.9	36	269	20.2
550	31	5,041	- 7.9	38	267	24.3
500	31	5,780	-12.9	32	267	27.0
450	31	6,573	-18.1		268	29.0
400	31	7,445	-24.3		267	32.6
350	31	8,405	-31.5		273	38.9
300	31	9,478	-39.6		269	44.5
250	31	10,700	-49.0		272	48.6
200	31	12,133	-58.6		271	53.6
175	31	12,965	-61.4		271	54.2
150	31	13,925	-59.8		272	50.7
125	31	15,064	-60.3		278	40.6
100	31	16,445	-63.6		276	26.4
80	31	17,809	-64.7		273	13.4
70	31	18,635	-62.9		279	7.2
60	31	19,580	-60.8		7	2.9
50	31	20,722	-57.8		82	4.9
40	31	22,135	-55.5		75	8.0
30	31	23,982	-52.3		87	10.5
25	31	25,165	-50.8		85	9.9
20	26	26,623	-48.4		78	10.1
15	18	28,526	-44.8			
10						

OMAHA, NEBR. (968 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	403	10.1	77	112	3.5
1,000	31	131				
950	31	560	10.9	66	136	6.8
900	31	1,009	10.0	59	180	7.8
850	31	1,484	8.4	55	213	4.7
800	31	1,983	6.5	48	268	4.7
750	31	2,507	4.1	46	277	8.2
700	31	3,069	.9	46	270	12.4
650	31	3,654	- 2.4	46	272	15.5
600	31	4,293	- 6.4	43	277	16.5
550	31	4,957	-10.9	41	282	20.2
500	31	5,694	-16.0	39	283	23.7
450	31	6,473	-21.5	38	279	25.6
400	31	7,338	-27.8	36	275	30.1
350	31	8,284	-34.8		272	35.8
300	31	9,343	-42.8		268	42.0
250	31	10,549	-51.5		268	49.4
200	31	11,972	-58.4		271	53.8
175	31	12,810	-58.6		273	49.9
150	31	13,781	-57.8		281	40.4
125	31	14,931	-57.8		283	35.4
100	31	16,331	-60.0		290	24.7
80	30	17,724	-59.9		289	16.5
70	30	18,565	-59.3		294	10.9
60	30	19,528	-58.2		321	6.8
50	30	20,682	-56.4		7	3.7
40	29	22,105	-54.4		49	4.1
30	27	23,952	-52.3		69	6.0
25	27	25,136	-50.7		77	6.4
20	26	26,595	-48.9		84	7.6
15	20	28,515	-45.8		87	9.9
10	5	31,196	-42.6			

PEORIA, ILL. (994 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	201	8.4	79	103	1.2
1,000	31	151				
950	31	576	10.7	60	93	1.9
900	31	1,027	8.7	56	333	2.3
850	31	1,498	6.6	52	299	5.4
800	31	1,995	4.9	43	286	8.7
750	31	2,516	2.9	33	275	12.0
700	31	3,076	.3		282	15.7
650	31	3,662	- 3.0		285	19.6
600	31	4,297	- 6.7		286	22.9
550	30	4,961	-10.9		287	26.2
500	30	5,697	-15.6		287	29.7
450	30	6,474	-20.7		284	33.0
400	30	7,345	-27.1		284	36.9
350	30	8,293	-34.3		282	40.8
300	30	9,354	-42.1		283	45.1
250	30	10,564	-50.7		277	51.3
200	30	11,994	-57.2		277	60.0
175	30	12,837	-57.7		280	53.6
150	30	13,811	-57.2		284	39.8
125	30	14,965	-57.5		285	34.4
100	30	16,371	-58.3		285	25.8
80	30	17,772	-58.9		282	15.9
70	30	18,614	-58.4		286	10.5
60	30	19,583	-57.1		312	6.6
50	30	20,742	-55.1		18	4.3
40	30	22,170	-53.8		78	6.2
30	30	24,028	-51.6		81	8.0
25	30	25,214	-50.4		80	8.5
20	30	26,676	-48.5		67	11.1
15	28	28,578	-45.5		80	10.9
10	14	31,325	-39.7			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb)	PITTSBURGH, PA. (977 MB.)						POINT ARGUELLO, CALIF. (1004 MB.)						PORTLAND, ME. (1014 MB.)						RAPID CITY, S. DAK. (905 MB.)						ST. CLOUD, MINN. (980 MB.)					
					Wind						Wind						Wind						Wind						Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	31	353	8.7	76	264	1.6	31	113	9.6	91	327	6.6	31	20	9.2	76	278	2.5	30	966	8.2	75	36	1.2	31	316	6.4	77	42	2.1
1,000	31	160					31	148	9.6	89	327	8.9	31	135	9.0	69	279	2.3	30	125					31	149				
950	31	586	9.1	69	255	4.1	31	583	8.2	83	334	16.1	31	562	8.6	61	295	6.6	30	551					31	571	8.5	63	113	3.3
900	31	1,033	7.4	69	279	8.5	31	1,021	8.8	63	341	13.2	31	1,006	7.0	58	282	8.5	30	1,008			89	1.9	31	1,018	6.5	60	61	1.7
850	31	1,502	4.9	70	283	11.1	31	1,494	8.4	47	337	11.5	31	1,474	4.5	58	270	9.5	30	1,482	8.5	62	299	1.0	31	1,486	5.[illegible]	55	343	2.5
800	31	1,995	2.4	67	284	12.2	31	1,994	6.6	34	319	12.4	31	1,966	2.1	55	268	13.2	29	1,983	6.7	58	322	2.1	31	1,980	3.1	52	305	4.1
750	31	2,514	0	60	274	15.2	31	2,524	5.0		307	13.6	31	2,479	-.6	55	263	16.7	29	2,506	3.7	59	302	3.5	31	2,501	.5	47	300	5.4
700	31	3,066	-2.7	53	277	19.0	31	3,083	2.1	30	291	14.2	31	3,033	-3.8	54	262	18.8	29	3,067	.4	56	294	8.2	31	3,052	-2.5	47	297	7.8
650	31	3,647	-5.7	44	277	20.2	31	3,678	-1.3		272	17.3	31	3,609	-6.9	49	264	22.3	29	3,651	-3.3	57	299	9.7	31	3,636	-5.9	42	294	10.5
600	31	4,275	-9.1	37	282	24.5	31	4,311	-5.1		270	20.6	31	4,236	-10.6	46	265	26.0	29	4,286	-7.4	51	289	13.8	31	4,261	-9.5	34	295	14.2
550	31	4,938	-13.0		281	29.0	31	4,985	-9.7		266	23.9	31	4,894	-14.6	41	263	26.8	29	4,949	-11.7	45	280	17.5	31	4,922	-13.8	36	294	16.9
500	31	5,665	-17.7		278	32.3	31	5,719	-14.9		266	25.8	31	5,616	-19.1	33	258	29.3	29	5,682	-16.5	41	274	18.7	31	5,646	-18.5	37	294	19.2
450	31	6,438	-22.8		274	37.3	31	6,503	-20.8		265	29.1	31	6,384	-24.4		259	30.9	29	6,462	-22.2	39	268	21.2	31	6,415	-24.1	36	296	21.8
400	31	7,301	-28.5		276	40.8	31	7,369	-27.3		264	32.3	31	7,241	-30.5		258	34.6	29	7,322	-28.[illegible]	40	271	23.5	31	7,274	-30.1		296	28.4
350	31	8,244	-35.6		280	44.5	31	8,317	-34.3		263	35.9	31	8,179	-36.9		260	40.0	29	8,260	-35.8		268	27.0	31	8,212	-36.9		295	34.0
300	31	9,301	-43.1		280	45.5	31	9,378	-42.0		261	43.3	31	9,230	-43.6		259	42.0	29	9,317	-44.1		265	30.1	31	9,260	-45.1		294	37.7
250	31	10,510	-50.6		287	51.1	31	10,592	-49.7		258	49.7	31	10,441	-49.4		259	45.5	28	10,514	-52.7		261	34.2	31	10,456	-52.9		287	40.0
200	31	11,944	-55.3		291	45.9	31	12,028	-56.3		257	50.9	31	11,886	-53.8		258	44.3	28	11,936	-56.[illegible]		261	37.7	31	11,882	-56.4		282	41.6
175	31	12,794	-56.6		291	39.6	31	12,872	-58.3		256	48.6	31	12,743	-54.4		259	39.8	28	12,784	-56.3		263	3[illegible].2	30	12,727	-55.2		283	35.9
150	31	13,772	-56.5		293	30.5	31	13,843	-57.5		255	44.1	31	13,733	-53.7		265	28.4	28	13,765	-55.4		270	34.[illegible]	30	13,714	-54.8		286	30.3
125	31	14,931	-56.5		291	27.8	31	14,993	-58.5		256	38.9	31	14,905	-54.2		265	23.5	28	14,928	-55.5		269	28.0	30	14,880	-55.2		288	25.6
100	31	16,343	-57.7		293	16.9	31	16,386	-61.2		254	29.9	31	16,331	-54.5		262	16.5	28	16,343	-57.4		27[illegible]	21.2	30	16,301	-56.7		288	21.0
80	31	17,749	-58.4		282	11.9	31	17,770	-62.1		254	18.3	31	17,762	-55.0		269	9.1	28	17,750	-58.2		280	14.0	29	17,721	-56.9		294	13.4
70	31	18,595	-57.0		284	6.4	31	18,600	-61.7		255	11.3	31	18,618	-54.8		[illegible]	6.0	28	18,591	-57.4		292	10.1	29	18,572	-55.9		306	9.[illegible]
60	31	19,569	-56.2		328	1.0	30	19,552	-60.5		267	2.9	31	19,603	-54.0		118	1.2	28	19,569	-56.6		307	5.2	29	19,553	-54.[illegible]		320	[illegible].0
50	31	20,730	-55.1		77	3.5	30	20,696	-58.0		88	2.3	31	20,776	-53.3		105	3.9	28	20,729	-55.3		5	2.9	29	20,721	-54.1		9	3.7
40	30	22,164	-53.5		87	8.0	30	22,107	-56.3		76	6.1	30	22,213	-52.7		94	5.1	27	22,158	-54.0		50	4.7	29	22,156	-53.0		68	5.4
30	29	24,028	-51.3		89	12.2	29	23,957	-53.0		80	9.3	30	24,079	-50.6		92	9.1	26	24,019	-52.0		75	8.4	29	24,020	-50.8		79	7.8
25	27	25,210	-50.0		85	12.0	28	25,133	-50.8		80	9.9	28	25,265	-49.3		94	7.8	25	25,206	-50.6		76	10.5	29	25,209	-50.1		86	8.5
20	25	26,682	-47.9		82	13.8	26	26,600	-48.4		80	10.3	21	26,729	-47.0		97	8.0	25	26,667	-48.8		75	12.0	29	26,673	-48.5		83	9.9
15	23	28,591	-44.6		76	13.4	25	28,503	-44.7		79	8.7	12	28,648	-43.8				25	28,570	-45.8		81	11.9	22	28,572	-45.4		81	12.8
10	9	31,345	-39.6				20	31,223	-39.7		76	8.5							7	31,291	-40.7				12	31,345	-39.2			
7							8	33,728	-34.4																					

Standard pressure surface (mb)	ST. PAUL IS., ALASKA (1005 MB.)						SALEM, OREG. (1010 MB.)						SALT LAKE CITY, UTAH (869 MB.)						SAN ANTONIO, TEX. (986 MB.)						SAN DIEGO, CALIF. (1001 MB.)					
SURFACE	31	10	1.8	94	90	4.7	31	61	8.0	90	180	3.5	31	1,288	9.9	59	155	4.9	31	243	20.4	85	113	2.[illegible]	31	124	12.5	90	169	2.1
1,000	31	48			106	6.8	31	142	8.9	82	201	4.1	31	99					31	123					31	131			[illegible]	1.6
950	31	458	.4	87	118	11.3	31	564	7.8	77	228	5.8	31	530					31	563	18.9	82	[illegible]	6.0	31	[illegible]	10.5	81	202	1.9
900	31	894	-1.4	84	123	11.3	31	1,011	5.5	77	221	6.4	31	991					31	1,030	16.7	76	157	9.1	31	1,010	9.5	69	287	3.1
850	31	1,349	-3.1	79	126	11.3	31	1,477	3.3	76	217	7.6	31	1,473	12.8	43	156	5.2	31	1,518	16.5	60	182	9.9	31	1,484	10.0	40	286	10.3
800	31	1,827	-5.0	74	129	9.5	31	1,966	.6	69	216	8.7	31	1,980	10.3	40	182	6.4	31	2,033	15.0	45	218	5.2	31	1,987	9.0	27	282	13.6
750	31	2,327	-7.1	72	131	8.5	31	2,478	-2.3	68	220	9.1	31	2,511	6.5	41	209	6.6	31	2,575	12.4	38	267	5.6	31	2,515	7.2		277	15.7
700	31	2,869	-9.7	69	134	7.2	31	3,027	-5.2	66	219	10.5	31	3,077	2.2	44	228	8.2	31	3,154	9.0	31	289	7.0	31	3,085	4.9		266	16.9
650	31	3,432	-12.3	65	133	6.4	31	3,598	-8.4	54	228	12.0	31	3,668	-2.3	45	244	11.5	31	3,756	4.9	28	297	11.9	31	3,676	1.4		267	20.8
600	31	4,047	-15.7	58	143	6.2	31	4,223	-12.0	50	238	12.8	31	4,302	-7.3	47	245	14.6	31	4,412	.2	28	294	15.3	31	4,325	-2.6		263	25.5
550	31	4,690	-19.3	52	155	5.6	31	4,880	-16.1	45	235	12.4	31	4,966	-12.3	49	241	19.0	31	5,092	-5.0	33	295	18.7	31	4,997	-7.3		260	26.6
500	31	5,402	-23.6	48	168	7.0	31	5,595	-20.8	44	238	13.0	31	5,697	-17.4	41	233	20.2	31	5,847	-10.4	33	289	22.2	31	5,746	-12.5		257	30.7
450	31	6,152	-28.8	49	181	6.0	31	6,357	-26.0	40	242	14.6	31	6,473	-23.0	33	238	23.5	31	6,648	-15.8	32	285	23.7	31	6,529	-18.3		257	35.9
400	31	6,998	-34.8	50	173	7.4	31	7,208	-32.0		249	16.9	31	7,333	-29.3		235	27.0	31	7,530	-22.1		287	26.4	31	7,412	-24.8		256	38.9
350	31	7,918	-41.3		139	4.3	31	8,139	-38.4		251	18.8	31	8,273	-36.4		235	30.7	31	8,498	-29.2		284	30.5	31	8,371	-32.0		258	43.5
300	31	8,950	-47.3		190	3.5	31	9,183	-45.1		255	21.2	31	9,325	-44.4		237	31.9	31	9,581	-37.4		28[illegible]	33.2	31	9,439	-40.4		255	46.2
250	31	10,152	-47.8		212	5.6	31	10,383	-51.7		254	20.6	31	10,525	-51.9		240	33.6	30	10,814	-46.8		280	43.5	31	10,662	-49.9		257	51.7
200	31	11,628	-47.1		240	5.6	31	11,818	-54.3		259	17.5	31	11,957	-55.3		243	32.3	29	12,259	-56.7		281	48.8	31	12,093	-58.5		253	58.3
175	31	12,511	-47.7		267	7.0	31	12,676	-53.4		256	17.1	31	12,809	-55.5		246	32.4	28	13,102	-60.[illegible]		279	50.1	31	12,930	-59.6		254	57.7
150	31	13,527	-48.8		280	2.7	31	13,669	-53.3		251	15.7	30	13,792	-55.1		246	29.0	28	14,062	-61.4		276	44.7	31	13,898	-58.5		253	53.2
125	31	14,722	-50.0		283	1.2	31	14,842	-54.0		247	13.8	30	14,957	-55.3		244	26.2	28	15,184	-64.8		274	35.9	31	15,042	-60.1		253	39.2
100	30	16,177	-51.1		104	1.2	31	16,272	-54.8		233	11.3	30	16,372	-58.3		243	19.0	28	16,532	-69.1		277	28.2	31	16,424	-63.7		25[illegible]	24.3
80	30	17,628	-51.5		131	1.7	31	17,695	-55.5		234	6.6	30	17,772	-59.3		248	10.7	28	17,861	-69.5		270	19.4	31	17,787	-65.1		256	16.5
70	30	18,493	-51.5		115	3.1	31	18,547	-55.5		226	5.4	30	18,611	-59.1		250	6.0	28	18,668	-67.3		274	10.3	31	18,605	-63.9		263	8.2
60	30	19,497	-51.4		108	4.7	30	19,536	-54.7		203	4.3	30	19,577	-57.6		213	3.[illegible]	26	19,602	-63.5		88	.2	31	19,552	-61.6		223	2.1
50	30	20,684	-51.1		102	5.2	30	20,702	-54.5		151	1.9	30	20,731	-56.3		162	1.9	25	20,736	-59.0		101	8.2	31	20,689	-58.7		106	3.9
40	30	22,136	-50.9		106	5.4	30	22,134	-53.5		104	3.7	27	22,150	-55.2		66	3.9	25	22,144	-56.0		100	9.3	30	22,097	-56.4		81	6.6
30	29	24,014	-50.6		93	7.2	30	23,989	-52.2		76	5.4	26	24,003	-52.6		74	5.4	23	23,993	-52.1		84	12.2	29	23,939	-53.1		83	9.3
25	24	25,229	-49.5		102	8.5	28	25,169	-50.8		76	6.6	25	25,181	-51.1		66	6.4	21	25,167	-50.4		82	15.3	29	25,120	-50.[illegible]		87	11.5
20	19	26,683	-48.1		108	9.7	28	26,629	-48.9		80	8.7	23	26,633	-49.3		69	7.8	21	26,629	-47.6		91	16.1	27	26,580	-48.0		91	9.7
15	10	28,561	-45.2				24	28,550	-45.6		84	10.7	18	28,504	-46.4		70	10.7	18	28,542	-43.6		92	13.4	22	28,490	-41.4		81	8.0
10							12	31,294	-39.6		83	10.7	7	31,184	-41.5				9	31,265	-40.[illegible]				9	31,163	-40.0			

Standard pressure surface (mb)	SAN JUAN, P. R. (1017 MB.)						SANTA MONICA, CALIF. (1011 MB.)						SAULT STE. MARIE, MICH. (991 MB.)						SEATTLE, WASH. (1002 MB.)						SHEMYA, ALASKA ([illegible] MB.)					
SURFACE	31	6	24.2	84	112	1.4	31	38	13.1	81	44	2.1	31	221	4.4	73	[illegible]	1.6	3[illegible]	125	8.[illegible]	81	[illegible]	3.[illegible]	[illegible]	[illegible]7	2.5	[illegible]	212	3.3
1,000	31	155	24.1	80	102	8.4	31	132	12.8	80	71	2.1	31	144					3[illegible]	139			172	3.7	31	13			346	1.[illegible]
950	31	596	21.5	78	105	16.1	31	563	11.3	73	83	3.5	31	562	6.0	62	334	3.1	31	563	8.2	76	183	4.9	31	421	.2	89	177	5.2
900	31	1,070	18.4	79	110	17.1	31	1,014	10.3	63	350	1.7	31	1,006	4.5	60	3[illegible]6	5.6	31	1,009	5.9	76	[illegible]99	4.[illegible]	3[illegible]	858	-1.9	86	[illegible]99	6.8
850	31	1,558	15.5	75	111	17.1	31	1,489	9.5	50	280	7.0	31	1,470	2.3	58	305	9.1	31	1,476	3.3	76	209	5.4	31	1,312	-3.5	81	226	6.2
800	31	2,071	12.9	68	107	14.8	31	1,990	7.7	39	278	[illegible].9	31	1,958	-.4	57	304	[illegible].3	31	1,966	.6	77	21[illegible]	6.0	31	1,79[illegible]	-5.2	78	247	7.0
750	31	2,604	10.3	66	104	12.8	31	2,518	6.2		277	13.4	31	2,470	-3.3	56	301	11.5	31	2,478	-2.6	71	214	7.4	31	2,296	-6.[illegible]	71	254	8.7
700	31	3,183	7.9	41	107	8.9	31	3,083	3.7		273	16.5	31	3,016	-5.9	50	303	14.4	31	3,027	-5.5	65	214	7.4	31	2,836	-9.3	61	254	8.9
650	31	3,785	5.1	29	110	6.6	31	3,676	.2		269	17.7	31	3,588	-9.0	48	300	16.5	31	3,602	-8.6	57	210	8.2	3[illegible]	3,400	-12.0	49	266	8.[illegible]
600	31	4,438	1.3		115	4.1	31	4,318	-4.1		264	20.1	31	4,209	-12.7	47	301	19.2	30	4,221	-12.3	52	203	12.2	30	4,013	-[illegible].3	48	27[illegible]	12.2
550	31	5,121	-2.8		149	2.3	31	4,989	-8.7		258	23.1	31	4,864	-16.[illegible]	47	301	21.2	30	4,877	-16.3	49	213	9.3	30	4,657	-19.0	45	270	12.[illegible]
500	31	5,882	-7.1		281	1.2	31	5,730	-13.9		256	26.8	31	5,578	-21.3	41	300	22.7	30	5,593	-21.1	47	213	13.2	3[illegible]	5,370	-23.2	43	276	15.2
450	31	6,690	-12.3		286	5.8	31	6,514	-19.7		256	30.3	31	6,342	-26.[illegible]		302	25.1	30	6,355	-26.7	43	214	12.2	3[illegible]	6,124	-28.0	44	277	[illegible]2
400	31	7,587	-18.1		281	10.5	31	7,386	-25.9		255	36.5	31	7,189	-32.8		298	22.7	30	7,204	-32.6	39	225	13.8	30	6,97[illegible]	-33.2	45	27[illegible]	20.2
350	31	8,570	-25.3		272	15.2	31	8,340	-32.7		252	43.1	31	8,117	-38.9		298	27.8	30	8,129	-38.9		226	[illegible]	30	7,896	-[illegible].1		276	2[illegible].9
300	31	9,671	-33.7		276	21.4	31	9,408	-40.8		250	47.2	31	9,161	-45.[illegible]		291	34.0	30	9,175	-45.7		234	14.0	29	8,933	-43.5		277	29.3
250	31	10,923	-43.4		279	28.2	31	10,626	-49.6		2[illegible]	50.5	31	10,364	-50.4		281	38.3	30	10,374	-51.[illegible]		244	13.[illegible]	29	[illegible]52	-45.5		276	3[illegible]
200	31	12,387	-55.0		277	37.5	31	12,061	-56.5		252	49.5	31	11,813	-52.[illegible]		280	40.4	30	11,809	-54.[illegible]		248	[illegible].3	29	[illegible]	-46.[illegible]		280	27.4
175	30	13,230	-60.6		278	36.7	30	12,906	-58.2		257	46.2	31	12,676	-52.5		286	36.5	30	12,668	-52.7		242	[illegible].3	29	12,525	-47.[illegible]		276	[illegible]9.4
150	30	14,176	-66.6		28[illegible]	33.4	30	13,876	-57.6		256	42.2	30	13,67[illegible]	-52.7		289	29.1	29	13,661	-52.[illegible]		238	14.6	29	13,543	-48.3		278	[illegible]7.3
125	29	15,266	-71.2		282	26.4	29	15,026	-58.9		252	36.7	30	14,848	-53.[illegible]		283	23.3	29	14,839	-53.0		233	12.0	29	14,740	-50.[illegible]		278	13.8
100	29	16,573	-75.2		300	15.5	29	16,416	-62.0		252	28.8	30	16,283	-54.1		283	17.7	29	16,27[illegible]	-54.2		22[illegible]	11.7	28	[illegible]192	-51.5		272	[illegible].5
80	29	17,871	-73.2		9	6.4	29	17,788	-63.5		253	16.3	30	17,713	-54.2		2[illegible]	11.3	29	17,704	-54.9		221	9.9	28	17,639	-51.9		267	4.[illegible]
70	29	18,663	-70.1		56	9.1	29	18,609	-62.9		250	10.7	30	18,569	-53.7		2[illegible]	7.6	29	18,[illegible]	-[illegible].3		217	6.4	28	18,[illegible]	-52.1		284	3.[illegible]
60	29	19,587	-64.9		73	18.1	29	19,560	-61.2		2[illegible]	2.1	30	19,562	-53.2		2[illegible]	3.[illegible]	28	[illegible]	-53.7		198	3.7	28	19,[illegible]	-52.2		[illegible]	[illegible]2
50	29	20,713	-60.3		78	20.4	28	20,701	-58.5		[illegible]	[illegible]	30	20,736	-53.0		71	2.7	27	20,726	-53.[illegible]		143	[illegible].9	28	2[illegible],681	-52		137	[illegible]
40	29	22,115	-56.7		87	24.7	28	22,110	-56.1		77	3.7	30	22,178	-5[illegible].8		75	5.8	27	22,164	-[illegible]2.6		79	[illegible].3	28	22,1[illegible]	-51.[illegible]		128	3.7
30	28	23,959	-51.2		93	23.1	25	23,948	-53.3		74	7.4	29	24,046	-50.4		86	7.2	26	24,025	-51.6		81	[illegible].4	27	24,001	-50		121	2.[illegible]
25	25	25,153	-46.9		101	18.8	24	25,132	-51.4		74	9.5	29	25,238	-49.3		90	[illegible].3	23	25,223	-50.3		79	7.4	26	[illegible]190	-49.6		129	6.[illegible]
20	23	26,637	-44.0		98	13.2	22	26,585	-49.1		77	10.1	25	26,717	-47.4		93	9.7	2[illegible]	26,[illegible]68	-48.[illegible]		77	9.3	2[illegible]	26,[illegible]2	-48.[illegible]		87	[illegible].2
15	13	28,601	-40.0				20	28,488	-45.8		76	3.7	14	28,620	-44.7		73	8.1	17	28,[illegible]49	-45.7		74	9.9	[illegible]	28,577	-45.3			
10							9	31,197	-41.2																					

See reference note at end of table

RAWINSONDE DATA

Average monthly values

MAY 1961

Standard pressure surface (mb)	SHREVEPORT, LA. (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SPOKANE, WASH. (931 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	76	17.1	83	141	2.7	31	722	6.8	87	170	2.7
1,000--	31	141	17.6	78	151	3.1	31	127				
950----	31	580	17.3	66	176	8.0	31	556				
900----	31	1,042	15.5	61	200	9.1	31	1,000	8.7	69	205	5.1
850----	31	1,527	14.2	49	231	10.1	31	1,472	6.9	61	239	4.9
800----	31	2,037	11.8	45	246	10.1	31	1,968	3.6	62	243	3.7
750----	31	2,571	8.8	42	262	11.3	31	2,491	.3	61	244	4.7
700----	31	3,143	5.8	34	281	11.5	31	3,038	- 3.2	59	220	5.4
650----	31	3,740	1.9	34	285	12.6	31	3,617	- 6.8	58	217	7.4
600----	31	4,387	- 2.4	31	281	15.2	31	4,241	-10.6	58	221	9.5
550----	31	5,064	- 7.1	30	282	18.3	31	4,901	-14.7	50	218	11.7
500----	31	5,809	-12.0		284	21.4	31	5,620	-19.4	45	214	14.4
450----	31	6,602	-17.4		284	24.3	31	6,389	-24.9	44	211	13.8
400----	31	7,481	-23.6		283	28.4	31	7,240	-31.2	41	207	13.6
350----	31	8,444	-30.6		285	30.9	31	8,172	-38.5		203	14.6
300----	31	9,521	-38.6		286	34.8	31	9,214	-46.2		207	17.3
250----	31	10,750	-47.7		287	40.0	31	10,407	-52.5		221	17.3
200----	31	12,191	-57.6		286	45.1	31	11,839	-54.2		230	17.3
175----	31	13,026	-60.9		284	45.7	31	12,697	-53.5		236	16.1
150----	31	13,985	-60.6		281	45.3	31	13,690	-52.6		234	15.0
125----	31	15,116	-62.6		283	38.9	31	14,867	-53.0		240	12.2
100----	31	16,482	-65.8		283	26.6	31	16,302	-54.2		233	10.9
80-----	30	17,833	-66.5		290	15.2	31	17,731	-54.6		238	8.7
70-----	29	18,646	-65.1		308	7.4	31	18,590	-54.3		234	6.2
60-----	29	19,586	-62.7		13	3.3	31	19,574	-53.7		228	2.3
50-----	28	20,720	-59.2		68	6.8	31	20,747	-53.2		76	1.7
40-----	28	22,129	-56.1		79	7.2	30	22,194	-52.0		83	5.1
30-----	27	23,969	-52.8		84	9.9	29	24,072	-50.2		85	7.0
25-----	26	25,153	-51.0		92	9.9	28	25,269	-48.7		78	8.0
20-----	25	26,614	-48.3		77	7.0	25	26,745	-46.9		75	10.7
15-----	13	28,504	-45.2				16	28,660	-43.3		78	12.0
10-----												

Standard pressure surface (mb)	TAMPA, FLA. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TATOOSH IS., WASH. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	20.6	88	78	2.9	31	31	9.5	86	230	3.3
1,000--	31	154	21.4	81	106	3.9	31	139	9.0	82	198	2.9
950----	31	595	19.6	73	187	3.3	31	561	7.3	74	195	4.5
900----	31	1,063	17.0	67	231	4.5	31	1,006	4.9	73	201	7.4
850----	31	1,549	14.0	64	239	6.0	31	1,471	2.2	72	194	6.8
800----	31	2,058	11.2	56	246	7.2	31	1,959	- .3	65	189	8.0
750----	31	2,593	8.9	39	257	7.4	31	2,468	- 3.0	55	183	9.1
700----	31	3,164	5.9	37	273	8.9	31	3,017	- 5.7	50	191	10.3
650----	31	3,766	2.4	34	275	9.3	31	3,585	- 9.2	47	198	12.0
600----	31	4,411	- 1.5	30	279	11.5	31	4,209	-12.7	42	217	17.3
550----	31	5,094	- 5.8	30	273	14.6	31	4,860	-16.6	40	203	14.8
500----	31	5,841	-10.3		279	18.3	31	5,578	-21.4	38	202	15.5
450----	31	6,641	-15.9		274	19.8	31	6,334	-26.9	36	201	16.7
400----	31	7,524	-22.0		276	22.2	31	7,187	-33.1	35	205	15.7
350----	31	8,493	-29.3		280	25.8	31	8,112	-39.4		212	17.1
300----	30	9,576	-37.5		275	30.5	31	9,152	-46.1		216	17.7
250----	30	10,809	-47.2		275	34.6	31	10,347	-51.7		230	15.2
200----	30	12,254	-56.9		277	40.8	31	11,783	-54.2		246	13.0
175----	30	13,094	-60.2		278	44.3	31	12,641	-52.6		246	12.8
150----	30	14,051	-62.1		280	41.6	31	13,636	-52.7		245	11.7
125----	30	15,173	-64.7		282	35.4	31	14,811	-53.2		235	10.5
100----	29	16,526	-67.9		287	23.3	31	16,245	-54.0		231	9.1
80-----	28	17,863	-68.2		300	9.3	31	17,676	-54.4		229	6.0
70-----	28	18,678	-66.1		347	3.3	31	18,534	-54.0		221	3.3
60-----	28	19.609	-62.8		66	5.8	30	19,523	-53.5		211	3.5
50-----	28	20,744	-58.6		76	10.7	30	20,696	-53.2		132	1.7
40-----	26	22,159	-55.7		82	15.2	30	22,135	-52.5		90	3.9
30-----	23	24,005	-51.5		90	15.9	28	23,999	-50.9		89	5.6
25-----	15	25,191	-48.6		86	16.3	25	25,203	-49.4		81	7.2
20-----	13	26,670	-46.1				22	26,676	-47.2		77	9.9
15-----							14	28,617	-43.5		74	13.8
10-----												

Standard pressure surface (mb)	TOPEKA, KANS. (984 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TUCSON, ARIZ. (923 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	269	11.3	85	111	4.3	31	781	14.8	22	145	7.0
1,000--	31	131					31	95				
950----	31	562	12.6	67	139	8.0	31	531				
900----	31	1,016	11.6	60	162	5.8	31	1,001	20.7	18	174	5.2
850----	31	1,493	9.8	54	221	7.8	31	1,492	17.7	19	219	5.2
800----	31	1,995	8.3	48	254	8.4	31	2,006	14.1	20	230	8.4
750----	31	2,522	5.7	47	260	12.2	31	2,543	10.4		227	12.8
700----	31	3,088	2.6	47	263	15.3	31	3,117	7.0		233	18.3
650----	31	3,677	- 1.3	49	270	17.5	31	3,714	3.0		237	21.8
600----	31	4,317	- 5.4	45	272	20.6	31	4,364	- 1.5		241	25.6
550----	31	4,987	- 9.9	42	272	22.9	31	5,042	- 6.4		245	29.1
500----	31	5,723	-14.7	40	273	24.5	31	5,789	-11.6		249	32.8
450----	31	6,503	-19.8		273	26.0	31	6,584	-16.9		252	38.3
400----	31	7,377	-26.2		270	29.5	31	7,465	-23.3		255	44.1
350----	31	8,329	-33.3		271	34.4	31	8,427	-30.7		254	44.5
300----	31	9.395	-41.4		277	39.6	31	9,503	-39.1		255	50.3
250----	31	10,609	-50.3		278	46.4	31	10,727	-48.5		257	58.9
200----	31	12,038	-58.3		280	50.3	31	12,164	-57.4		257	63.3
175----	31	12,876	-59.7		282	49.2	31	13,004	-59.2		258	61.0
150----	31	13,843	-58.5		282	42.2	31	13,971	-58.9		257	56.3
125----	31	14,990	-58.4		288	37.1	31	15,109	-61.3		256	44.5
100----	31	16,389	-60.5		291	25.8	30	16,477	-65.4		257	32.6
80-----	31	17,774	-61.2		294	16.3	30	17,829	-66.7		261	13.2
70-----	31	18,607	-60.6		299	10.3	30	18,646	-64.9		281	2.9
60-----	31	19,568	-58.9		343	5.4	30	19,586	-61.7		91	3.7
50-----	31	20,718	-56.6		55	3.5	30	20,723	-58.0		86	8.4
40-----	31	22,140	-55.0		80	6.2	29	22,138	-55.7		86	9.3
30-----	28	23,984	-52.5		83	8.0	28	23,988	-51.9		83	13.0
25-----	26	25,167	-50.9		84	9.3	28	25,175	-49.8		81	13.8
20-----	23	26,613	-49.2		87	9.1	26	26,643	-47.1		84	14.2
15-----	15	28,505	-45.5		78	7.8	16	28,579	-42.8		98	11.9
10-----	5	31,196	-40.5				9	31,271	-37.7			

Standard pressure surface (mb)	WASHINGTON, D. C. (1008 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	WINNEMUCCA, NEV. (868 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	84	10.6	86	320	1.4	31	1,310	5.4	61	14	1.4
1,000--	31	152	11.2	78	321	3.7	31	131				
950----	31	582	11.2	66	295	7.2	31	559				
900----	31	1,032	9.1	64	300	9.9	31	1,012				
850----	31	1,504	6.5	63	288	9.9	31	1,483	8.8	49	334	3.3
800----	31	1,999	3.7	59	272	12.2	31	1,983	6.7	47	310	3.3
750----	31	2,522	1.4	53	263	14.2	31	2,505	3.0	50	270	5.1
700----	31	3,075	- 1.3	50	261	17.5	31	3,065	- .8	51	244	7.2
650----	31	3,662	- 4.1	43	265	20.8	31	3,647	- 4.8	52	240	11.9
600----	31	4,291	- 7.7	38	266	24.9	31	4,277	- 9.1	52	233	16.9
550----	31	4,958	-11.7	35	267	28.0	31	4,939	-13.7	43	230	19.6
500----	31	5,687	-16.1		267	32.1	31	5,662	-18.7	38	234	20.0
450----	31	6,465	-21.1	33	265	32.8	31	6,431	-24.2		238	19.2
400----	31	7,334	-27.1	35	266	35.2	31	7,286	-30.4		236	22.0
350----	31	8,282	-34.3		269	38.3	31	8,221	-37.5		239	24.5
300----	31	9,342	-42.4		272	41.8	31	9,268	-44.8		246	26.0
250----	31	10,551	-50.7		273	46.2	31	10,466	-52.1		250	26.4
200----	31	11,980	-56.8		276	47.8	31	11,895	-55.0		249	28.4
175----	31	12,825	-57.4		278	39.6	31	12,747	-55.4		252	25.6
150----	31	13,799	-57.4		275	35.0	31	13,731	-54.7		247	24.5
125----	31	14,950	-57.4		275	29.7	31	14,895	-55.4		248	22.3
100----	31	16,356	-58.5		270	22.5	31	16,310	-57.6		243	19.2
80-----	31	17,756	-58.9		279	14.8	31	17,715	-58.7		229	12.8
70-----	30	18,599	-58.3		278	8.2	31	18,558	-58.3		223	8.9
60-----	30	19,567	-56.9		269	1.7	31	19,527	-56.8		195	5.1
50-----	30	20,726	-55.5		94	1.7	31	20,685	-55.9		92	2.3
40-----	29	22,152	-53.9		83	4.1	30	22,105	-54.6		106	5.2
30-----	28	24,005	-51.8		82	8.0	29	23,953	-52.3		83	8.7
25-----	28	25,190	-50.5		80	8.0	27	25,142	-50.5		84	8.0
20-----	25	26,657	-48.4		84	9.1	25	26,606	-48.0		73	9.9
15-----	14	28,559	-44.3		75	8.9	23	28,511	-44.1		75	10.1
10-----	9	31,271	-37.7				8	31,272	-38.3			

Standard pressure surface (mb)	YAKUTAT, ALASKA (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	12	4.4	93	99	2.9
1,000--	31	131	6.6	84	114	5.6
950----	31	554	5.2	68	128	6.6
900----	31	991	2.3	66	138	7.6
850----	31	1,451	- .7	67	141	7.2
800----	31	1,932	- 3.7	66	144	7.2
750----	31	2,438	- 6.7	66	158	7.0
700----	31	2,975	- 9.7	63	165	6.6
650----	31	3,539	-13.0	61	174	7.4
600----	31	4,150	-16.3	55	196	7.2
550----	31	4,798	-20.4	51	195	7.2
500----	31	5,499	-25.2	50	198	8.4
450----	31	6,251	-30.4	49	208	8.9
400----	31	7,083	-36.4	45	214	10.7
350----	31	7,996	-42.6		218	12.2
300----	31	9,024	-48.3		215	13.0
250----	31	10,214	-51.0		217	11.3
200----	31	11,674	-48.9		210	5.2
175----	31	12,552	-48.4		215	5.2
150----	31	13,565	-49.2		197	2.1
125----	31	14,759	-49.7		183	1.9
100----	31	16,216	-50.8		120	2.7
80-----	31	17,666	-51.3		115	2.7
70-----	31	18,537	-51.1		114	2.3
60-----	30	19,539	-51.0		83	3.3
50-----	30	20,725	-50.7		82	4.3
40-----	29	22,175	-50.4		75	4.3
30-----	27	24,053	-49.7		84	5.1
25-----	26	25,250	-48.6		82	5.1
20-----	24	26,723	-47.1		83	4.9
15-----	20	28,661	-43.9		91	5.6
10-----						

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots. The resultant wind speed is biased toward a lower value as the number of observations on which the resultant is based lessens. The amount of bias increases with the number of observations that are terminated due to rate angle limitations.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

OMAHA, NEBR.

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
May									
1------	----	----	----	----	S 1.31	1.04	0.82	0.66	0.51
9------	S 0.55	S 0.67	S 0.82	S 1.05	S 1.27	----	S .75	S .58	S .48
11-----	S .41	S .55	S .72	S .94	S 1.14	S .80	S .58	S .41	S .27
19-----	----	----	----	----	----	----	S .77	S .68	S .52
26-----	S .43	S .53	S .69	S .93	S 1.26	S .67	M .32	M .17	M .10
27-----	S .45	S .57	S .73	S .96	M 1.21	----	----	----	----
28-----	S .35	S .48	S .65	M .76	M 1.04	S .69	S .44	S .36	S .21
Aver-ages	0.43	0.56	0.72	0.93	1.21	0.80	0.61	0.48	0.34

ALBUQUERQUE, N. MEX.

	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
May									
1------	0.89	0.98	1.12	1.29	1.44	1.21	1.03	----	----
2------	----	(.63)	(.85)	(1.05)	1.43	1.15	.95	0.81	0.75
3------	----	----	1.18	1.31	1.49	----	----	----	----
4------	.70	.85	1.03	1.22	†	----	----	----	----
8------	----	----	----	†	1.48	1.25	1.11	.97	.87
9------	.89	1.01	1.13	1.27	1.45	(.85)	1.05	.92	.77
14-----	.85	.94	1.17	1.23	1.43	1.22	1.03	.91	.77
15-----	----	----	----	----	1.42	1.19	----	----	----
16-----	.84	.98	1.10	1.27	1.43	(1.18)	(.93)	(.81)	.74
18-----	----	----	----	(1.21)	----	(1.11)	(.83)	(.67)	(.63)
19-----	----	(.73)	(.79)	(1.14)	(1.35)	----	(.71)	(.60)	----
20-----	(.42)	----	(.69)	(1.01)	(1.31)	D(1.09)	D (.89)	D (.40)	D (.38)
21-----	.86	.97	1.09	1.24	1.43	(.70)	.96	.79	.67
22-----	.64	.76	.89	1.09	H(1.26)	1.17	1.01	.87	.77
23-----	.63	.74	.87	1.03	1.31	(.97)	(.72)	(.59)	(.45)
24-----	.44	.54	.76	.95	1.29	----	D	D	D
25-----	.52	.61	----	----	1.33	1.09	.92	.77	.67
26-----	.59	.70	.83	1.01	----	----	----	----	----
27-----	.59	.68	.82	1.03	1.32	----	----	----	----
28-----	.58	.69	.83	.98	(1.39)	(1.01)	(.70)	.85	.78
29-----	----	----	----	----	(1.39)	----	----	----	----
30-----	----	----	----	----	----	----	----	(.89)	(.60)
31-----	----	----	----	----	----	(1.22)	(1.07)	----	----
Aver-ages	0.69	0.80	0.99	1.15	1.40	1.18	1.01	0.86	0.75

MADISON, WIS.

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
May									
1-----	S 0.96	S 1.07	S 1.17	1.29	----	----	----	----	----
2-----	S .80	M .94	M 1.07	1.26	1.46	----	----	----	----
3-----	M .79	S .88	S 1.02	S 1.15	----	----	----	----	----
4-----	----	----	----	S 1.23	----	----	----	----	----
11----	M .75	M .83	S .99	S 1.21	S 1.39	S 1.18	S 1.03	S 0.88	S 0.78
19----	S .77	S .86	S .98	S 1.15	----	----	----	----	----
21----	----	----	----	----	----	S 1.15	----	----	----
22----	S .72	S .83	S .94	S 1.08	S 1.37	S 1.21	S 1.00	S .88	S .78
23----	S .72	S .86	S 1.01	S 1.20	S 1.34	----	----	----	----
27----	S .62	S .75	S .88	S 1.10	M 1.32	S 1.06	S .84	S .70	S .59
28----	----	----	----	----	----	S 1.04	----	----	----
29----	S .80	S .87	S 1.04	S 1.23	S 1.38	S 1.07	----	----	----
30----	S .80	S .91	S 1.07	S 1.24	S 1.41	----	----	----	----
Aver-ages	0.77	0.88	1.02	1.19	1.35	1.12	0.96	0.82	0.72

BLUE HILL OBS., MASS.

	Air mass								
	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
May									
1-----	0.70	0.81	0.94	1.13	1.37	----	----	----	----
3-----	.70	.79	.93	1.13	1.45	1.17	0.93	0.70	0.65
4-----	.83	.94	1.06	1.21	1.37	----	----	----	----
5-----	.67	.77	.94	1.11	1.40	1.18	1.03	.89	.78
6-----	.77	.88	1.04	1.21	----	----	----	----	----
14----	----	----	----	----	1.30	.91	.58	.42	.33
15----	.53	.64	.83	.98	1.34	----	----	----	----
17----	----	----	----	----	----	1.10	.91	.78	.67
20----	----	----	.75	.94	----	----	.65	.50	.38
21----	----	----	----	.83	----	----	.45	.33	.29
22----	.41	.49	----	----	----	----	----	----	----
23----	.59	.67	.90	1.08	1.35	----	----	----	----
24----	----	----	----	1.06	1.35	----	----	----	----
25----	.43	.50	.65	.87	----	----	----	----	----
28----	.87	.94	1.00	1.08	1.32	.84	.62	.48	.38
29----	.43	.50	.70	----	----	----	----	----	----
31----	.84	.91	1.01	1.11	1.30	.89	.72	.55	.44
Aver-ages	0.65	0.74	0.90	1.06	1.36	1.02	0.74	0.58	0.49

D Dust
H Haze
M Moderate haze - indeterminable
S Slight haze - indeterminable
( ) Clouds present
† Missing, 4th through 8th.

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 6, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in Langleys. MAY 1961

	Albuquerque, N. Mex.	Ames, Iowa	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill Obs., Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Cape Hatteras, N. C.	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Corvallis, Oreg.	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Flaming Gorge, Utah	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grand Junction, Colo.	Great Falls, Mont.	Greenville, N. C.	Griffin, Ga.
1961																																			
May 7------	653	368	440	611	547	517	---	616	612	89	697	82	571	548	669	529	639	333	116	383	699	704	533	705	157	565	525	150	618	740	275	---	333	529	629
May 8------	797	289	529	691	133	550	---	316	385	296	507	322	442	483	783	88	637	382	143	315	712	669	410	799	785	560	744	686	619	609	493	---	514	564	738
May 9------	806	670	546	210	256	221	---	185	401	190	595	149	670	563	716	62	503	159	656	287	614	732	178	781	544	498	685	762	519	453	351	---	424	425	229
May 10------	701	691	741	689	406	169	382	206	683	234	550	283	672	614	538	492	134	731	749	402	575	693	754	762	780	424	659	732	528	498	387	---	---	275	205
May 11------	571	682	582	395	676	146	350	274	653	529	412	642	660	581	468	755	474	604	755	418	689	698	731	733	728	236	740	746	629	583	693	---	505	392	416
May 12------	781	653	97	729	265	185	422	658	301	155	717	128	664	583	575	653	509	655	716	335	754	460	575	641	372	350	676	740	635	623	576	---	585	222	291
May 13------	635	389	125	736	257	597	404	670	574	465	754	572	*	589	706	510	489	698	610	289	735	652	636	787	652	623	190	593	613	652	624	--	622	504	677
Average-------	706	535	437	580	363	341	390	418	516	280	605	311	613	566	637	441	484	509	535	347	683	658	543	744	617	465	603	673	594	594	486	---	497	416	458
May 14------	818	379	430	713	390	598	404	359	413	587	672	648	369	566	733	509	610	701	350	345	728	593	428	801	457	574	562	708	603	635	403	--	251	687	665
May 15------	801	355	729	---	711	494	368	456	643	---	635	684	483	484	650	501	614	461	249	625	734	714	489	804	457	201	448	736	608	662	504	---	---	573	562
May 16------	816	491	745	769	561	702	381	311	177	---	727	212	451	571	761	332	648	354	556	683	674	429	760	631	815	445	534	691	606	710	239	---	281	564	808
May 17------	645	75	479	766	567	621	425	527	525	650	478	706	567	550	519	769	575	636	166	661	632	667	581	798	670	403	712	252	617	760	544	---	195	722	753
May 18------	710	162	322	701	708	340	406	424	*	521	764	547	628	558	696	674	588	221	450	720	686	*	222	607	758	504	497	*	589	670	583	---	449	361	479
May 19------	---	294	627	703	727	661	494	304	*	196	756	222	551	287	769	475	560	729	344	715	683	*	764	733	769	---	664	(389)	171	603	711	---	708	649	716
May 20------	734	329	529	688	145	632	590	608	678	---	626	538	635	570	801	271	371	545	284	---	674	348	504	744	720	442	601	(628)	491	650	714	---	702	726	728
Average-------	754	298	552	723	544	578	438	427	487	489	665	508	526	512	704	504	567	521	343	625	687	550	535	731	664	428	574	(567)	526	670	528	---	431	610	673
May 21------	818	530	209	663	316	589	495	---	636	492	607	515	615	427	471	416	573	573	554	---	756	389	536	775	602	493	663	(690)	617	712	545	---	508	671	673
May 22------	817	739	394	708	215	295	561	356	661	335	739	422	606	491	780	401	472	770	421	330	759	123	666	697	707	599	788	(661)	637	708	436	---	638	712	497
May 23------	814	718	214	704	415	419	596	485	691	536	767	593	455	486	171	539	174	836	786	606	762	756	780	708	800	213	466	(138)	651	592	610	---	679	659	392
May 24------	635	660	613	284	690	695	515	659	605	597	758	541	253	579	801	588	630	810	764	705	756	641	721	719	801	---	728	(348)	647	423	690	---	675	749	773
May 25------	794	477	276	329	703	204	526	298	765	604	589	664	537	570	806	522	456	714	516	709	763	660	287	708	817	---	444	(495)	642	508	694	---	512	592	229
May 26------	634	800	533	406	246	178	---	417	747	142	540	191	328	581	465	199	399	466	811	290	760	780	366	517	738	611	(605)	(582)	652	431	707	---	557	247	142
May 27------	708	777	761	776	643	759	558	---	680	101	756	143	509	491	---	95	778	665	791	640	---	674	763	661	820	524	636	(733)	654	625	505	---	714	788	853
Average-------	746	671	429	553	461	448	542	443	684	401	679	438	472	518	582	394	498	691	663	547	759	575	588	684	755	488	(619)	(521)	643	571	598	---	612	631	508
May 28------	803	*	311	784	726	728	---	404	671	680	633	726	584	576	871	356	756	814	669	600	672	722	746	711	695	480	531	(723)	495	710	706	---	681	766	825
May 29------	641	*	473	749	453	702	---	585	626	389	448	420	647	546	---	152	729	613	655	572	445	669	748	703	413	630	663	(662)	628	582	621	---	539	604	797
May 30------	648	*	499	741	424	711	---	377	543	590	641	613	528	518	705	235	696	857	548	336	502	678	739	740	533	594	604	(643)	642	730	290	---	347	718	801
May 31------	693	*	393	730	694	707	---	(498)	495	693	728	727	547	591	814	---	715	522	624	699	582	652	309	733	584	429	701	730	285	682	188	---	174	704	781
June 1------	795	*	230	742	710	659	627	565	718	251	348	242	481	594	703	609	697	567	532	727	682	*	261	714	505	237	712	724	388	716	734	---	680	562	731
June 2------	851	*	670	713	244	665	---	458	756	490	544	528	558	462	794	138	695	799	231	406	613	*	679	751	558	556	775	726	540	725	761	---	720	694	703
June 3------	842	728	203	722	394	648	388	517	758	338	487	401	571	565	792	374	699	782	676	548	723	*	761	816	359	325	482	488	592	700	753	---	693	621	727
Average-------	753	*	397	740	520	688	---	(486)	652	490	547	522	560	550	780	310	713	708	562	556	603	680	606	738	521	464	638	(671)	510	692	579	---	548	667	767

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

* Recorder inoperative.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

MAY 1961

1961	Hilo, Hawaii	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Laramie, Wyo.	Las Vegas, Nev.	Lemont, Ill.	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif.	Los Angeles, Calif. (Urban)	Madison, Wis.	Manhattan, Kans.	Matanuska, Alaska	Mauna Loa Obs., Hawaii	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	North Omaha, Nebr.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Page, Ariz.	Phoenix, Ariz.	Portland, Me.	Rapid City, S. Dak.	Riverside, Calif.	St. Cloud, Minn.	Salt Lake City, Utah	San Antonio, Tex.	Santa Maria, Calif.
May 7------	469	196	931	450	529	480	354	770	338	174	399	724	713	622	470	601	756	521	634	*	366	---	168	413	369	478	---	720	77	582	694	277	412	516	---
May 8------	327	130	887	386	445	730	612	755	52	331	449	736	711	477	419	563	770	577	538	*	412	---	232	310	572	579	756	729	287	741	713	369	737	585	722
May 9------	608	115	756	435	*	685	651	666	194	119	770	608	646	513	682	602	789	263	292	*	154	---	352	702	254	751	693	720	119	727	640	603	661	723	647
May 10------	365	655	883	477	*	685	569	744	649	634	749	703	684	732	589	216	777	290	428	*	555	362	255	594	248	715	710	649	325	695	683	563	624	696	725
May 11------	396	603	917	552	679	689	730	---	678	578	750	713	716	761	654	381	711	506	732	*	560	333	95	680	401	740	778	634	679	733	684	645	742	686	734
May 12------	398	673	566	365	702	119	463	457	580	593	726	725	726	740	627	565	673	595	671	*	655	128	84	623	382	703	785	727	346	362	487	482	291	625	734
May 13------	282	627	886	526	536	196	146	771	571	806	662	716	718	659	232	648	368	454	688	*	593	420	268	298	540	572	497	743	578	208	720	215	317	475	710
Average-------	406	428	832	456	578	512	504	694	437	462	643	704	702	643	525	511	692	458	559	*	471	311	208	517	395	648	703	703	344	578	660	450	540	615	712
May 14------	501	561	870	567	451	648	589	736	345	750	422	672	(682)	274	479	218	440	631	531	*	586	472	510	611	591	705	732	742	689	481	706	101	504	605	685
May 15------	522	564	870	632	535	522	532	755	316	539	765	640	646	250	661	145	525	734	615	*	631	595	475	594	250	768	762	736	525	404	698	582	378	648	643
May 16------	499	712	879	226	639	465	395	756	645	401	735	420	348	611	104	370	---	725	688	*	345	197	77	195	481	693	735	741	216	57	617	579	678	362	526
May 17------	387	306	829	661	625	676	621	744	145	652	516	380	389	163	316	489	384	716	672	*	589	635	687	164	614	395	742	---	791	341	539	84	677	334	438
May 18------	612	248	825	258	603	393	487	750	295	155	472	295	299	190	500	376	777	716	704	*	288	565	533	198	119	560	741	743	582	169	438	322	777	500	439
May 19------	533	677	918	39	622	510	581	754	649	565	395	649	463	786	162	368	770	731	471	*	---	196	164	324	530	325	660	699	274	312	545	365	775	506	557
May 20------	526	319	943	634	635	525	451	772	259	579	376	713	722	454	173	603	773	431	664	*	566	453	389	218	---	375	749	745	623	611	719	646	538	565	738
Average-------	511	484	876	431	587	534	522	753	379	520	526	539	(507)	390	342	367	612	669	621	*	501	445	405	329	431	546	732	734	529	339	609	383	618	503	575
May 21------	391	533	972	263	648	674	570	767	596	624	623	701	726	707	56	683	---	690	663	715	361	541	457	395	---	481	752	747	399	295	708	731	663	604	557
May 22------	370	573	---	134	654	617	660	947	705	648	444	426	447	518	172	603	506	475	676	549	108	408	271	634	184	697	752	738	612	360	541	752	---	616	674
May 23------	495	715	892	411	528	590	500	782	710	734	445	547	527	786	624	524	549	653	425	415	734	590	371	769	713	397	757	743	585	667	687	718	789	400	757
May 24------	344	694	910	656	493	451	533	765	645	823	485	672	662	724	659	503	443	731	540	627	720	584	543	763	692	417	759	749	554	606	714	436	787	444	759
May 25------	393	646	809	560	132	618	367	743	97	814	607	517	547	126	502	386	432	725	300	667	414	654	553	667	359	445	755	729	691	708	482	667	708	484	676
May 26------	461	380	917	28	462	631	576	742	321	307	594	711	623	517	694	518	768	587	462	619	481	193	186	779	371	806	---	548	268	759	639	758	645	559	764
May 27------	529	726	911	370	732	644	651	778	706	892	802	675	707	795	684	489	632	729	244	686	758	197	53	759	737	780	753	736	155	624	696	738	786	672	753
Average-------	426	610	902	346	521	604	551	789	540	692	571	607	606	639	484	530	555	656	473	611	511	453	347	681	509	575	755	713	466	574	638	686	730	540	706
May 28------	519	594	708	537	716	607	563	608	394	860	752	443	387	757	603	557	480	522	317	656	736	710	643	738	716	738	---	674	761	678	456	702	708	644	567
May 29------	240	687	886	218	698	580	715	443	732	621	679	715	649	807	588	---	---	355	377	606	537	472	167	667	538	697	386	---	372	320	638	754	---	643	779
May 30------	590	731	907	590	693	578	656	818	697	---	668	735	754	786	555	---	---	495	624	602	724	484	564	283	717	632	771	751	737	598	718	603	792	679	801
May 31------	673	341	918	444	654	722	634	714	434	693	695	478	356	500	492	---	770	706	645	682	683	---	614	544	694	617	716	753	804	700	423	634	714	589	362
June 1------	680	592	887	327	694	331	657	742	276	718	713	670	381	419	598	---	773	708	675	666	581	271	319	663	528	733	794	757	374	573	---	289	659	586	313
June 2------	640	376	899	593	646	44	249	626	454	717	691	668	630	800	333	---	765	550	598	651	652	662	509	584	616	433	681	751	549	595	707	580	---	526	740
June 3------	544	682	877	513	566	293	495	633	735	---	521	702	731	816	473	460	757	667	375	633	503	325	178	647	583	614	775	746	506	647	661	759	---	---	582
Average-------	555	572	869	460	667	451	567	655	532	722	674	630	555	698	520	---	709	572	516	642	631	487	428	590	627	638	687	738	586	587	601	617	718	611	592

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

* Recorder inoperative.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

	S. Ste. Marie, Mich.	Sayville, N. Y.	Seattle, Wash.	Seattle-Tacoma, Wash.	Shreveport, La.	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Swan Island, W. I.	Tampa, Fla.	Tucson, Ariz.	Wake Island Pacific Area	Washington, D. C. (Obs & Test Dev Ctr.)	Scott, Miss.
1961														
May 7------	282	277	527	575	460	467	293	256	507	643	802	(670)	181	---
May 8------	125	239	187	208	386	230	308	436	576	664	796	(700)	598	---
May 9------	277	461	181	193	708	158	507	709	582	527	784	671	703	---
May 10------	640	266	346	419	686	485	500	691	399	598	769	710	243	---
May 11------	736	139	593	660	683	737	227	641	306	574	665	573	---	---
May 12------	703	94	533	(564)	672	648	128	629	554	652	810	521	201	---
May 13------	598	248	223	265	542	470	538	*	551	698	774	566	195	---
Average	480	246	370	(412)	591	457	357	560	496	622	771	(630)	354	---
May 14------	413	472	329	(487)	280	268	636	*	585	675	790	312	428	---
May 15------	267	472	634	(701)	697	666	583	*	600	592	802	674	549	---
May 16------	597	57	701	702	689	419	394	561	600	645	768	305	344	---
May 17------	768	688	705	(659)	559	619	689	384	598	717	(723)	712	756	---
May 18------	191	635	699	714	490	743	297	*	603	582	813	647	350	---
May 19------	791	296	714	729	601	735	209	*	627	646	770	695	---	---
May 20------	508	400	486	(538)	407	721	541	468	626	679	825	690	503	---
Average-------	505	431	610	(647)	532	596	478	*	605	648	(784)	576	488	---
May 21------	828	586	436	(404)	606	318	374	*	542	637	678	703	509	---
May 22------	818	223	277	(323)	490	740	225	425	582	700	808	716	643	---
May 23------	767	435	526	(524)	221	622	428	398	563	617	812	718	626	---
May 24------	665	652	710	721	392	735	757	554	519	564	815	681	742	---
May 25------	260	645	688	671	593	727	699	566	340	571	720	663	682	---
May 26------	545	193	45	113	200	436	159	752	554	237	681	660	289	---
May 27------	728	73	509	702	730	457	397	729	257	527	804	686	574	---
Average-------	659	401	456	(494)	462	576	434	571	479	550	760	690	581	---
May 28------	447	---	591	(577)	717	601	748	687	393	454	761	699	758	---
May 29------	812	---	486	501	668	483	332	*	603	464	625	684	---	---
May 30------	558	735	286	(250)	677	96	810	*	524	663	812	709	783	---
May 31------	439	680	651	(723)	632	549	651	*	603	641	804	(612)	661	---
June 1------	118	459	718	732	674	747	517	*	527	573	821	631	535	606
June 2------	137	623	690	703	633	742	592	*	361	713	(828)	579	652	589
June 3------	464	201	497	539	579	715	323	574	367	530	816	(674)	251	598
Average-------	425	540	560	(575)	654	562	568	*	483	577	(781)	(655)	607	---

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

* Recorder inoperative.

TOTAL OZONE DATA

Total amount of ozone in the atmosphere, expressed in terms of integrated depth, in units of 10^{-3} centimeter. These data are given as daily averages obtained from measurements with a Dobson Ozone Spectrophotometer using the sun or zenith cloud (see explanation below) as a light source.

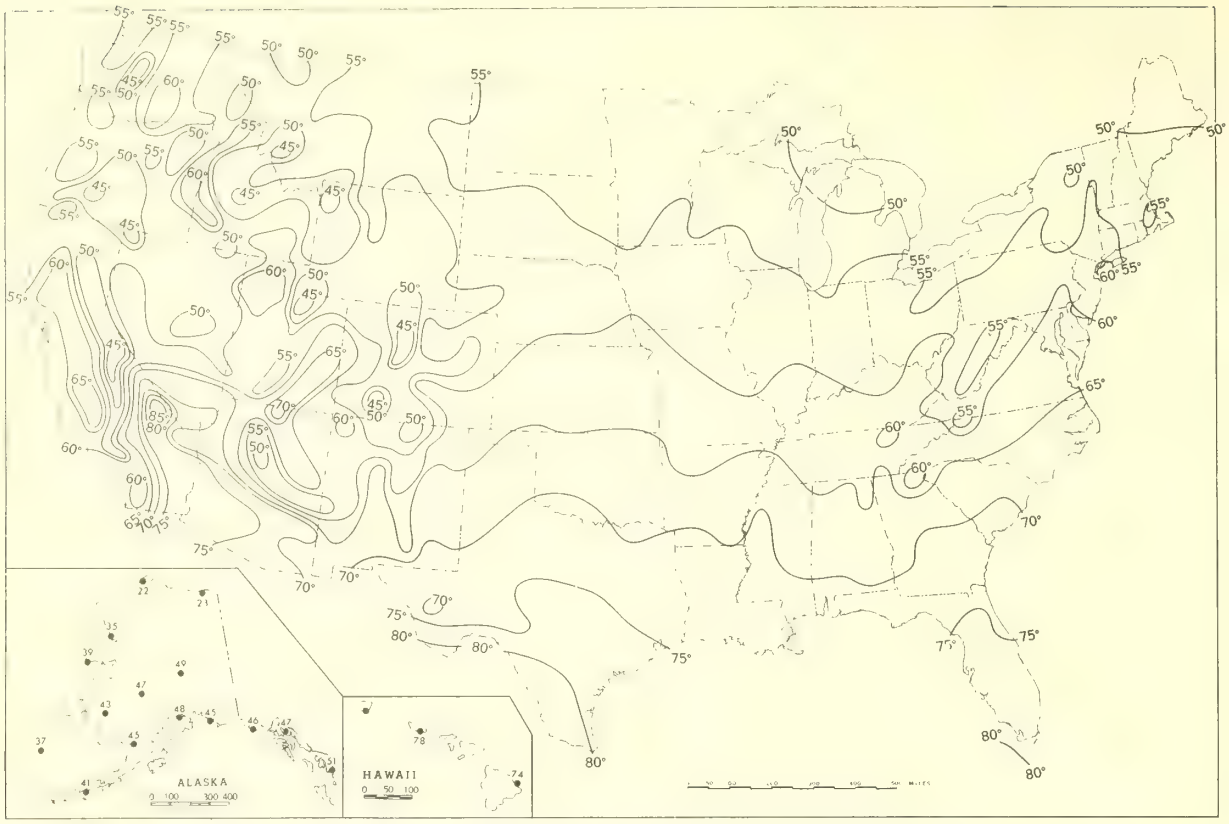
MAY 1961

Station	Day of month																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Bismarck, N. Dak.	401	353	344	---	---	368	386	423	---	326	341	---	---	---	361	---	390	402	---	374	---	---	345	320	341	335	337	331	---	---	338
Caribou, Maine	418	390	---	424	430	412	392	---	---	375	383	351	---	460	306	---	348	374	---	---	---	408	398	402	---	---	---	---	---	---	445
Fort Worth, Texas	---	229	---	---	226	---	266	267	283	236	222	230	202	237	253	229	---	---	---	241	255	256	---	---	202	248	260	293	231	237	239
Green Bay, Wis.	422	309	379	356	---	---	358	---	302	350	326	276	230	---	346	314	---	407	366	352	346	360	329	334	---	378	343	363	359	332	---
Sterling, Va.	*425	---	376	410	359	---	---	---	---	*375	---	---	---	---	314	338	356	343	---	---	*425	372	400	360	349	*334	---	---	376	400	380
Mauna Loa, Hawaii	---	---	276	300	276	279	---	288	282	275	---	276	---	---	325	324	308	299	304	307	313	299	293	289	285	310	316	---	---	286	294

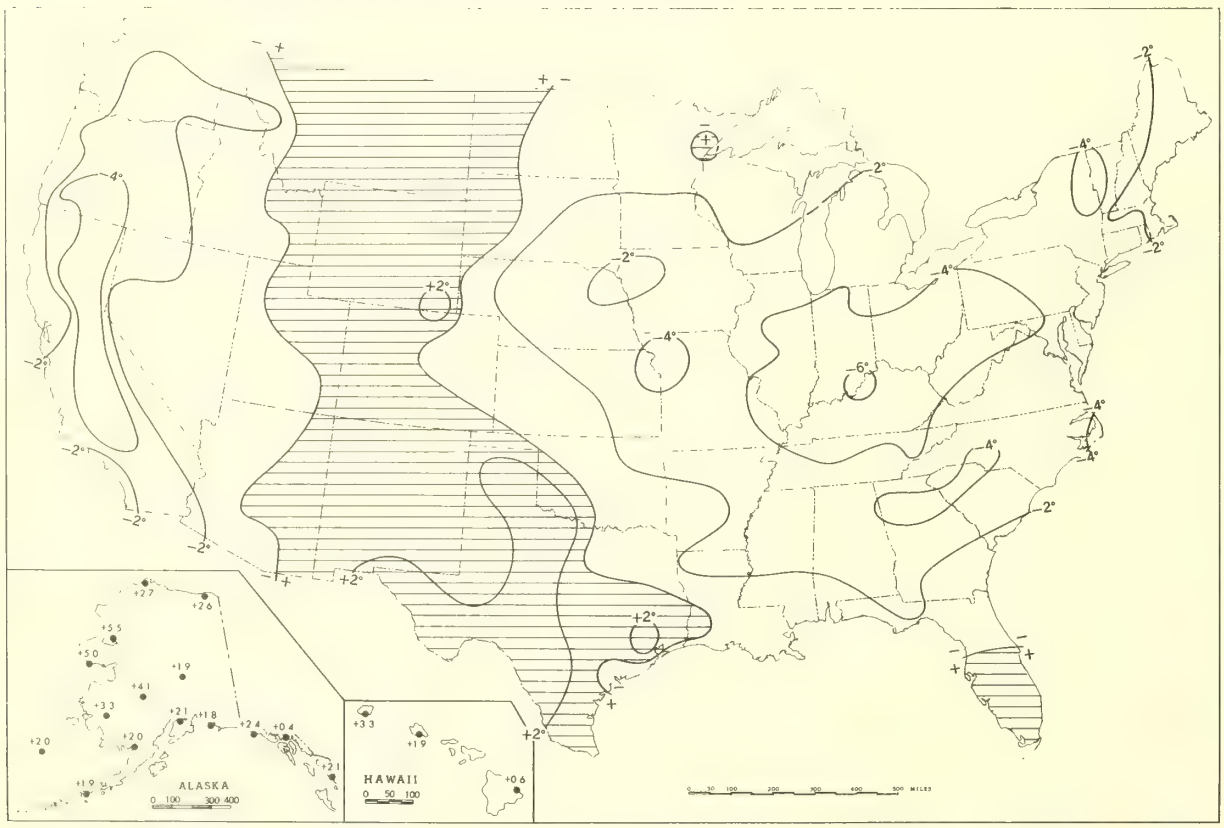
The spectrophotometer measures the total amount of ozone in the atmosphere, i e., the amount contained in a vertical column of air extending from the ground to the top of the atmosphere in the vicinity of the station The amount of ozone in this column of air is expressed in terms of thickness it would occupy if it were compressed to standard pressure and temperature.

The standard method of observation is that using A (3055 Å and 3254 Å) and D (3176 Å and 3398 Å) wave length pairs. On cloudy days when no observations can be obtained directly upon the sun, observations are taken by using light from the zenith cloud These observations are not quite as reliable as the sunlight observations, therefore, average values based upon zenith cloud observations are denoted with an asterisk A detailed description of the spectrophotometer and observational procedures may be found in the "Observer's Handbook of the Ozone Spectrophotometer," Annals of the International Geophysical Year, Volume V, Pergamon Press, 1957

Chart I. A. Average Temperature (°F.) at Surface, May 1961.



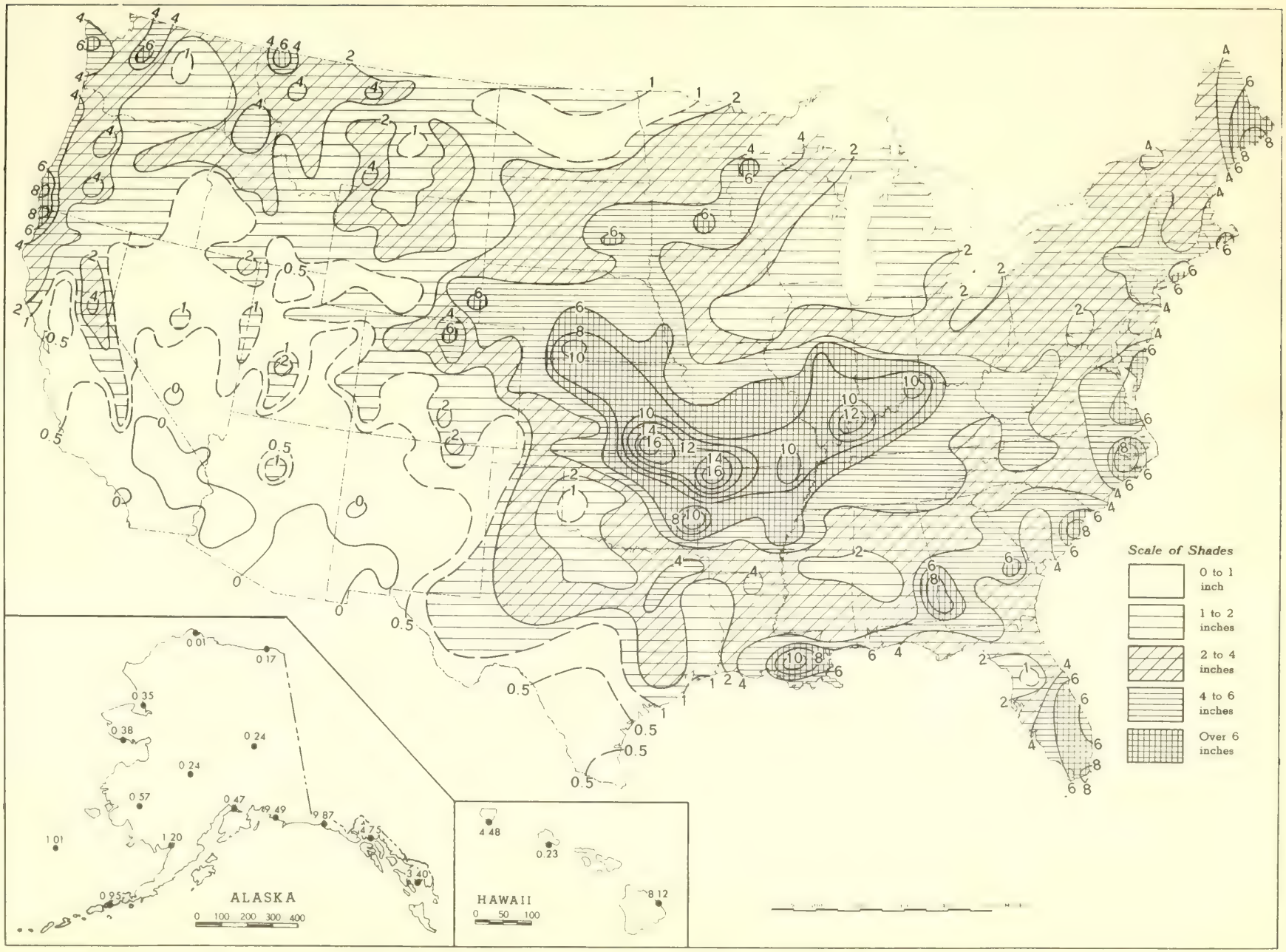
B. Departure of Average Temperature from Normal (°F.), May 1961.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

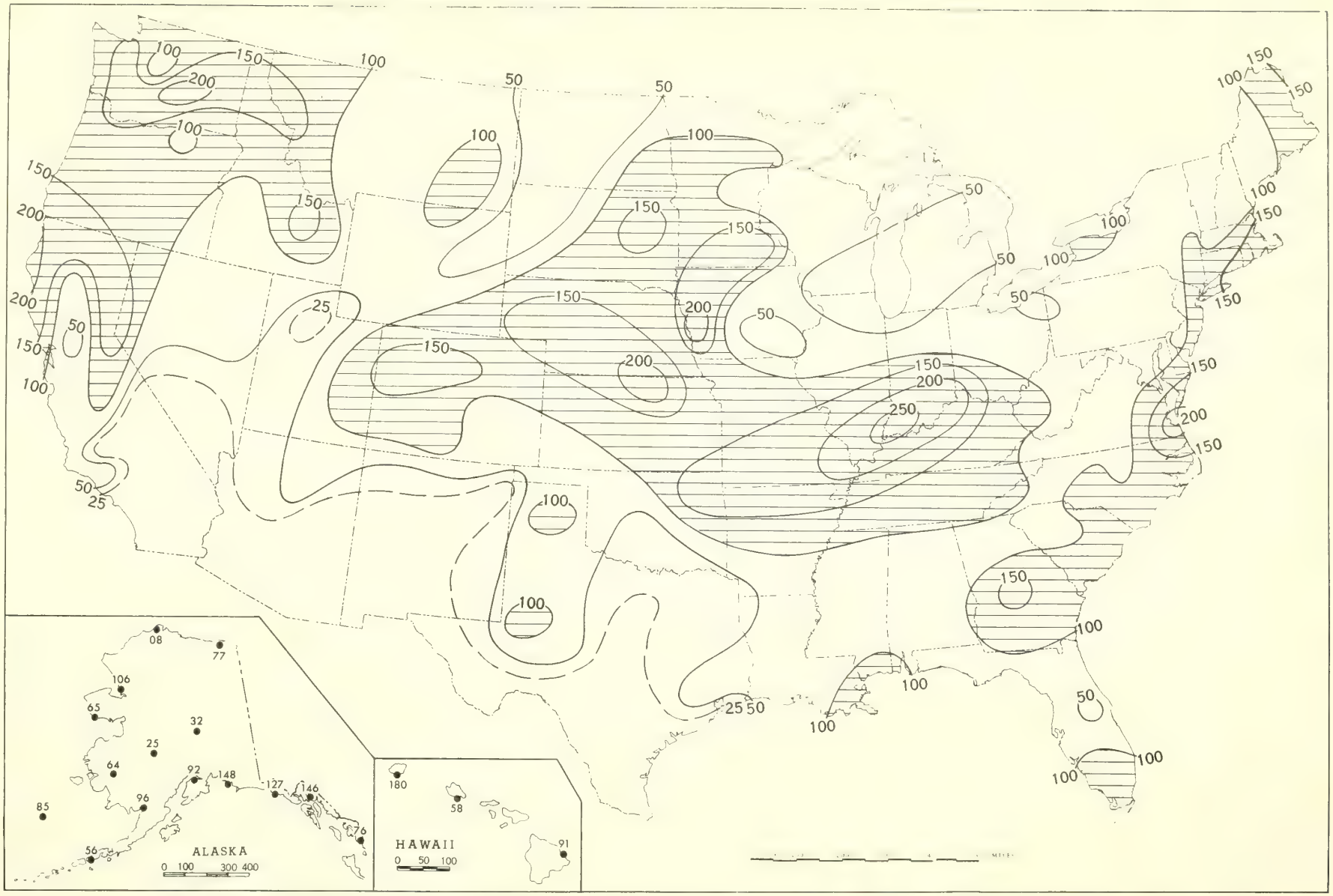
B. Departures from normal are based on the 30-yr. normals (1921-50) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), May 1961.



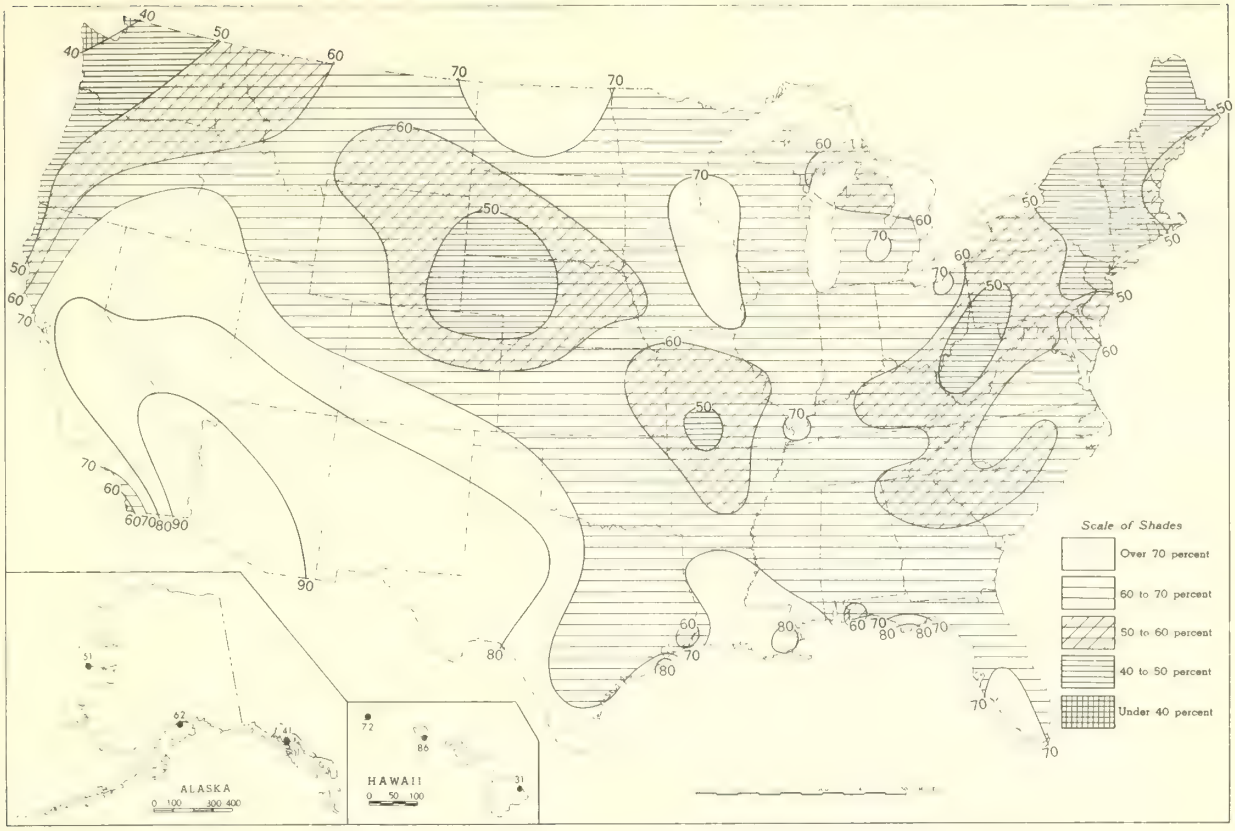
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, May 1961.

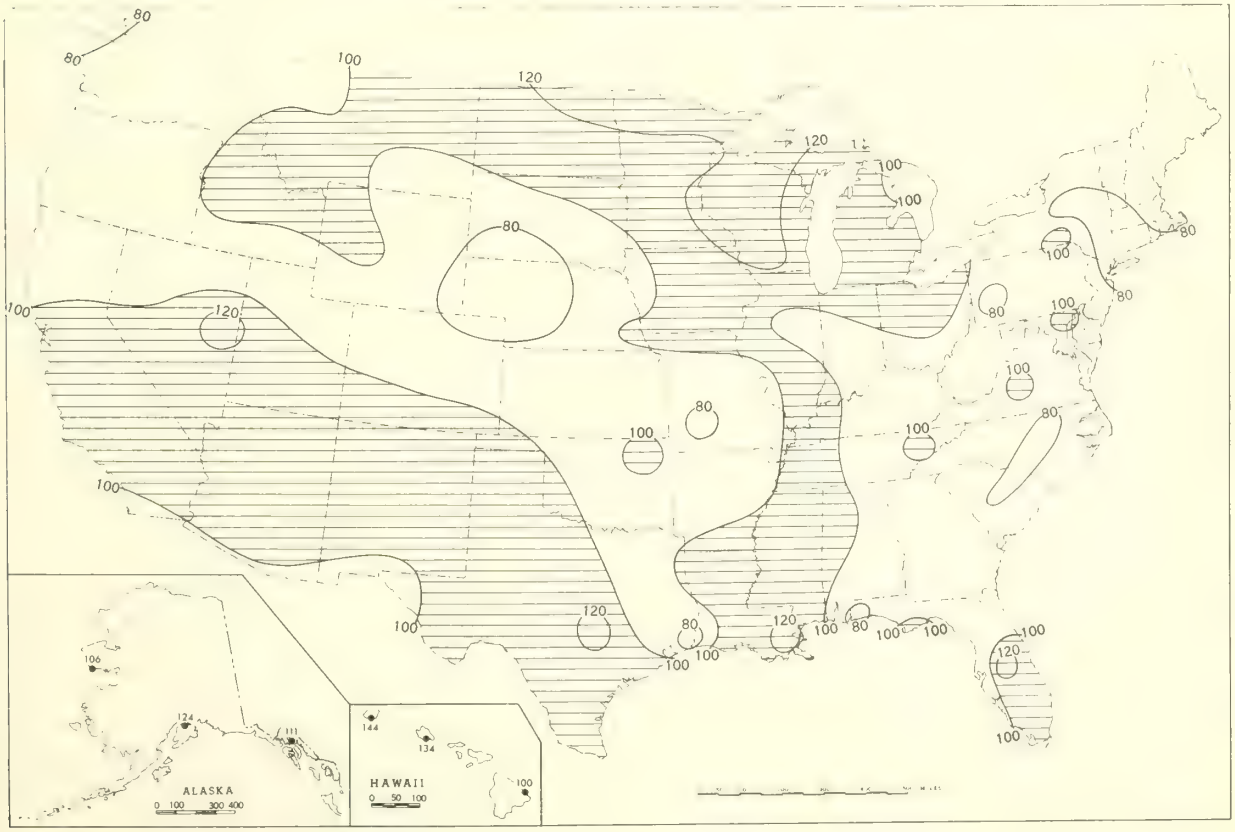


Normal monthly precipitation amounts are computed from the records for 1921-50 for first-order Weather Bureau stations.

Chart VI. A. Percentage of Possible Sunshine, May 1961.

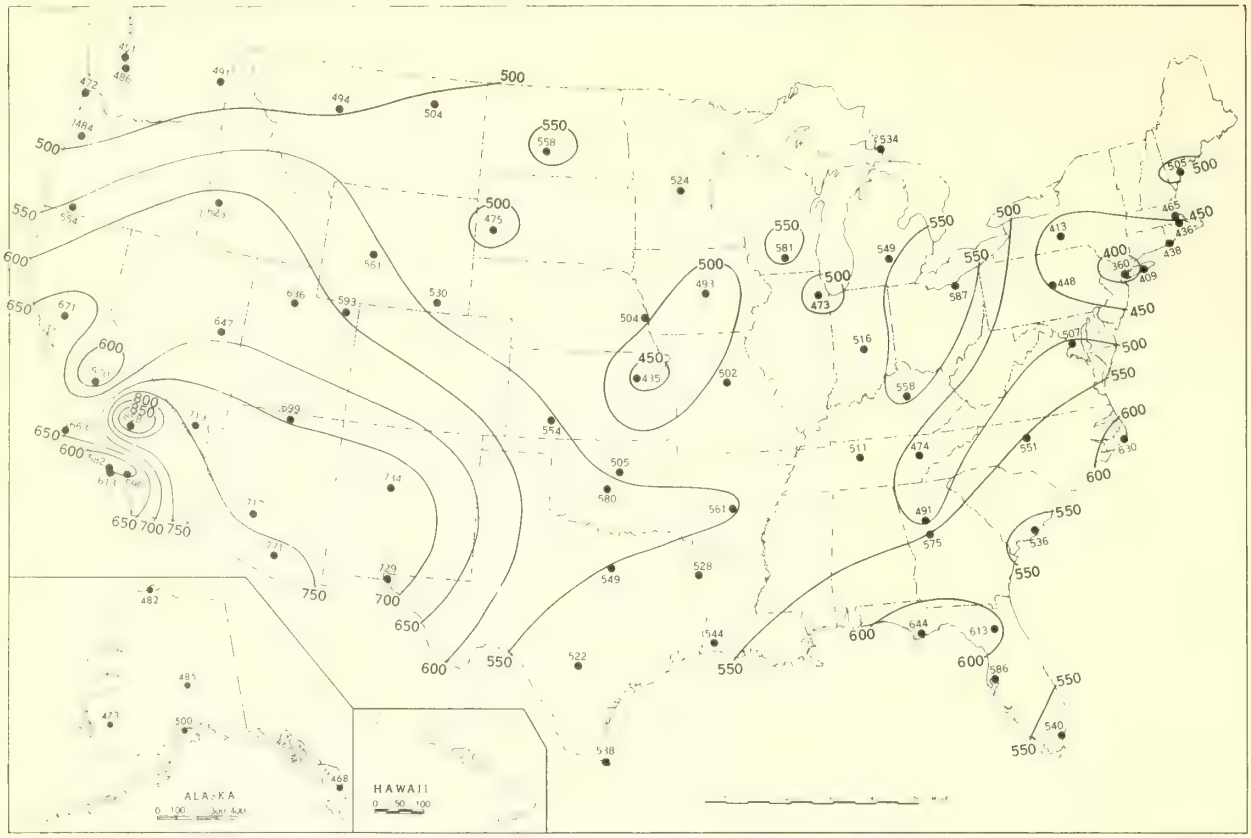


B. Percentage of Mean Monthly Sunshine, May 1961.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, May 1961.



B. Percentage of Mean Daily Solar Radiation, May 1961.

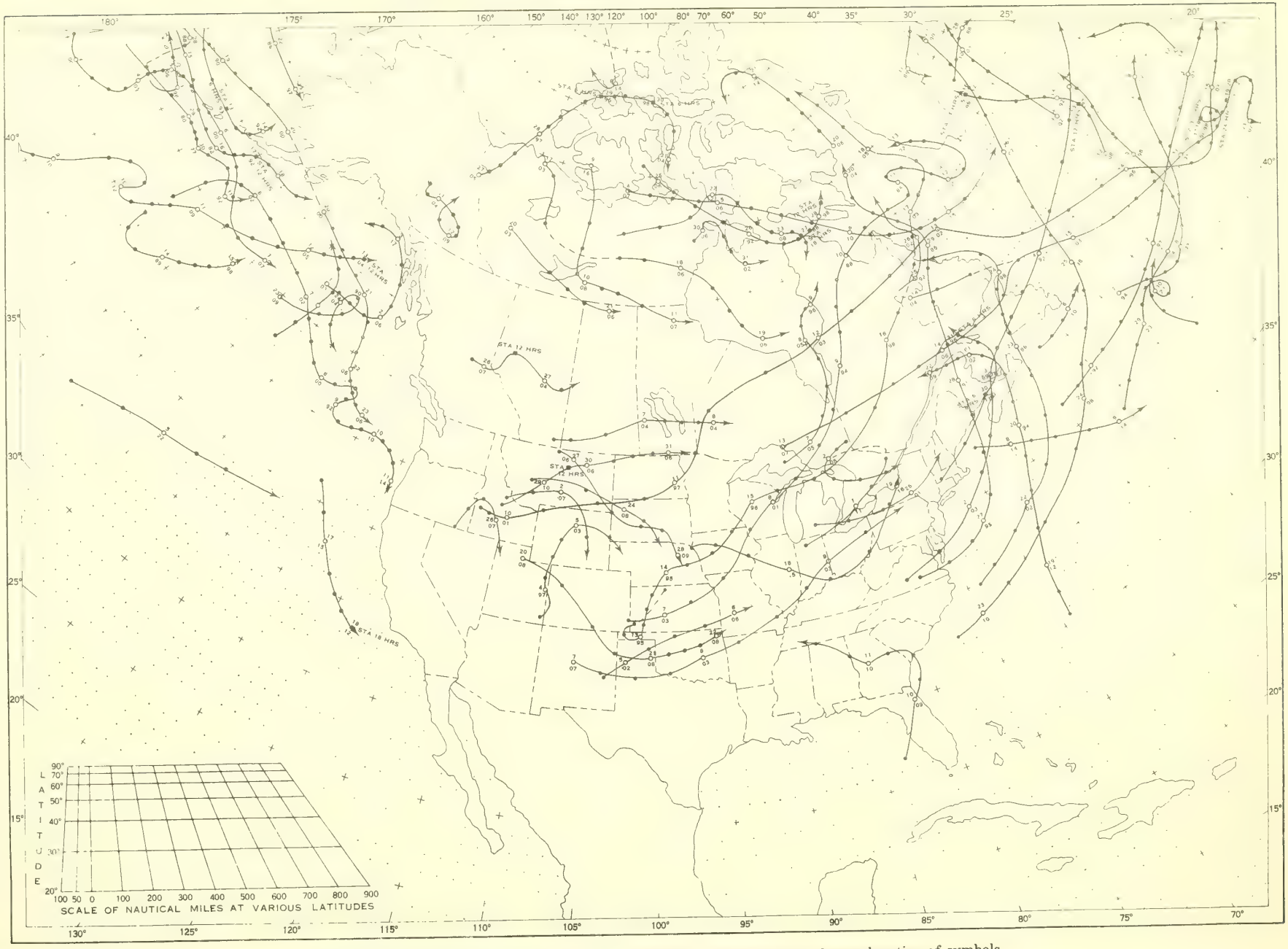
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956.

B. Percentage of the mean based on the period 1953-57, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, May 1961.

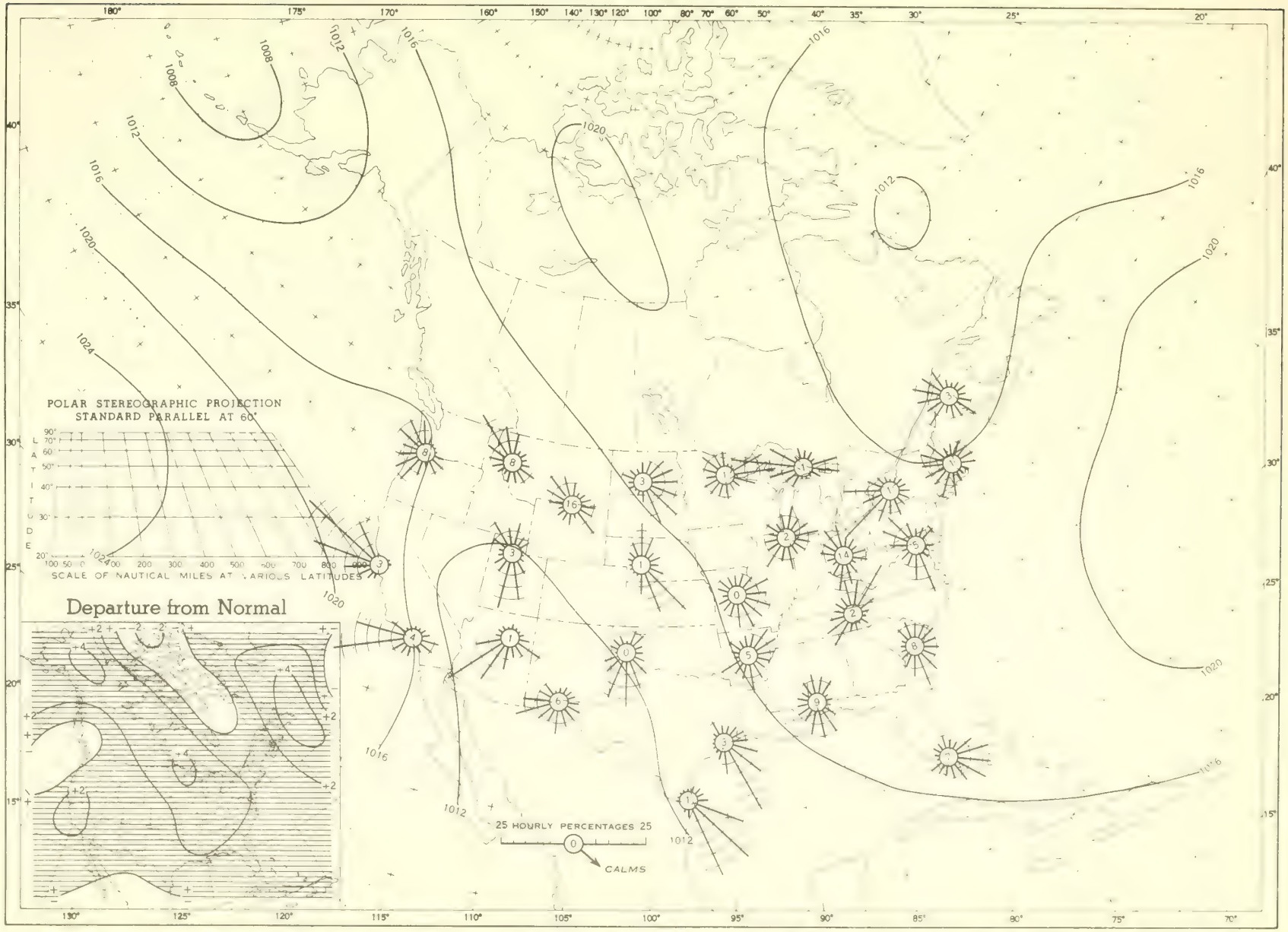
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, May 1961.



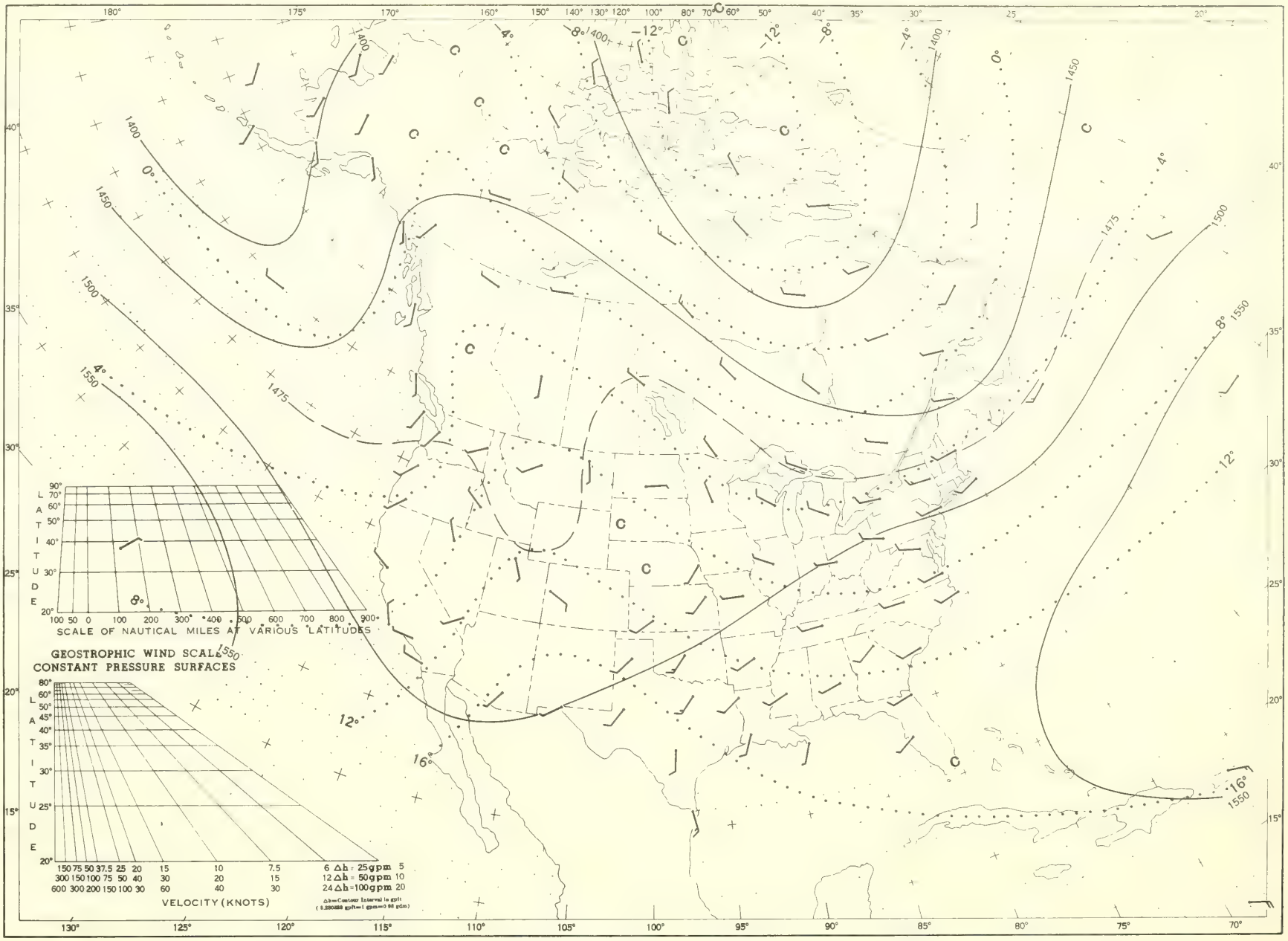
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, May 1961. Inset: Departure of Average Pressure (mb.) from Normal, May 1961.



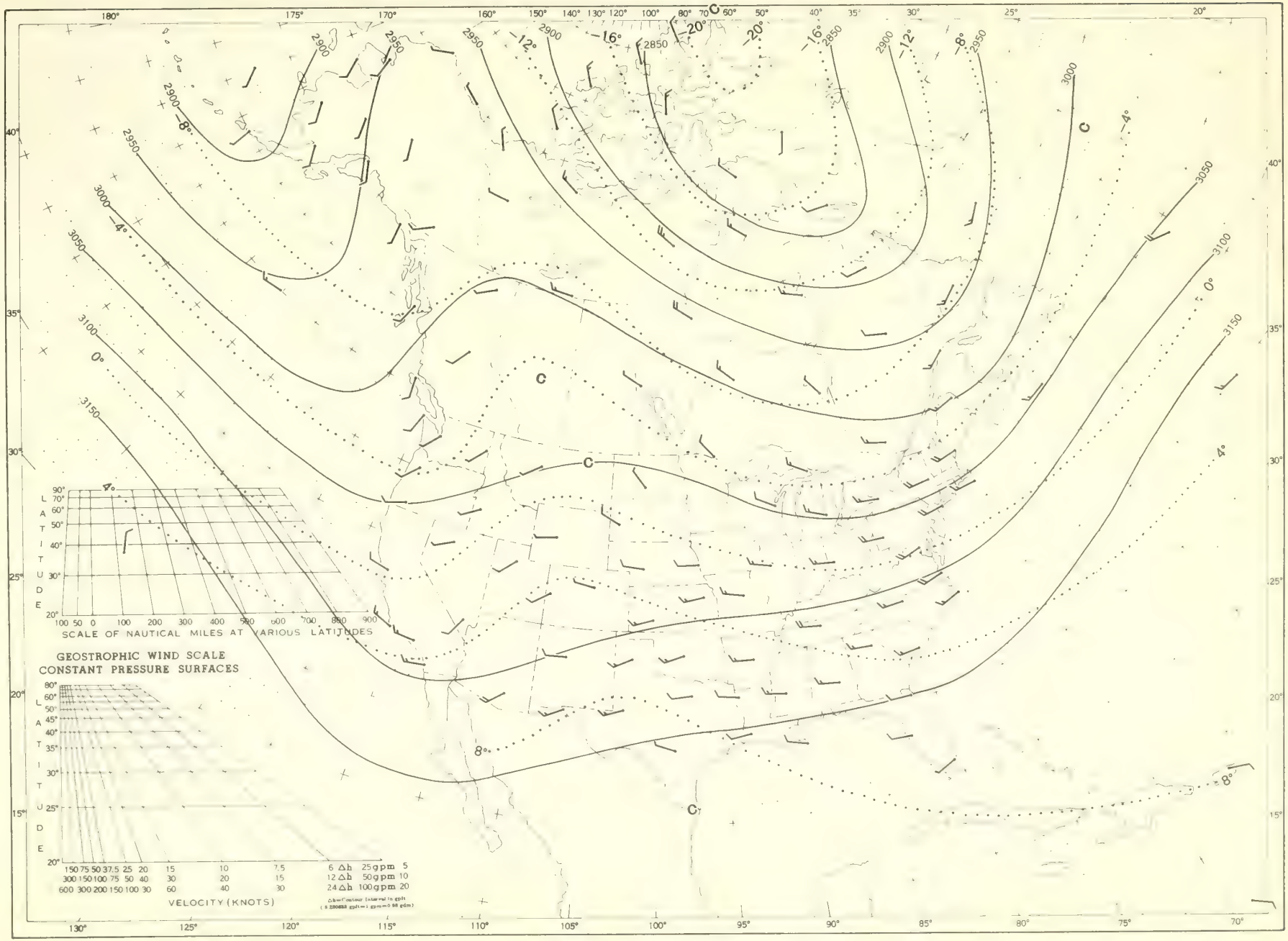
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, May 1961. Average Height and Temperature, and Resultant Winds.



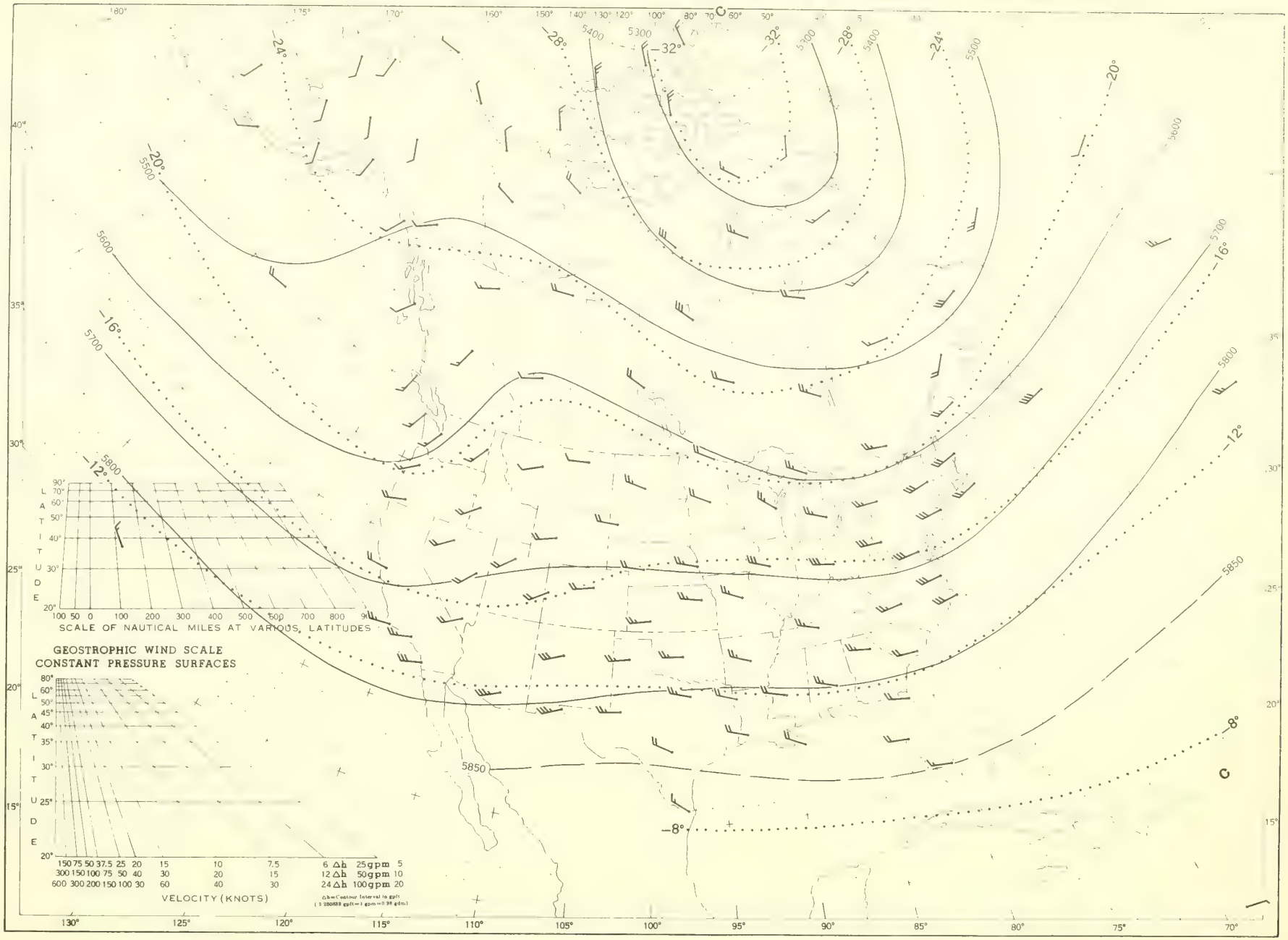
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, May 1961. Average Height and Temperature, and Resultant Winds.



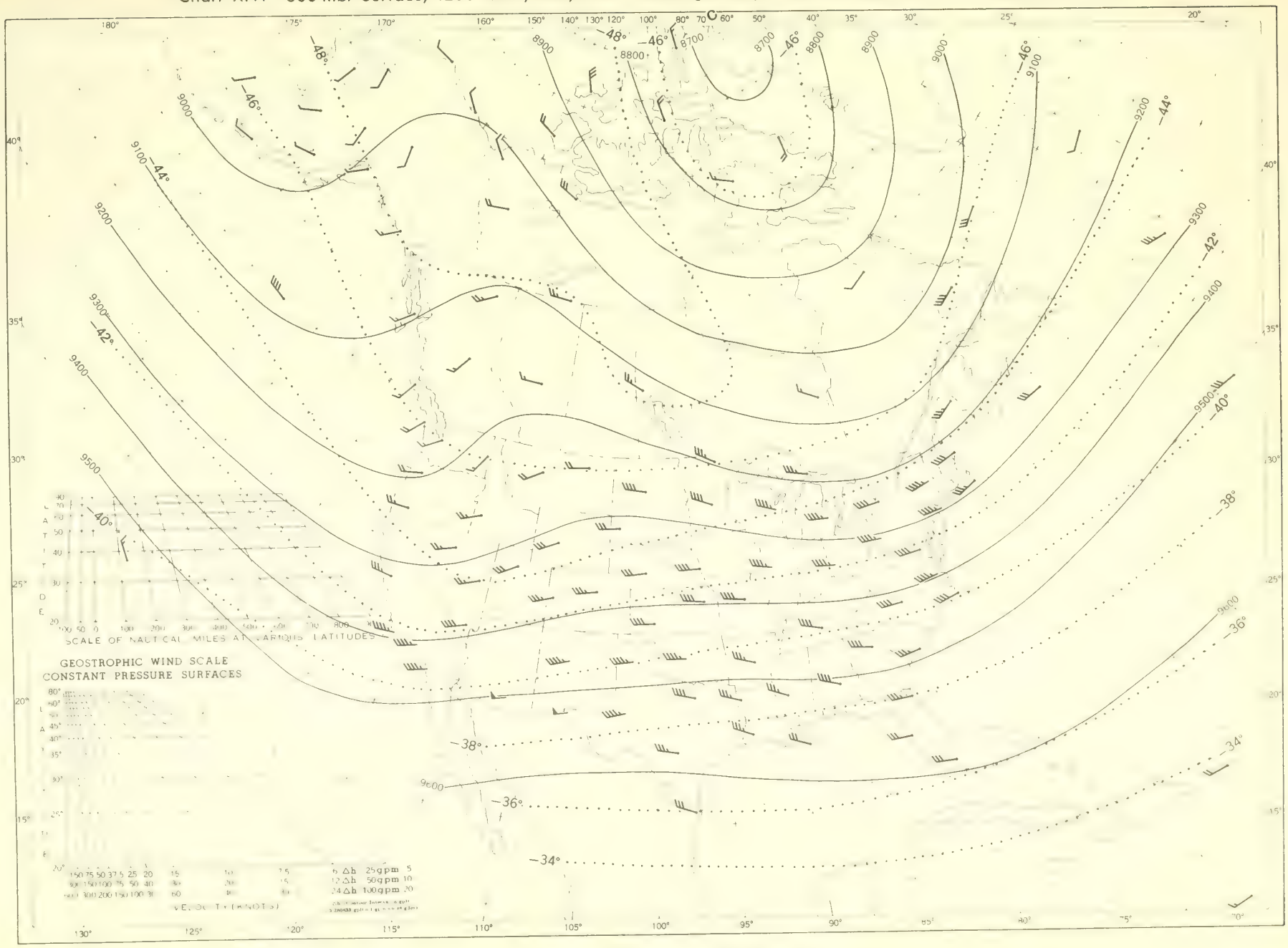
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, May 1961. Average Height and Temperature, and Resultant Winds.



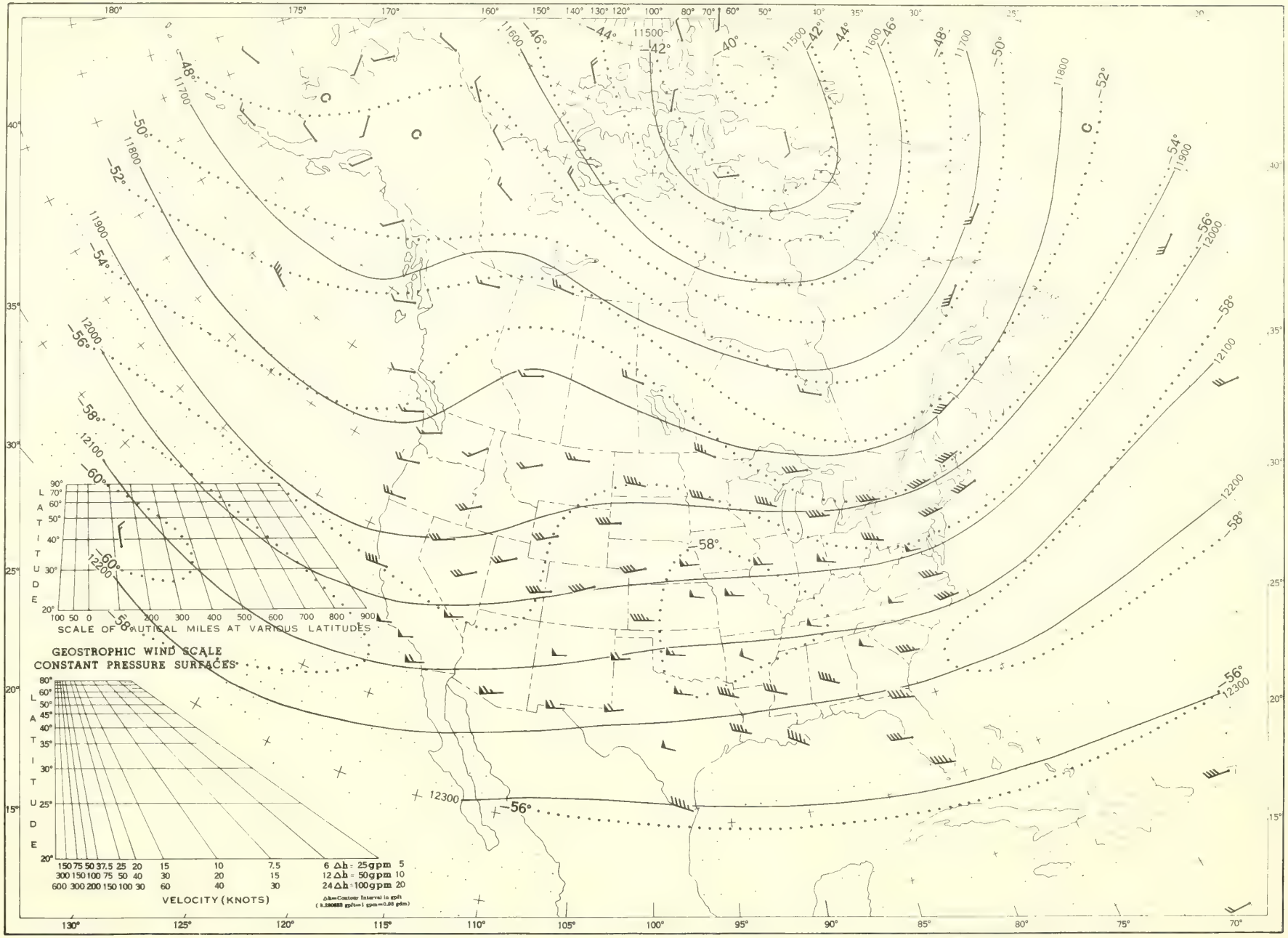
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, May 1961. Average Height and Temperature, and Resultant Winds.



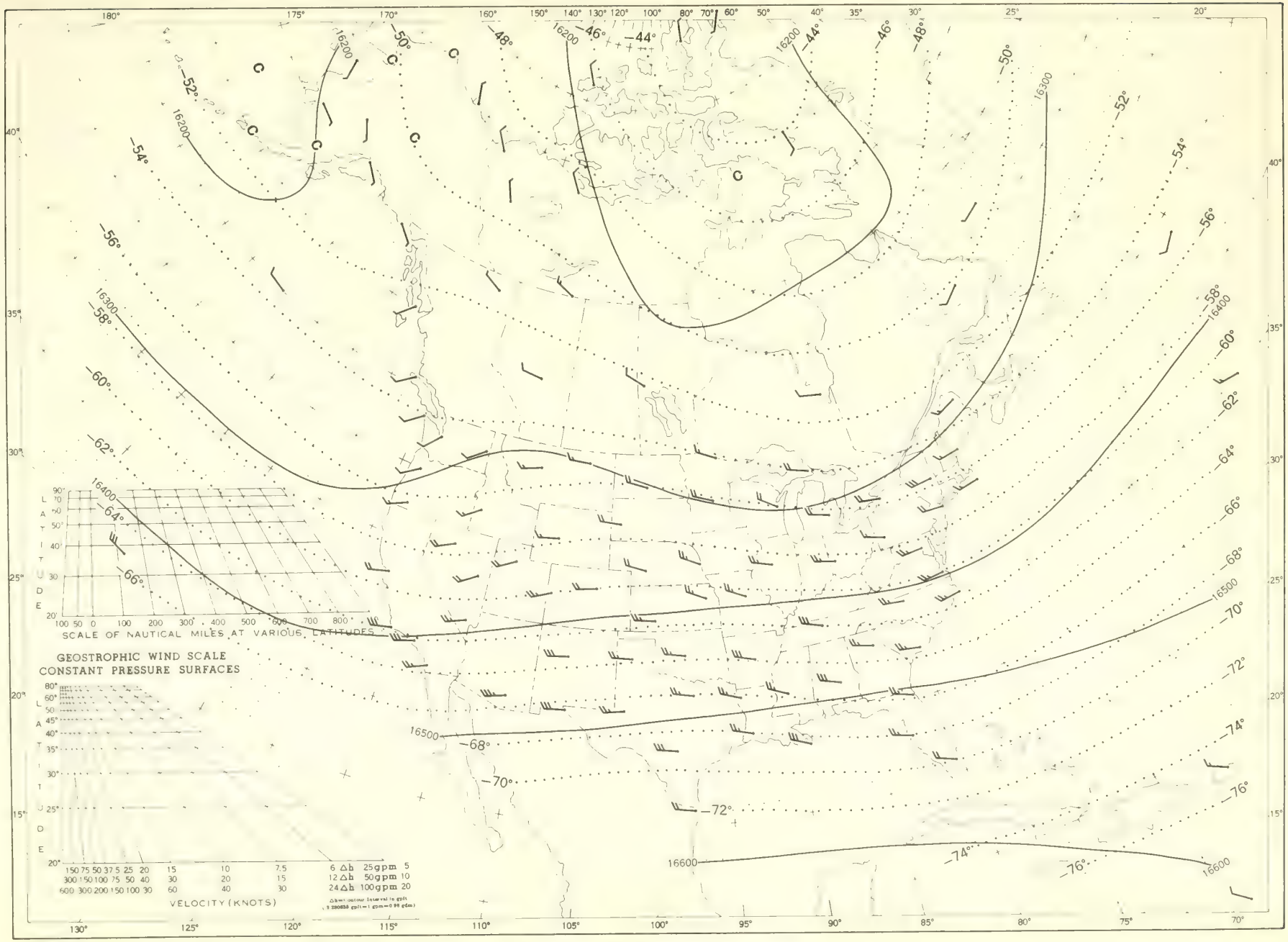
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, May 1961. Average Height and Temperature, and Resultant Winds.



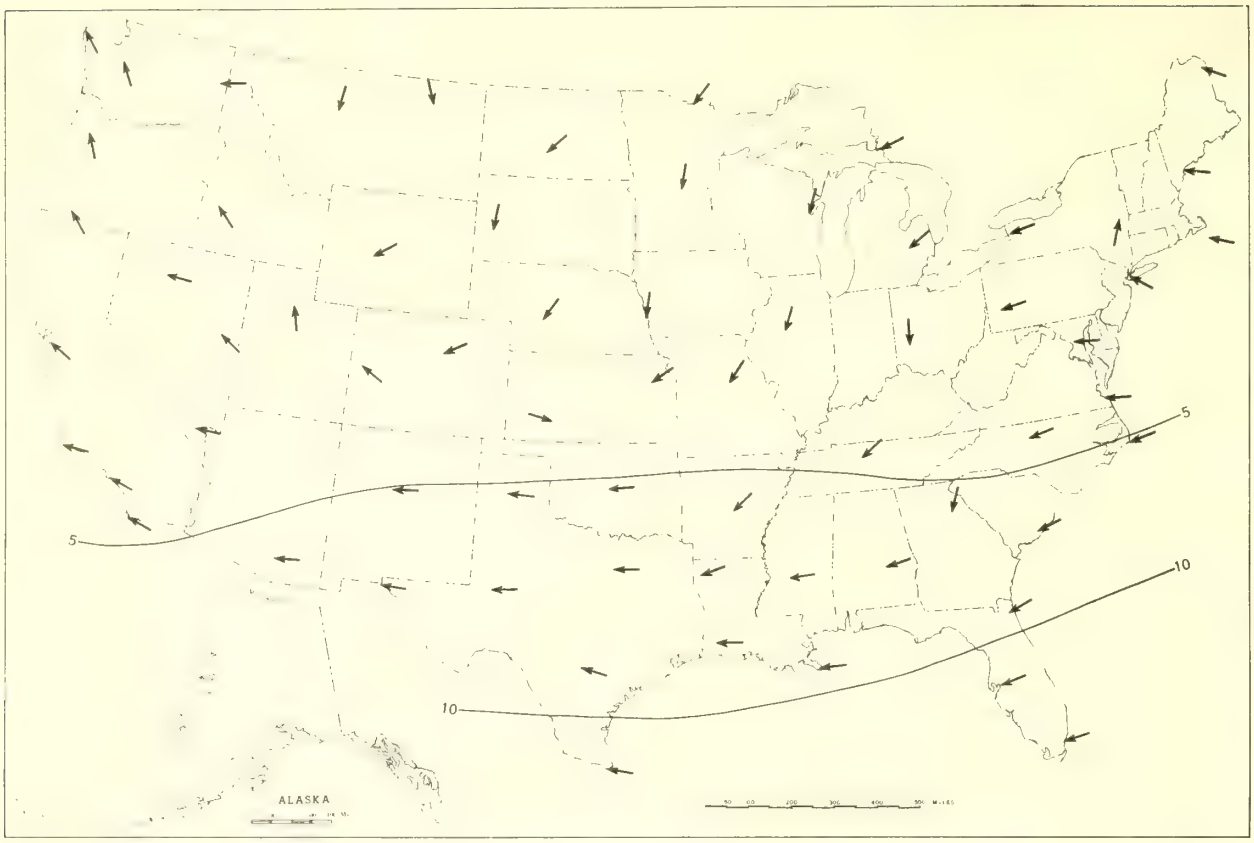
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, May 1961. Average Height and Temperature, and Resultant Winds.



See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, May 1961. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, May 1961. Resultant Winds.

Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

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CLIMATOLOGICAL DATA

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JUNE 1961
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ASHEVILLE: 1961

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 12 No. 6 JUNE 1961

GENERAL SUMMARY OF WEATHER CONDITIONS

Unseasonably cool weather in the southeastern quarter of the Nation for the third consecutive month was one of the outstanding weather features of June. Some stations in the Southeast reported the coolest June on record, and some the coolest May-June period on record. In contrast, the month was among the hottest Junes on record in the Far West. Drought intensified in the northern Great Plains, while heavy rainfall in the South caused considerable flooding in Texas and nearby States.

TEMPERATURE. --June temperatures generally averaged from 2° to over 6° below normal from the lower Great Plains to the Atlantic coast, in the Ohio River basin, and Michigan. Temperatures in this area during the first half of the month were near to above normal on several days, but were persistently well below normal during the second half. An extensive mass of cold air began pushing into the North Central Interior on the 14th and covered nearly all areas east of the Rockies by the 17th, reducing average daily temperatures to 10° below normal for 2 to 4 days at most interior stations. Other surges of cold air on the 19th and 22d kept temperatures well below normal in most areas east of the Rockies until the last 3 days of the month, when southerly winds caused temperatures to rise to 90° or above to the Canadian Border between the Rockies and Appalachians. Attesting to the magnitude of the cold were several scattered records. Lowest temperatures so late in June included 51° at Kansas City, Mo., on the 24th; 54° at Little Rock, Ark., on the 18th; 41° at Erie, Pa., on the 16th; and 47° at Raleigh, N. C., on the 18th. This was the coolest June on record at Louisville, Ky.; since 1910 at Charlotte, N. C.; in 32 years at Tallahassee, Fla.; since 1903 at Shreveport, La.; and since 1919 at Houston, Tex. At Atlanta, Ga., the temperature failed to rise to 90° for the first time in June since 1912. Average temperature for the period, April through June, was the lowest on record for Rome, Ga., and Raleigh, N. C.

In the Far West and northern Great Plains, the month was among the hottest Junes on record. Generally the hottest weather occurred early and late in the month in the northern Great Plains and during the third and fourth weeks in the Far West. Many heat records were set. Helena, Mont., reported its hottest June during a record beginning in 1880, and at Sheridan, Wyo., this June was as hot as the record-breaker of 1933. Boise, Idaho, had its hottest June since 1918 and the most days in June with 90° or 100° in the past 63 years. Stations reporting their highest temperatures for June included Salt Lake City, Utah, 104° on the 21st; Rapid City, S. Dak., 106° on the 29th; and Medford, Oreg., 109° on the 15th. Several stations in the Far Southwest on the 24th and 25th reported daily minima in the middle and high 80's, the hottest nights in that region in many years.

PRECIPITATION. --June precipitation was extremely heavy in the South Atlantic and Gulf States. In contrast, the month was unusually dry in the extreme upper Mississippi Valley, northern Great Plains, and Far West.

Heavy rains fell in Texas on the 17th and 18th, when 5 to over 11 inches caused flooding of most Gulf drainage streams in the southwestern, south-central and southeastern parts of the State. Galveston Airport measured 11.34 inches in 24 hours. Heavy rains of 3 to 6 inches in central Gulf areas on the 26th caused more flooding in east Texas and some flooding in southern portions of Louisiana and Mississippi.

Monthly rainfall ranged up to 16 inches in the Carolinas and to 10 inches in Virginia. Wilmington, N. C., measured 11.79 inches, its second greatest June total on record, and Spartanburg, S. C., with 9.89 inches had its wettest June since 1909. Pastures were excellent in these States at the end of the month, but wet soil hampered harvesting and cultivation.

In Montana, North Dakota, northern Minnesota, northeastern Wyoming, and extreme western South Dakota, rainfall for June was less than 50 percent of normal and in some sections less than 25 percent. Monthly totals were the least of record at Williston (0.43 inch) and Devils Lake (0.94 inch), N. Dak. Hot, dry weather created a drought in these areas by the end of the month.

Precipitation was below normal in nearly all the Far West. Nearly 300 stations in Arizona and southern California had no rain at all. Hot, dry weather continued the severe drought in Utah and Nevada (considered to be the worst drought since 1934 and perhaps on record in the latter State), and created a high fire hazard throughout most of the Far West. In central Oregon a range fire set by lightning on the 23d burned over 20,000 acres before being brought under control.

DESTRUCTIVE STORMS AND UNUSUAL WEATHER PHENOMENA. --Numerous severe local storms, as usual, occurred in the midcontinent area during the month. One of the worst of these was a tornado which killed 1 person, injured 50, and caused considerable property damage in Ravenna, Ky., on the 9th.

A very unusual weather-caused event was reported from Great Falls, Mont. During a thunderstorm on the 29th, the front and rear windows on a number of cars parked at the air base east of the city broke outward due to a sharp pressure change.

CONDENSED CLIMATOLOGICAL SUMMARY

JUNE 1961

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Geneva	100	12	Oneonta	47	1	Melvin	14.48	Wilson Dam	2.84
Arizona	Davis Dam No. 2	121	24	Maverick	17	3	Granville	2.55	64 Stations	.00
Arkansas	Jonesboro	97	30	Gravette	45	21	Crossett 7S	7.86	Evening Shade 1NE	.58
California	Death Valley	125	21+	White Mountain 2	11	1	Davis Creek	2.06	227 Stations	.00
Colorado	Julesburg	105	30	Wagon Wheel Gap 3N	21	2	Ruxton Park	5.10	2 Stations	.00
Connecticut	2 Stations	95	14+	Coventry	30	16	Salisbury	5.96	Mansfield Hollow Dam	1.76
Delaware	Milford 3WNW	94	13	Selbyville	45	17	Dover	6.80	Selbyville	2.22
Florida	4 Stations	100	13+	Starke	50	2	Milton Exp Station	12.49	Plant City	1.50
Georgia	3 Stations	99	13+	Blairsville Exp Sta	43	1	Flat Top	14.15	Brunswick	1.72
Idaho	Swan Falls PH	109	20	Warren	25	30	Grangeville	3.17	2 Stations	T
Illinois	2 Stations	98	30+	Monmouth	38	16	Sidell	9.15	Hillsboro	.67
Indiana	do	96	30	Greensburg 3SW	38	16	Crawfordsville Pwr Pl	8.01	Shelbyville Sewage P	1.26
Iowa	Sioux City WB AP	104	30	Cascade	37	16	Muscatine	10.77	Washington	.34
Kansas	2 Stations	106	29+	2 Stations	46	20+	Long Island	8.19	Lecompton	1.10
Kentucky	do	96	30+	Grayson 1SE	36	16	Bowling Green	10.38	Brent Dam 36	2.27
Louisiana	5 Stations	96	29+	Franklinton 3SSE	52	1	Golden Meadow 9NW	14.17	Clinton	2.78
Maine	2 Stations	93	13	Squa Pan Dam	28	15	Jonesboro	4.73	Bangor Dow Field	1.88
Maryland	Worcester Police Brks.	97	2	2 Stations	35	17+	Owings Ferry Landing	7.62	Salisbury Police Brks.	2.55
Massachusetts	4 Stations	95	14+	West Cummington	30	16	Pelham	6.41	New Bedford	.67
Michigan	2 Stations	96	30+	5 Stations	29	20+	Kincheloe AF Base	6.94	Grand Haven Fire Dept	1.16
Minnesota	Hallock	102	18	Cook 18W	28	21+	Blue Earth	5.12	Isle 12N	.22
Mississippi	3 Stations	95	11+	Batesville	50	19	Forest	13.85	Sardis Dam	1.24
Missouri	Trenton	98	30	Waynesville 2W	39	17	Nevada Sewage Plant	8.47	Mountain Grove 2N	.80
Montana	Marpeth 4NNW	108	29	2 Stations	27	14+	Loring 1N	4.15	Belfry 8SSW	T
Nebraska	2 Stations	107	29	Nenzel 20S	37	3	Blair	7.14	Agate	.42
Nevada	N Las Vegas Doxarm	119	25+	Fish Creek Ranch	21	5	Sheldon	1 63	9 Stations	.00
New Hampshire	Manchester	94	14	Fabyan	26	7	First Conn Lake	5.66	Hanover	1.81
New Jersey	2 Stations	98	14+	Layton 3NW	35	16	Fortescue	5.33	Phillipsburg	1.00
New Mexico	do	108	24+	4 Stations	20	5+	Cloudcroft RS	4.23	5 Stations	.00
New York	NYWB La Guardia	97	13	Lake Placid Club	22	7	Locke 4W	9.58	Greenport Power House	1.49
North Carolina	New Bern FAA Airport	97	3	Transou	36	18	Kinston	16.85	Asheboro 2W	2.84
North Dakota	4 Stations	106	27	Willow City	31	20	Ellendale	4.48	Minot FAA Airport	.15
Ohio	Ashtabula	98	13	2 Stations	35	16+	Westerville Water Plant	7.71	Lancaster 4SW	1.53
Oklahoma	Hollis	105	22	3 Stations	48	21	Wichita Mt WLR	9.89	Eufaula Dam	1.12
Oregon	3 Stations	110	17+	Brothers	23	30	Condon	3.38	2 Stations	T
Pennsylvania	2 Stations	96	30+	Coudersport 3NW	29	16	Newell	8.00	Myerstown	1.50
Puerto Rico	Manati	96.	21	2 Stations	60	21+	Mayaguez Airport	11.37	Fredericksted Fort	.41
Rhode Island	Providence WBAP	93	13	Kingston	37	16	Woonsocket	2.65	Block Island WBAP	.94
South Carolina	Ridgeland 2SE	100	7	Caesars Head	34	19	Walhalla	16.26	Batesburg	1.86
South Dakota	2 Stations	107	29+	Deerfield 5NW	26	3	Salem	6.23	Hereford	.23
Tennessee	4 Stations	95	30	Mountain City 2	41	18	Haw Knob	11.27	Memphis WB Airport	1.49
Texas	2 Stations	106	25+	Mount Locke	42	15	Freeport 5NW	18.41	3 Stations	.00
Utah	St George PH	110	23+	2 Stations	23	2	Pineview Dam	1.48	18 Stations	.00
Vermont	Bellows Falls	93	14	West Burke	19	1	Chittenden	6.30	Woodstock 3ENE	1.76
Virginia	Newport News Press Bldg	96	3	2 Stations	36	17+	Lawrenceville	10.80	Augusta Springs 1NE	1.85
Washington	John Day Dam	112	18	do	29	30+	Chesaw 4NNW	3.65	Waterville	.14
West Virginia	4 Stations	95	13+	Canaan Valley	29	16	Hastings	9.88	Jodie	2.75
Wisconsin	Gurney	100	28	4 Stations	28	15	Appleton	7.05	Superior 7SE	.58
Wyoming	Spencer 10NE	109	29	Bondurant 3NW	24	14	Pine Bluffs	3.88	2 Stations	.00

+ And also on an earlier date or dates.

NOTE: Dates in the Above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	991.9	1016.9	86	64	75.0	- 2.4	94	5	55	27	14	0	64	73	4.85	0.64	1.16	13	7	0.0	0	7.1	SW	27	SW	24	6	7	17	6.9	56
HUNTSVILLE	605	993.8	1016.7	85	63	73.8		92	30+	53	18	9	0	63	74	4.46		1.98	13	11	0.0	0	5.7	SE	21*	NNW	15	7	8	15	6.6	
MOBILE	211	1014.6	1016.8	86	68	77.0	- 2.6	91	6	62	2	7	0	68	78	13.07	6.98	7.38	12	9	0.0	0	7.9	SSW	28*	SSW	20	5	8	17	7.1	
MONTGOMERY	195	1008.7	1016.7	86	66	75.9	- 3.7	94	11	60	8+	16	0	68	80	5.10	0.41	2.68	13	9	0.0	0	6.7	SW	24	SW	14	5	8	17	6.9	51
ALASKA																																
ANCHORAGE	90	1008.1	1013.4	63	47	54.9	1.2	77	19	33	4	8 5	0	42	65	1.12	0.23	0.37	8	0	0.0	0	7.2	SSE	18*	SSE	7	1	12	17	7.9	48
ANNETTE	110	1013.2	1017.1	60	49	54.6	0.3	73	17	42	13	1	0	46	76	5.18	0.49	0.99	17	0	0.0	0	9.0	SSE	25*	SE	4	1	5	24	9.1	
BARROW	22	1014.2	1014.9	38	31	34.6	0.7	63	17	26	5	0	23	32	89	0.08	-0.05	0.05	4	0	0.3	4	12.0	E	35*	SW	18	4	3	23	8.2	
BARTER ISLAND	39	1012.5	1014.6	40	31	35.4	0.1	67	18	27	27+	0	26	32	87	0.80	0.38	0.36	8	0	0.8	T	11.0	ENE	28*	E	10	1	6	23	8.6	
BETHEL	125	1012.2	1013.9	55	41	47.8	- 4.8	65	20	34	1	0	0	42	82	1.16	-0.04	0.32	12	0	0.0	0	13.6	NW	32*	SSE	30	0	7	23	8.7	
COLD BAY	94	1013.9	1017.4	50	41	45.2	- 0.5	58	23+	35	4	0	0	40	83	0.12	-2.52	0.06	6	0	0.0	0	14.2	WNW	44*	SSE	30	0	2	28	9.3	
CORDOVA	40	1012.9	1014.5	58	42	50.1	0.	76	18	32	4	1	1	45	83	7.52	3.33	2.07	20	0	0.0	0	5.6	E	16*	W	25+	2	4	24	8.5	
FAIRBANKS	436	994.2	1011.2	70	48	58.8	- 0.5	79	28	36	4	18	0	45	61	0.66	-0.71	0.38	8	1	0.0	0	6.9	SW	21*	ENE	4	1	12	17	7.6	
JUNEAU	17	1014.2	1015.1	60	45	52.4	- 1.2	75	18	39	17+	2	0	45	78	3.22	0.04	0.88	17	0	0.0	0	9.7	ESE	30*	ESE	1	1	1	28	9.2	34
KING SALMON	44	1011.5	1013.5	57	42	42.3	- 2.1	66	18	33	4	0	0	43	81	1.23	-0.41	0.54	14	1	0.0	0	8.0	SW	25*	S	30	0	2	28	9.5	
KOTZEBUE	10	1011.9	1012.5	48	37	42.6	- 0.7	65	28	32	14+	0	3	38	87	0.83	0.34	0.59	9	0	0.3	T	13.2	WNW	32*	NW	13+	0	10	20	7.9	
MC GRATH	334	1000.0	1012.9	63	45	54.3	- 1.4	73	28	34	2	4	0	43	69	1.69	-0.37	0.46	11	4	0.0	0	6.9	SSW	20*	SSW	30	0	3	27	8.7	
NOME	13	1012.2	1012.9	48	37	42.9	- 2.9	64	5	32	10+	0	4	38	83	2.80	1.72	1.23	15	0	0.0	0	11.6	SE	30*	ESE	30	3	7	20	8.0	30
SHEMYA	122	1009.8	1013.6	43	39	41.1		46	20+	33	5	0	0	40	96	2.12		1.06	13	0	0.0	0	14.9	SW	41*	S	16	0	0	30	9.9	
ST. PAUL ISLAND	22	1015.2		46	37	41.4	- 0.1	49	13+	27	1	0	8	39	91	1.22	-0.09	0.56	12	0	0.0	0						0	3	27	9.3	
YAKUTAT	28	1013.9	1014.9	58	44	51.0	1.5	81	18	36	7	1	0	46	84	6.29	1.33	0.81	19	0	0.0	0	8.7	ESE	26*	SE	1	1	6	23	8.7	
ARIZONA																																
FLAGSTAFF	6993			81	45	63.1	4.8	90	19	27	1	1	1			0.37	-0.16	0.25	3	8	0.0	0						15	12	3	3.8	
PHOENIX	1109	969.5	1007.4	105	72	88.6	4.7	114	25	56	3+	30	0	43	21	T	-0.06	T	0	0	0.0	0	7.4	W	35*	NE	17	23	5	2	2.2	97
PRESCOTT	5014	847.3	1010.2	91	58	74.4	4.3	101	20	43	3+	19	0	31	24	0.40	0.17	0.22	2	8	0.0	0	8.3	SSW	42	E	23	20	9	1	2.6	88
TUCSON	2584	922.5	1007.9	100	70	84.7	2.6	106	25+	52	3	29	0	39	22	0.26	-0.04	0.26	1	5	0.0	0	11.2	WNW	50	SE	15	19	8	3	2.8	96
WINSLOW	4880	851.0	1007.9	96	57	76.6	5.2	105	22	42	2	25	0	29	19	T	-0.29	T	0	2	0.0	0	9.8	SW	35*	W	26	18	11	1	2.9	
YUMA	199	1003.1	1008.0	107	75	90.9	3.1	119	14	59	1	29	0	49	28	T	-0.01	T	0	1	0.0	0	8.9	WSW	32	SE	21	26	4	0	1.0	98
ARKANSAS																																
FORT SMITH	449	998.9	1015.5	86	64	75.0	- 3.3	94	29	57	26+	10	0	64	73	3.99	-0.32	2.04	7	7	0.0	0	5.7	NE	32	W	5	7	12	11	6.0	60
LITTLE ROCK	257	1002.8	1015.9	87	64	75.8	- 2.7	95	30	54	18	11	0	64	71	1.48	-1.95	0.94	7	5	0.0	0	7.3	WSW	24	E	10+	5	13	12	6.2	57
TEXARKANA	361		1015.6	84	66	75.1	- 4.8	91	30+	59	17+	7	0	67	82	7.54	3.69	3.59	10	7	0.0	0	5.7	SSW								
CALIFORNIA																																
BAKERSFIELD	494	993.9	1011.6	96	68	82.0	5.1	113	16+	53	2	19	0	53	39	0.00	-0.09	0.00	0	0	0.0	0	7.2	NNW	22*	NNW	11	25	4	1	1.2	
BISHOP	4108	872.7		96	56	75.6	6.2	108	21	38	1	24	0			0.16	0.06	0.16	1	1	0.0	0						23	5	2	2.6	
BLUE CANYON	5280	840.8		75	58	66.4	7.4	90	21+	38	1	2	0			0.30	-0.74	0.30	2	0	0.0	0	7.1	SSW	33	ENE	14	23	3	4	2.3	
BURBANK	699	986.8	1013.1	82	58	69.9	2.4	94	15	52	2	6	0	54	65	T	-0.07	T	0	0	0.0	0	7.1	ESE	18*	ESE	15	18	10	2	2.9	
EUREKA	43	1014.9		61	52	56.4	0.8	73	16	48	30	0	0			0.50	-0.16	0.39	4	0	0.0	0	7.0	NW#	25	NW	30	5	10	15	6.4	50
FRESNO	331	999.3	1011.0	95	63	78.8	3.1	110	16	53	9	17	0	50	40	0.01	-0.10	T	1	0	0.0	0	7.9	WNW	24	NW	11	24	5	1	1.3	94
LONG BEACH	34	1011.9	1013.6	75	58	66.7		91	30	50	2	1	0	56	76	0.13		0.13	1	0	0.0	0	6.8	S	17*	S	2	9	18	3	4.3	
LOS ANGELES	99	1009.8	1013.7	71	59	65.0	0.3	80	28	53	2	0	0	57	79	T	-0.07	T	0	0	0.0	0	7.5	WSW	21*	W	29	5	19	6	5.1	
LOS ANGELES U	312			78	59	68.8	1.0	90	28	54	2	1	0	55	69	T	-0.07	T	0	0	0.0	0	5.3	W#	16	W	2	19	9	2	3.0	76
MT. WILSON	5544	893.2		82	50	65.8	6.0	96	15	39	12	12	0			0.76	-1.47	0.50	4	2	0.0	0						20	6	4	2.5	
OAKLAND	3	1013.5	1014.0	73	56	64.4	2.8	104	14	50	29	2	0	52	70	T	-0.15	T	0	0	0.0	0	10.0	WNW	24*	NW	8	15	11	4	3.9	
POINT ARGUELLO	367	1000.7		64	51	57.3		79	15	48	30	0	0			0.02		0.01	2	0	0.0	0	8.1		21*	NW	8	4	12	14	6.8	
RED BLUFF	341	998.6	1011.1	96	65	80.4	4.4	113	15	54	8	18	0	49	38	0.27	-0.19	0.23	3	1	0.0	0	9.0	S	24	NW	30	22	5	3	2.3	91
SACRAMENTO	17	1010.8	1011.8	95	58	76.4	6.1	115	15	51	9	20	0	53	54	0.01	-0.10	0.01	1	0	0.0	0	8.7	SW	25	SW	17	22	7	1	1.8	94
SAN FRANCISCO	23			91	59	74.9	3.7	111	15	51	8	14	0			0.02	-0.12	0.02	1	0	0.0	0										
SANDBERG	4517	862.9		83	62	72.2	7.4	98	16+	37	1	12	0			0.00	-0.04	0.00	0	0	0.0	0	13.0	NNW	44*	NNW	8	28	1	1	1.0	
SAN DIEGO	13	1010.2	1013.2	70	59	64.7	- 0.9	82	30	55	1	0	0	56	77	T	-0.04	T	0	0	0.0	0	6.7	WNW	17	NW	29+	9	14	7	5.4	54
SAN FRANCISCO	9	1013.9	1014.6	73	54	63.2	3.5	106	14	49	30+	3	0	52	73	0.10	-0.03	0.10	1	0	0.0	0	14.6	WNW	38	NW	19+	17	8	5	3.4	
SAN FRANCISCO U	52			66	54	60.2	1.1	101	14	51	20+	1	0			0.04	-0.11	0.03	2	0	0.0	0	10.4	W#	30	W	7					77
SANTA MARIA	238	1005.3	[illegible]	76	51	60.3	0.2	83	15	46	30+	0	0	52	78	T	-0.14	T	0	0	0.0	0	8.2	WNW	26*	NW	12	23	5	2	3.1	
COLORADO																																
ALAMOSA	7546	774.5		74	42	60.8	2.2	87	22	31	4	0	1			0.51	0.02	0.32	5	11	0.0	0						7	21	2	4.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JUNE 1961

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max 90 F or above	Min 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 0.1 inch or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb	Mb.	F	F.	F	F	F		F				F.	%	In	In	In			In	In.	M.p.h.		M.p.h.							%
COLORADO																																
COLORADO SPRINGS	6173	814.4	1016.0	77	50	63.4	- 2.1	92	29	38	4	4	0	46	60	3.86	2.07	1.22	15	22	0.0	0	9.5	NNE	31*	NNW	14	7	17	6	4.9	
DENVER	5283	839.8	1014.6	81	51	66.1	- 0.3	95	29	40	16	7	0	45	52	1.11	-0.53	0.58	11	11	0.0	0	7.3	SSW	30	SW	3	9	16	5	5.0	69
GRAND JUNCTION	4849	858.5	1010.2	91	61	76.2	5.0	100	22	51	4	19	0	28	19	T	-0.45	T	0	4	0.0	0	10.8	ESE	39	NW	23	17	13	0	3.5	94
PUEBLO	4639	857.4	1013.2	84	55	69.6	0.5	98	30+	48	3	8	0	49	55	4.26	2.86	1.88	13	12	0.0	0	8.7	SE	47	N	13	12	11	7	4.8	73
CONNECTICUT																																
BRIDGEPORT	7	1014.4	1015.5	77	58	67.3	0.4	93	13	50	16+	1	0	58	75	2.06	-1.41	1.47	10	2	0.0	0	9.6	WSW	29	SW	10+	9	8	13	6.2	
HARTFORD	169	1008.2	1014.2	81	57	69.0	0.1	95	13	39	16	2	0	56	65	2.46	-1.16	1.29	9	4	0.0	0	7.9	S	24	SW	5	6	11	13	6.7	56
NEW HAVEN	6	1014.5		76	57	66.2	0.4	88	30	47	17+	0	0			2.40	-1.41	1.21	12	3	0.0	0	7.0		29	SW	10	6	11	13	6.3	67
DELAWARE																																
WILMINGTON	78	1011.7	1015.2	81	60	70.5	- 1.3	92	13	50	17	2	0	60	74	3.10	-0.92	0.80	13	7	0.0	0	8.7	WSW	28*	S	21	7	11	12	6.0	
DIST. OF COLUMBIA																																
WASHINGTON U	72			83	63	73.0	- 0.9	93	13+	52	16	4	0			4.40	0.98	0.96	12		0.0	0										
WASH NATL AP	14	1011.1	1015.6	82	64	73.2	- 0.2	92	2	54	17+	4	0	63	72	4.84	1.43	1.34	11	5	0.0	0	8.1	S	37	NW	2	10	10	10	5.4	66
FLORIDA																																
APALACHICOLA U	13	1014.8		85	72	78.6	- 1.3	89	10+	65	18	0	0			4.92	-0.55	3.22	6	6	0.0	0	6.6		29	SW	20	13	9	8	5.0	79
DAYTONA BEACH	31	1016.2	1017.9	86	68	76.8	- 2.3	94	15	57	3	3	0	68	78	6.81	0.12	2.41	12	16	0.0	0	7.8	SE	37*	SSW	15	5	8	17	6.9	
FORT MYERS	13	1016.5		91	73	82.1	1.5	95	6	65	2+	27	0			9.75	0.55	3.24	15	17	0.0	0	6.9		23*	NE	12+	5	11	14	6.7	
JACKSONVILLE	24	1016.5	1017.8	88	69	78.8	- 1.5	95	12+	60	18	15	0	68	75	5.27	-1.55	1.51	13	11	0.0	0	9.8	SW	32	S	21	6	11	13	6.4	58
KEY WEST	5	1015.5	1016.8	88	77	82.6	0.0	91	27	68	28	5	0	73	72	5.60	1.49	4.00	11	8	0.0	0	10.0	ESE	31	NW	28	1	11	18	7.4	71
LAKELAND U	214			90	71	80.2	0.1	94	30	67	19+	17	0			5.18	-2.93	1.60	11	18	0.0	0	6.0					5	11	14	6.7	63
MIAMI BEACH	9			85	77	81.1	- 0.4	88	27+	71	9	0	0			4.19	-0.84	1.21	14		0.0	0	7.8		24	W	10	2	18	10	6.6	62
MIAMI	7	1015.8	1017.1	87	75	81.1	- 0.2	92	22	70	2	5	0	72	75	10.48	3.66	4.07	13	12	0.0	0	9.1	ESE	25*	NW	16	2	8	20	7.7	
ORLANDO	106	1013.3	1017.6	91	70	80.6	- 0.2	98	12	64	2	19	0	69	74	8.08	0.23	1.42	11	14	0.0	0	8.3	SE	30*	SE	26+	5	8	17	7.0	
PENSACOLA U	13			84	71	77.3	- 2.3	89	4	66	18+	0	0			9.10	3.93	5.64	9	5	0.0	0	9.0		31	SW	20					57
TALLAHASSEE	58	1014.6	1017.3	88	66	77.3	- 2.4	94	12	60	4+	16	0	67	75	4.55	-2.17	1.60	12	12	0.0	0	7.6	S	35*	SW	14	2	19	9	6.4	
TAMPA	19	1016.2	1017.7	90	72	80.9	0.5	95	5	67	19+	20	0	69	72	2.64	-5.13	0.91	10	14	0.0	0	10.2	E	31*	SSE	26	4	11	15	6.8	54
WEST PALM BEACH	15	1016.1	1017.1	89	74	81.1	0.5	95	16	69	19+	12	0	71	76	2.65	-5.24	0.88	11	10	0.0	0	9.4	SE	27*	SSE	26	1	9	20	8.0	
GEORGIA																																
ATHENS	803	988.5	1017.4	84	63	73.8	- 5.1	92	12+	53	16	11	0	64	75	4.94	1.10	1.67	11	11	0.0	0	6.1	W	35*	SE	23	6	10	14	6.8	
ATLANTA	975	976.0	1017.0	81	64	72.7	- 5.0	88	12	56	16	0	0	63	76	7.38	3.36	2.75	16	13	0.0	0	9.3	W	29*	NW	23	7	10	13	6.6	56
AUGUSTA	143	1009.7	1016.4	87	65	76.2	- 3.0	96	8	52	19	16	0	65	73	3.32	-0.42	1.61	11	9	0.0	0	6.1	SW	46*	NNE	11	3	11	16	7.0	
COLUMBUS	385	1002.9		87	65	75.8	- 3.2	95	12+	58	19	15	0			4.32	0.37	2.46	8	5	0.0	0	6.7		23*	SSE	20	7	8	15	6.8	
MACON	356	1003.2	1016.8	88	66	77.2	- 3.7	96	8	56	19	17	0	64	70	3.92	0.17	2.12	11	7	0.0	0	8.0	WSW	32	E	20	9	6	15	6.5	64
ROME	637	993.6		83	61	72.1	- 5.3	90	30+	52	1	3	0			6.46	2.39	2.10	14	8	0.0	0						5	8	17	6.7	
SAVANNAH	48	1015.0	1017.5	88	67	77.5	- 1.5	96	7	57	19+	18	0	67	76	3.74	-1.43	1.48	10	10	0.0	0	8.1	SW	38	SW	15	5	13	12	6.2	65
THOMASVILLE U	283			89	68	78.3	- 1.4	97	12+	58	18	16	0			3.83	-1.02	1.16	9	10	0.0	0										
HAWAII																																
HILO	31	1015.2	1017.2	83	67	74.9	0.5	86	30+	64	9	0	0	66	76	3.04	1.39	0.80	18	0	0.0	0	14.0	NE	28	NE	19	1	19	10	6.5	66
HONOLULU	7	1016.6	1016.9	85	72	78.4	0.5	87	14	69	30+	0	0	65	66	5.78	-0.97	0.94	27	1	0.0	0	9.6	WSW	30*	ESE	30	3	14	13	6.6	52
LIHUE	115	1012.5	1017.9	84	72	77.9	1.7	86	26+	68	22	0	0	68	73	0.87	0.64	0.34	12	0	0.0	0	12.2	NE	34	NE	24	3	21	6	5.9	84
IDAHO																																
BOISE	2838	918.1	1012.2	89	57	72.9	7.8	104	17	44	30	14	0	43	39	0.55	-0.29	0.54	2	3	0.0	0	8.1	WNW	26	NW	21+	19	7	4	3.4	84
IDAHO FALLS 42NW R	4790			86	47	66.5	6.9	97	20	36	30	14	0			0.38	-0.70	0.35	2													
IDAHO FALLS 46W R	4933	849.0		85	50	67.5	7.9	97	22	40	30	13	0			0.54	-0.27	0.48	3	3	0.0	0	7.5	WSW	27A	SW	21					
LEWISTON	1413	963.1		87	56	71.4	5.1	102	17	45	10	11	0			0.51	-1.24	0.33	5	5	0.0	0						20	5	5	3.0	
POCATELLO	4444	863.5	1013.3	86	52	69.1	6.1	98	18	42	2	11	0	39	38	0.41	-0.61	0.26	4	4	0.0	0	9.2	WSW	44	W	27	16	9	5	4.0	81
ILLINOIS																																
CAIRO U	314	1002.3		85	66	75.3	- 2.5	93	30	54	16	6	0			7.28	3.44	5.91	7	7	0.0	0	7.1	SW#	31	W	8	6	11	13	6.1	72
CHICAGO O HARE	658	990.1	1014.6	80	55	67.4		92	29	41	16	4	0	53	63	4.20		2.26	7	6	0.0	0	9.2	SW	26*	NNE	14	11	11	8	5.1	
CHICAGO MIDWAY	610	992.1	1015.0	81	58	69.6	0.2	95	29	48	3	6	0	52	56	3.70	-0.45	1.79	8	8	0.0	0	10.0	SW	37	NW	24	10	11	9	5.0	80
MOLINE	582	992.0	1014.1	85	59	71.9	1.1	96	29+	42	16	8	0	56	60	3.69	-0.94	2.34	9	8	0.0	0	8.2	SSW	26	SE	29+	8	13	9	5.4	76
PEORIA	652	993.1	1015.3	82	57	69.4	- 1.5	94	29	43	16	4	0	56	65	3.39	-0.49	1.74	9	7	0.0	0	8.9	S	30	NW	24	8	14	8	5.4	68

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
ROCKFORD	728	987.7	1014.7	82	56	68.9	- 0.4	94	29	44	16	6	0	54	62	1.65	-2.97	0.66	11	11	0.0	0	9.7	SSW	25*	SSW	27+	11	12	7	4.8	
SPRINGFIELD	588	991.5	1014.6	83	59	71.0	- 0.9	95	29	44	16	8	0	57	65	2.43	-1.75	1.59	9	8	0.0	0	9.7	SSW	49	W	6	9	9	12	5.4	69
INDIANA																																
EVANSVILLE	383	999.6	1015.3	84	60	72.0	- 2.6	94	30	50	17	7	0	60	70	2.96	-0.91	1.03	7	4	0.0	0	7.6	SW	30	S	1	12	9	9	5.1	80
FORT WAYNE	801	984.3	1015.3	79	58	68.8	- 0.2	92	30	44	16	3	0	55	63	2.76	-0.80	1.31	12	5	0.0	0	10.7	SW	54	W	13	8	15	7	5.5	70
INDIANAPOLIS	793	985.8	1015.5	79	57	67.9	- 3.5	88	30+	46	16	0	0	58	71	3.47	-0.74	1.84	9	6	0.0	0	6.9	SW	36	SW	1	6	13	11	5.7	61
SOUTH BEND	768	986.7	1014.6	79	56	67.7	- 1.0	93	30+	44	16	3	0	54	67	3.66	-0.17	0.88	12	10	0.0	0	9.6	SSW	30*	NW	13	10	10	10	5.5	
IOWA																																
BURLINGTON	694	989.7	1015.3	83	59	71.1	- 0.6	95	29	45	16	5	0	56	62	2.38	-3.26	1.00	9	8	0.0	0	9.6	S	33	N	6	11	11	8	5.0	83
DES MOINES	948	984.3	1015.3	82	59	70.6	0.0	97	30	49	20	5	0	57	66	2.92	-2.07	1.59	9	9	0.0	0	10.3	S	42	SW	1	11	8	11	5.6	72
DUBUQUE	1065	989.2		79	56	67.7	- 0.1	91	29	45	15	2	0			3.11	-1.98	1.05	8	10	0.0	0						9	10	11	5.5	
SIOUX CITY	1095	973.5	1014.1	83	60	71.4	1.1	104	30	47	20	9	0	56	62	3.39	-1.02	2.71	6	5	0.0	0	10.8	SSE	43	N	21	14	5	11	5.2	72
WATERLOO	868	982.5	1014.3	82	57	69.3	0.1	94	29	43	16	6	0	57	67	2.59	-2.17	1.88	8	6	0.0	0	7.6	S	23*	NNW	23+	9	13	8	5.3	
KANSAS																																
CONCORDIA U	1375	964.9		83	63	73.3	- 0.6	100	30	54	20	6	0	59	64	2.75	-1.48	0.87	9	12	0.0	0	6.2	S#	25	W	5	12	11	7	4.8	73
DODGE CITY	2594	926.9	1013.2	84	61	72.6	- 0.9	99	29+	54	20+	10	0	57	62	4.06	1.05	1.20	12	11	0.0	0	10.9	SSW	40	NE	19	15	8	7	5.1	68
GOODLAND	3645	888.4	1013.3	83	55	68.9	0.4	102	29	47	20+	9	0	53	63	2.88	-0.14	0.95	9	11	0.0	0	10.4	SSE	29*	SSE	29+	14	12	4	4.4	
TOPEKA	877	979.2	1014.6	83	61	72.0	- 1.8	95	30+	50	24	4	0	61	71	2.43	-2.11	1.47	6	7	0.0	0	10.9	S	40	N	13	7	13	10	5.7	68
WICHITA	1321	965.8	1013.8	85	64	74.2	- 1.1	98	30+	53	21	7	0	61	66	2.61	-2.38	1.51	7	8	0.0	0	10.6	S	40	E	13	9	11	10	5.4	69
KENTUCKY																																
LEXINGTON	979	980.7	1016.2	80	60	70.1	- 2.9	90	30	46	16	1	0	59	73	5.12	0.91	1.55	13	7	0.0	0	8.0	S				10	8	12	5.6	
LOUISVILLE	474	996.3	1015.6	80	58	68.9	- 5.3	88	30+	47	16	0	0	61	78	3.59	-0.47	1.20	9	7	0.0	0	6.4	SSE	27	S	5	9	11	10	5.5	57
LOUISIANA																																
ALEXANDRIA	92	1011.4	1015.9	85	65	74.6		92	9+	59	28+	4	0	68	84	5.77		1.87	11	10	0.0	0	5.5	SSW				8	6	16	6.5	
BATON ROUGE	64	1013.2	1016.1	86	67	76.4	- 3.2	90	12+	61	27+	4	0	69	82	3.67	-1.35	1.20	11	9	0.0	0	8.1	SE				3	12	15	6.9	
BURWOOD R	5		1016.8	84	75	79.4	- 1.6	88	16+	71	29+	0	0	72	80	4.19	0.32	2.92	5	6	0.0	0	7.8	S								
LAKE CHARLES	12	1013.9	1015.3	86	70	78.3	- 2.4	92	9	67	27+	3	0	68	73	5.31	0.26	2.40	10	3	0.0	0	4.4	S	20*	E	19	8	7	15	6.6	
NEW ORLEANS U	9	1014.2		86	73	79.8	- 2.1	91	24	70	27+	4	0	70	76	12.33	6.76	4.27	15	12	0.0	0	5.3		20	SW	20	5	19	6	5.3	73
NEW ORLEANS	3	1014.1	1016.1	86	69	77.3	- 3.2	90	12	59	3	1	0	69	77	8.01	2.38	2.63	14	10	0.0	0	6.8	SW	21*	SW	20+	9	8	13	5.9	
SHREVEPORT	252	1006.8	1016.0	85	66	75.5	- 5.7	92	13	59	17+	10	0	65	75	12.39	9.75	4.10	14	7	0.0	0	9.1	S				7	9	14	6.4	65
MAINE																																
CARIBOU	624	987.9	1011.1	71	49	60.2	1.8	84	12	34	1	0	0	49	69	3.02	-0.93	0.70	16	6	0.0	0	10.6	SSE	32*	NW	29	3	11	16	7.2	
PORTLAND	61	1010.6	1013.2	75	50	62.6	0.8	90	13	35	7	1	0	53	73	3.11	-0.21	1.04	8	4	0.0	0	8.8	S	31	SW	5	6	12	12	6.1	65
MARYLAND																																
BALTIMORE	146	1010.8	1015.8	83	60	71.4	- 0.8	94	13+	49	17	4	0	61	72	5.19	1.67	1.70	15	8	0.0	0	8.9	W	41	NW	9	9	12	9	5.5	67
BALTIMORE U	14			83	65	74.0	- 0.3	95	2	54	16	5	0			3.18	-0.34	1.08	11													
FREDERICK	294			81	57	69.2	- 3.4	90	13+	43	16	3	0			4.82	0.86	0.83	14		0.0	0										
MASSACHUSETTS																																
BLUE HILL OBS R	629	990.2		77	56	66.8		91	13	45	16	1	0		72	1.62	-2.56	0.43	12		0.0	0	14.3	WSW	40	SSW	21					58
BOSTON	15	1008.8	1013.5	79	59	68.9	1.7	95	13	49	16	2	0	55	66	1.67	-1.81	0.43	8	5	0.0	0	11.4	SW	30	NNW	6+	6	11	13	6.3	65
NANTUCKET	43	1014.5	1015.3	65	55	60.2	- 0.7	74	13	49	8	0	0	55	86	2.16	-1.08	1.21	9	4	0.0	0	11.8	SW	33	SW	10	7	5	18	6.8	54
PITTSFIELD	1170			75	51	63.1	0.1	88	13	36	16	0	0			3.61	-0.98	1.02	12		0.0	0										
WORCESTER	986	977.6	1014.0	76	56	66.0	0.6	89	13	46	15+	0	0	54	68	2.29	-1.65	0.96	8	3	0.0	0	7.7	WSW	21*	SW	3	5	14	11	6.8	
MICHIGAN																																
ALPENA	689	988.3		73	45	59.1	- 3.4	93	29	31	20+	1	2			2.70	0.09	0.65	12	9	0.0	0	7.4	SW#	39	NW	2	8	10	12	5.9	62
DETROIT	619	988.3	1014.7	79	57	67.9	- 0.2	94	30	45	16	5	0	53	61	2.74	-0.16	1.36	10	4	0.0	0	9.9	W	36	NW	1	10	10	10	5.5	69
DETROIT M WAYNE CO	630	990.5	1014.3	78	55	66.5		93	30	43	16	3	0	54	66	3.17		0.87	12	6	0.0	0	10.7	WSW				10	12	8	5.4	
DETROIT WILLOW RUN	722	986.3	1014.4	80	56	67.7	- 0.9	96	30	46	21+	3	0	53	63	3.21	-0.05	1.18	8	4	0.0	0	11.3	SW	35*	SE	13	9	12	9	5.6	
ESCANABA U	594	990.9		70	50	60.3	- 0.4	94	29	39	3	1	0	50	72	4.00	1.20	1.27	12	6	0.0	0	9.9		38	NW	2	9	15	6	5.3	64
FLINT	766	987.0	1014.8	77	53	64.7	- 2.7	92	30	42	21+	2	0	53	68	2.92	-0.09	1.67	11	7	0.0	0	8.7	WSW	25*	NNW	13	9	10	11	5.8	
GRAND RAPIDS	681	989.5	1014.6	78	54	65.9	- 0.8	92	30	41	24	3	0	51	61	1.29	-2.06	0.50	9	6	0.0	0	9.1	W	26	S	22	10	10	10	5.3	74

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JUNE 1961

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No of days: Max. 90 F. or above	No of days: Min 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No of days: .01 inch or more	With thunderstorms	Snow Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
MICHIGAN	Ft	Mb	Mb	F.	F.	F.	F.	F.		F.				F	%	In.	In.	In.			In	In.	M.p.h.		M.p.h.							%
LANSING	852	982.6	1014.4	77	52	64.8	- 2.6	92	30	41	16	2	0	52	67	2.97	-0.40	1.11	11	7	0.0	0	12.0	WSW	59	NW	13	9	10	11	5.6	72
MARQUETTE U	677	986.4		70	50	59.9	0.3	93	28	42	10+	3	0			3.08	-0.38	1.36	9	6	0.0	0	7.5	NW#	26	N	28	7	13	10	5.8	73
MUSKEGON	627	991.4	1014.6	74	52	63.4	- 1.0	91	30	39	16	1	0	50	64	1.28	-1.59	0.54	9	5	0.0	0	9.9	SW	29*	SW	1	10	11	9	5.1	
SAULT STE MARIE	721	990.5	1013.2	68	45	56.6	- 1.5	89	29	34	3	0	0	47	73	5.74	2.72	3.58	11	8	0.0	0	8.8	WNW	23*	NW	19	4	12	14	6.6	57
MINNESOTA																																
DULUTH	1426	973.0	1014.3	74	49	61.3	1.6	93	29+	38	15	3	0	47	62	1.33	-3.00	0.74	6	4	0.0	0	11.4	ENE	37	NE	13	6	17	7	5.8	76
INTERNATIONAL FALLS	1179	972.7	1013.7	78	49	63.5	3.4	96	28	35	15	1	0	48	60	0.70	-3.03	0.45	6	3	0.0	0	7.5	NE	23*	NW	3	6	18	6	5.3	
MINNEAPOLIS	830	983.0	1013.9	80	56	68.1	- 0.1	98	28	42	15	5	0	56	67	1.87	-2.39	0.70	8	8	0.0	0	9.7	SW	34	NW	18	6	15	9	5.7	70
ROCHESTER	1297	966.8	1014.2	78	55	66.5	- 0.3	92	30	42	15	2	0	56	70	3.91	-0.42	1.56	8	5	0.0	0	10.1	SW				8	11	11	5.8	
ST CLOUD	1034	976.4	1014.0	80	54	67.0	2.0	94	30+	40	15	4	0		63	2.60	-1.25	0.88	9	7	0.0	0						7	15	8	5.4	
MISSISSIPPI																																
JACKSON	305	1004.2	1016.1	85	66	75.5	- 4.4	92	9	58	22	11	0	66	75	7.49	3.77	2.98	16	10	0.0	0	4.3	S	26	SE	9	5	12	13	6.6	49
MERIDIAN	292	1002.9	1016.6	85	65	75.0	- 4.1	92	8+	57	27	14	0	67	82	7.81	3.48	2.31	15	9	0.0	0	6.1	SSW	32*	E	30	7	8	15	6.6	
VICKSBURG U	234	1006.7		83	67	75.1	- 4.4	90	30+	58	16	2	0			5.65	2.34	2.72	12	7	0.0	0	6.8		26	SW	13	4	11	15	6.5	54
MISSOURI																																
COLUMBIA	778	986.1	1014.4	82	60	70.9	- 2.0	90	29+	48	17	4	0	59	70	5.26	0.36	1.93	9	7	0.0	0	8.6	SSE	45	NW	13	10	10	10	5.1	76
KANSAS CITY	742	980.2	1014.6	82	63	72.3	- 3.1	92	30	51	24	4	0	60	68	6.55	1.53	2.99	8	5	0.0	0	8.1	S	43	NE	13	8	13	9	5.5	75
ST JOSEPH	809	980.0		83	61	71.8	- 2.6	96	30	50	24	5	0			4.88	-1.58	1.41	9	7	0.0	0	9.6	S	35*	NW	27+	12	10	8	4.8	
ST LOUIS	535	994.7	1015.2	81	59	70.1	- 5.0	89	29+	46	17+	0	0	57	64	3.67	-0.70	2.24	10	7	0.0	0	8.4	SSW	34	S	6	9	9	12	5.8	68
ST LOUIS RFC	465			83	64	73.6	- 2.2	92	29+	53	16	5	0			4.79	0.99	1.43	9		0.0	0										
SPRINGFIELD	1265	968.5	1015.6	82	59	70.5	- 2.4	93	30	45	24	2	0	60	72	1.73	-3.83	0.65	9	8	0.0	0	9.3	SSE	40	NW	13	7	11	12	6.2	50
MONTANA																																
BILLINGS	3567	891.0	1012.1	88	58	72.7	8.7	100	25	51	1	14	0	43	39	0.24	-2.37	0.15	3	3	0.0	0	9.9	SW	36	W	9	11	16	3	4.2	83
GLASGOW	2277	938.7		86	57	71.6	8.0	97	17	44	2	12	0	42	39	1.17	-2.31	0.97	4	6	0.0	0						12	14	4	4.2	
GREAT FALLS	3662	888.6	1013.1	85	53	69.4	8.7	97	26+	46	10+	7	0	40	39	0.73	-2.23	0.60	4	4	0.0	0	8.4	SW	56	SW	29	15	11	4	3.6	87
HAVRE	2583	925.5		87	53	69.9	7.0	100	17	46	8	12	0			0.70	-2.28	0.58	4	4	0.0	0	8.4	E#	63	W	29	15	11	4	3.6	87
HELENA	3893	874.4	1013.3	84	53	68.5	9.1	96	17	44	1	8	0	39	39	0.78	-1.37	0.44	3	7	0.0	0	8.8	NW	47	S	10	15	11	4	3.5	85
KALISPELL	2965	911.6		82	47	64.2	5.8	93	17	35	8	5	0			0.71	-1.72	0.27	6	3	0.0	0	5.6					18	8	4	3.3	
MILES CITY	2629			89	59	74.2	9.0	104	29	49	2	17	0	44	38	0.84	-2.00	0.47	6	4	0.0	0	9.2	SE	35*	N	18+	16	12	2	3.7	
MISSOULA	3190	902.8	1015.8	84	46	64.7	4.5	96	17	35	10	10	0	45	55	0.35	-1.52	0.22	6	5	0.0	0	6.9	NW	30	W	27	16	9	5	3.5	83
NEBRASKA																																
GRAND ISLAND	1841	948.6		84	59	71.5	- 0.1	106	30	47	20	9	0	57	63	4.01	0.35	2.58	10	10	0.0	0	11.1	SSW				12	10	8	4.7	
LINCOLN U	1150			84	61	72.3	- 0.5	105	30	48	20	8	0			1.94	-2.16	0.74	9	10	0.0	0	9.5	S#	34	SE	13+	7	15	8	5.5	76
NORFOLK	1544	958.6		82	58	70.2	0.9	104	30	45	20	8	0			3.45	-1.33	1.57	8	9	0.0	0						12	5	13	5.3	
NORTH PLATTE	2779	915.4	1012.6	82	56	69.0	0.2	99	30+	47	23	9	0	55	64	2.58	-0.34	1.48	6	8	0.0	0	9.8	SSE	36	NW	13	13	9	8	4.8	72
OMAHA	978	974.9	1014.3	83	61	71.6	- 1.0	101	30	48	20	5	0	58	66	4.44	-0.07	1.82	10	9	0.0	0	10.0	SSE	36	E	13	12	9	9	5.2	71
OMAHA N OMAHA AP	1323	966.9		80	59	69.8	- 0.7	100	30	48	20	2	0			3.70	-0.81	1.29	10	11	0.0	0						9	11	10	5.6	
SCOTTSBLUFF	3950	879.5	1012.7	84	54	68.6	2.1	101	29	44	16	9	0	48	55	0.70	-2.08	0.32	6	9	0.0	0	10.3	ESE	35*	W	12	13	11	6	4.6	
VALENTINE	2587	923.6		84	54	68.9	2.1	104	29	42	3	11	0	53	61	2.31	-0.85	1.60	6	5	0.0	0	9.1	S#	56	W	12	14	7	9	4.6	79
NEVADA																																
ELKO	5075	845.2	1012.9	86	48	66.9	6.6	97	25+	35	2	12	0	34	34	0.35	-0.35	0.23	5	8	0.0	0	5.4	SW	24*	S	26	16	8	6	3.9	
ELY	6257	810.7		83	42	62.4	2.8	95	21	31	2+	9	3	28	30	0.56	0.06	0.53	3	5	0.0	0	11.5	S	35	N	23+	12	13	5	4.1	93
LAS VEGAS	2162	943.4	1007.1	103	71	87.0	3.4	113	25+	53	3	28	0	30	14	T	-0.13	T	0	2	0.0	0	9.5	SSW	44*	SW	25	26	4	0	1.5	97
RENO	4404	862.5	1013.8	88	45	66.6	5.1	101	20	36	30+	13	0	40	42	0.56	0.14	0.54	3	2	0.0	0	4.9	WNW	31	W	28	21	7	2	2.6	88
WINNEMUCCA	4299	868.3		89	49	68.9	4.9	103	22+	32	2	15	1	33	32	0.49	-0.30	0.31	5	5	0.0	0	8.1	W	32	W	26	15	9	6	3.8	85
NEW HAMPSHIRE																																
CONCORD	339	1002.0	1013.5	79	52	65.4	1.3	93	13	36	16	1	0	53	66	2.15	-1.47	0.88	7	2	0.0	0	5.2	S	28	NW	13	8	14	8	5.8	61
MT WASHINGTON OBS	6262	806.6		51	38	44.1	- 0.3	62	12	26	16+	0	7		84	5.75	-0.51	1.62	14	5	0.0	0	28.2	W	76Y	W	13+	2	9	19	7.7	31
NEW JERSEY																																
ATLANTIC CITY	58	1013.6	1015.8	80	59	69.4	- 0.3	92	13	48	17	3	0	59	73	3.00	0.01	1.16	12	5	0.0	0	10.1	S	37	SW	2	8	8	14	6.5	58
ATLANTIC CITY U	10			73	61	66.9	- 1.8	86	30	55	4	0	0			1.29	-1.70	0.36	11				10.2		40*	SW	2					
NEWARK	11	1013.5	1015.0	82	61	71.9	1.4	98	13	54	17+	4	0	57	63	2.46	-1.34	1.22	12	4	0.0	0	9.0	SW	21*	SSE	25+	7	13	10	6.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JUNE 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In	M p h		M p h							%
NEW JERSEY																																
TRENTON U	56	1007.5		81	61	70.6	- 0.2	94	13	51	4	3	0			2.66	-1.21	0.72	15	6	0.0	0	8.7	S#	35	W	2	6	11	13	6.2	61
NEW MEXICO																																
ALBUQUERQUE	5310	848.3	1009.2	91	61	75.8	0.9	99	22	46	3	22	0	38	29	0.11	-0.61	0.11	1	7	0.0	0	9.1	ESE	42	E	25+	21	8	1	2.9	87
CLAYTON	4969	846.9		83	56	69.5	- 0.1	94	27	47	16	7	0			1.71	-0.20	0.78	9	13	0.0	0						10	10	10	5.1	
RATON	6379	808.3		82	50	65.7	1.8	91	27	45	25+	2	0			1.91	0.19	0.85	12	18	0.0	0						3	18	9	5.6	
ROSWELL	3612	892.0		95	58	76.4	- 0.4	103	24+	44	4	27	0	49	46	0.62	-0.85	0.40	5	7	0.0	0	9.4		36	NW	8	12	14	4	4.2	
SILVER CITY	5373	834.1		91	58	74.3		97	24+	46	3	20	0			1.95		1.50	5	16	0.0	0						15	14	1	3.5	
NEW YORK																																
ALBANY	277	1009.7	1013.6	79	55	67.0	0.0	91	13	40	16	1	0	56	70	2.97	-0.40	1.44	11	5	0.0	0	7.5	S	28	S	21	7	10	13	6.3	59
BINGHAMTON	1590	955.8	1014.3	74	55	64.6	0.4	85	13	41	16	0	0	55	74	3.91	0.26	1.86	11	10	0.0	0	8.5	SW	35	SW	25	5	14	11	6.6	67
BUFFALO	705	986.6	1014.8	72	54	63.4	- 2.1	85	13	43	16	0	0	55	75	3.66	0.96	1.14	11	5	0.0	0	10.7	SW	35	SW	19	6	12	12	6.4	61
NEW YORK U	132	1003.1		82	63	72.3	1.2	96	13	53	14	3	0	57	62	2.86	-0.81	1.61	11	2	0.0	0	8.2	SW#	23	SE	21	14	8	8	5.0	56
NEW YORK	19	1012.8	1015.0	81	62	71.5	0.5	97	13	55	16+	1	0	57	65	2.76	-0.62	1.52	13	2	0.0	0	10.3	SW	32	W	2	8	11	11	6.1	
ROCHESTER	543	995.1	1014.4	76	55	65.4	- 1.2	90	13	43	16	1	0	54	70	3.78	0.93	1.12	9	8	0.0	0	11.4	WSW	49	W	24	6	13	11	6.0	62
SCHENECTADY	217			78	56	66.8	- 1.2	90	29+	44	16	2	0			3.37	-0.49	1.37	10	3	0.0	0						17	9	4	3.9	
SYRACUSE	424	992.1	1013.9	77	56	66.6	- 1.2	91	13	45	7	2	0	54	67	3.68	0.00	1.84	11	8	0.0	0	9.0	WSW	49	NW	10	8	13	9	5.8	59
NORTH CAROLINA																																
ASHEVILLE U	2203	938.5		80	58	68.6	- 2.7	88	2	49	16	0	0			4.44	0.92	0.97	13	8	0.0	0	5.4		31	NW	13	4	13	13	6.8	38
CAPE HATTERAS R	7	1015.7	1016.7	78	67	72.7	- 2.9	85	13	57	16	0	0	68	86	4.01	-0.36	1.46	11	7	0.0	0	13.9	WSW	27	SSW	22+	3	11	16	7.2	66
CHARLOTTE	725	988.6	1016.6	83	63	72.8	- 3.8	91	14	52	18+	5	0	65	79	8.26	4.75	2.29	14	9	0.0	0	6.6	SW	31	SW	21+	7	8	15	6.7	56
GREENSBORO	891	984.7	1016.5	82	61	71.7	- 2.9	90	7+	49	18	2	0	62	75	6.21	2.59	1.89	15	11	0.0	0	7.4	SW	36	S	7	4	14	12	6.6	61
RALEIGH	433	1002.4	1016.3	83	62	72.8	- 2.9	93	8	47	18	7	0	63	75	4.05	-0.04	1.23	14	10	0.0	0	7.2	SSW	23*	SSE	21+	8	7	15	6.3	54
WILMINGTON	30	1014.0	1016.9	85	67	75.7	- 1.9	93	7	55	18+	8	0	68	81	11.79	7.30	2.87	14	12	0.0	0	10.6	SSW	40	SE	14	4	11	15	6.7	56
WINSTON SALEM	967	981.6	1016.7	82	62	72.0	- 2.9	90	14+	49	15	4	0	60	69	7.01	3.41	3.25	12	8	0.0	0	8.3	WSW	37*	NE	15	5	15	10	6.1	
NORTH DAKOTA																																
BISMARCK	1647	951.9	1013.6	86	52	69.1	4.8	100	27	36	15	15	0	46	47	1.78	-1.55	1.50	5	7	0.0	0	10.4	ENE	38	NW	21	14	11	5	4.4	83
DEVILS LAKE U	1471	960.8		84	53	68.6	6.2	103	27	42	23+	9	0			0.94	-2.24	0.42	6	4	0.0	0	8.2	SW#	28	N	17	12	12	6	4.2	79
FARGO	900	979.9	1014.1	83	54	68.7	4.1	95	27	40	20	6	0	54	60	1.36	-1.68	0.50	8	6	0.0	0	11.8	SSW	60	SW	28	13	8	9	4.8	65
WILLISTON U	1877	946.5		85	57	71.1	8.1	95	28+	40	2	12	0			0.43	-3.16	0.20	4	5	0.0	0	6.6	S#	47	SE	29	11	14	5	4.8	84
OHIO																																
AKRON	1210	977.9	1015.9	77	55	65.6	- 2.8	91	12	42	16	1	0	55	70	2.41	-1.43	0.94	15	9	0.0	0	8.5	SW				9	9	12	5.9	
CINCINNATI OBS	761			81	59	70.0	- 2.8	92	30	47	16	2	0			3.58	-0.47	1.79	8	6	0.0	0	4.9	SW#	16	W	23+					71
CINCINNATI	553			82	61	71.4	- 3.0	94	12	50	16	3	0			2.49	-1.56	1.30	9	5	0.0	0										
CLEVELAND	777	987.3	1015.1	76	54	65.0	- 4.4	91	12	39	16	2	0	56	74	2.95	-0.10	0.95	11	5	0.0	0	9.8	S	31	SW	1	7	9	14	6.0	74
COLUMBUS	812	986.2	1016.1	79	55	67.2	- 3.5	91	30	44	22+	1	0	58	73	3.49	-0.84	1.69	9	8	0.0	0	6.7	S	34	N	1	8	9	13	5.8	71
COLUMBUS U	724			80	60	69.6	- 2.4	93	12	47	16	3	0			2.90	-0.76	1.73	8	5	0.0	0										
DAYTON	1002	979.8	1015.8	79	58	68.5	- 2.4	90	30	45	16	1	0	55	67	3.45	-0.45	1.71	9	7	0.0	0	9.0	SSW	36	W	13	8	10	12	5.6	58
MANSFIELD	1296			76	56	66.0		88	30	42	16	0	0			3.99		1.33	13	9	0.0	0						11	8	11	5.5	
SANDUSKY U	603			79	58	68.2	- 1.7	94	30+	47	16	5	0			3.27	-0.46	1.12	11	4	0.0	0	7.8		35	NW	1	9	14	7	5.2	68
TOLEDO	676	989.9	1015.3	78	53	65.2	- 3.4	91	30	41	17	4	0	55	73	2.70	-0.85	0.81	10	4	0.0	0	8.6	SW	47	W	1	8	10	12	5.6	71
YOUNGSTOWN	1178	973.2	1015.5	76	54	65.0	- 3.0	88	13+	41	16	0	0	54	70	5.64	1.93	1.30	12	7	0.0	0	8.3	SW	32*	SW	23	8	9	13	6.3	
OKLAHOMA																																
OKLAHOMA CITY	1280	971.9	1014.7	84	64	74.1	- 3.4	98	22	56	21	7	0	63	70	3.86	-0.07	1.38	10	9	0.0	0	11.5	SSE	39	NW	7	8	8	14	5.9	59
TULSA	650	990.5	1014.7	83	64	73.8	- 3.7	93	29	54	21	5	0	65	75	6.36	1.21	2.58	6	8	0.0	0	9.3	SSE	29*	NNE	13	9	8	13	5.9	67
OREGON																																
ASTORIA	8	1017.6	1018.2	67	50	58.7	1.1	82	17	43	22+	0	0	51	78	1.10	-1.56	0.46	10	0	0.0	0	9.7	NW	28*	SW	17	10	7	13	5.7	
BURNS U	4151	873.4		83	49	66.3	5.8	98	22	37	7	9	0	40	43	0.83	-0.02	0.45	5	5	0.0	0						16	10	4	3.5	
EUGENE	361	1003.4		78	49	63.6	2.3	100	17	39	7	3	0			0.76	-0.61	0.40	4	1	0.0	0	8.8		29*	SW	1	13	10	7	4.3	
MEACHAM	4050			74	49	61.4	7.3	93	16	35	30	2	0			0.85	-1.76	0.21	9	3	0.0	0						17	8	5	3.2	
MEDFORD	1298	968.2	1015.4	88	51	69.2	4.3	109	15	39	7	13	0	50	57	0.34	-0.63	0.18	3	4	0.0	0	5.4	WNW	18*	SSE	1	17	8	5	3.3	
PENDLETON	1482	961.7	1014.7	88	56	71.6	4.9	108	17	43	7	13	0	40	37	0.28	-0.93	0.12	6	3	0.0	0	9.6	W	52*	NW	6	20	5	5	2.7	
PORTLAND	21	1011.2	1016.7	77	53	65.3	2.7	94	17	42	30	3	0	52	64	0.47	-1.25	0.28	4	0	0.0	0	7.6	NW	22	SW	8	15	5	10	4.3	75
PORTLAND U	30			78	56	67.2	3.4	97	17	49	7	4	0			0.49	-1.13	0.23	5		0.0	0										

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JUNE 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max. 90 F. or above	No of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 01 inch or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
OREGON	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In	In	M.p.h.		M.p.h.							%
ROSEBURG	505	998.3		81	50	65.4	3.3	102	17+	40	7	7	0			0.46	-0.89	0.23	4	1	0.0	0	5.1	N#	17	NW	25+	12	13	5	3.9	78
SALEM	195	1009.5	1016.9	78	48	63.3	0.5	98	17	39	30+	5	0	52	71	0.30	-0.92	0.13	4	0	0.0	0	6.0	N	17*	SW	29+	15	4	11	4.4	
SEXTON SUMMIT R	3836	885.2		72	50	61.0	5.0	95	15	36	9	3	0			1.13	-0.37	0.60	3	1	0.0	0	10.8	N				20	4	6	3.0	
PACIFIC AREA																																
CANTON ISLAND	8	1008.8	1009.1	89	78	83.1	- 1.2	90	29+	73	10+	7	0	74	78	5.41	2.61	2.30	17	2	0.0	0	11.0	E	29*	NNE	15	2	8	20	7.8	
ENIWETOK	13	1009.1		88	78	82.9		90	11	75	30+	1	0	76	79	3.11		0.62	17	0	0.0	0	15.9									
JOHNSTON	7	1013.5		83	75	78.7		84	14+	71	28	0	0	72	78	0.84		0.12	15	0	0.0	0	17.9		35	E	29	3	24	3	5.4	71
KOROR R	94	1006.1	1008.9	86	75	80.5	- 0.7	89	9+	73	24+	0	0	76	88	22.67	10.22	4.21	26	4	0.0	0	5.7	S	24	SW	25	0	0	30	9.8	34
KWAJALEIN	8	1009.1	1009.4	86	77	81.2		87	28+	73	27	0	0	76	83	7.84		1.85	25	0	0.0	0	13.1	ENE	29*	E	13	0	8	22	8.5	
MAJURO	10	1009.8	1010.1	85	77	81.2		88	20	74	4	0	0	75	81	13.90		3.41	27	3	0.0	0	10.6	ENE	28	E	4	0	9	21	8.6	
PONAPE R	123	1004.4	1008.9	87	73	80.0	- 1.0	90	7	70	15	1	0	75	87	18.11	1.74	2.73	26	3	0.0	0	4.3	NE	18	E	12	0	4	26	9.3	55
TAGUAC GUAM R	361			86	74	79.9	- 0.1	88	17+	70	8	0	0			5.90	0.83	1.31	27	3	0.0	0	5.5	E#	19	E	28+					33
TRUK MOEN ISLAND	5	1009.1	1009.4	87	76	81.2	0.7	89	8	73	13	0	0	76	85	12.71	-0.51	3.18	26	1	0.0	0	3.8	NE				0	4	26	9.3	82
WAKE ISLAND	11	1013.9	1014.3	87	76	81.7	0.4	90	8	72	14	1	0	73	77	1.09	-0.71	0.30	14	0	0.0	0	12.8	E	30*	ENE	16	2	9	19	7.6	
YAP R	55	1007.1	1008.2	86	75	80.7	- 1.4	90	10	72	12	1	0	76	87	12.33	1.94	2.28	27	1	0.0	0	6.1	NE	33	S	11	0	0	30	9.8	29
PENNSYLVANIA																																
ALLENTOWN	376	1001.1	1015.4	81	58	69.3	- 0.3	93	13	44	16	2	0	58	71	2.09	-1.96	0.73	14	6	0.0	0	9.2	SW	28*	SE	21+	9	12	9	5.7	
ERIE	732	988.6	1014.6	74	56	64.7	- 0.8	90	13	41	16	1	0	54	71	3.90	1.03	1.31	11	11	0.0	0	11.2	WSW	29*	SW	2+	7	14	9	5.9	
HARRISBURG	335	1001.2	1015.1	81	59	66.8	- 1.3	94	30	41	16	4	0	58	69	1.93	-1.71	0.92	14	13	0.0	0	7.5	W	29	W	2	9	9	12	5.9	70
PHILADELPHIA	5	1010.4	1015.1	80	60	69.9	- 2.2	92	30	48	17+	2	0	59	70	2.95	-0.92	0.75	10	4	0.0	0	8.1	WSW	26	N	14	7	12	11	6.4	65
PHILADELPHIA U	35			82	63	72.6	0.0	95	13	55	16+	5	0																			
PITTSBURGH	1151	985.7	1016.3	77	53	65.1	- 3.5	89	12	42	4	0	0	56	74	4.21	0.14	1.15	14	7	0.0	0	7.0	SW	35*	NW	23	4	13	13	6.5	66
PITTSBURGH U	749			79	59	68.9	- 2.8	92	12	46	16	1	0			4.22	0.39	1.41	13		0.0	0										50
READING U	266	1002.8		82	62	71.8	0.5	94	13	48	16	3	0			1.98	-1.78	0.50	15	10	0.0	0	9.1		34	S	21	8	9	13	6.0	67
SCRANTON	940	980.9	1015.1	78	56	67.1	- 0.7	90	13	40	16	1	0	55	68	3.80	-0.63	1.40	13	8	0.0	0	8.6	SW	42	SW	2	7	15	8	5.7	62
WILLIAMSPORT	527	995.9	1014.8	81	56	68.3	- 0.9	92	12	40	16	2	0	57	70	5.11	1.69	2.26	10	6	0.0	0	6.1	W	32*	SW	1	5	18	7	5.7	
RHODE ISLAND																																
BLOCK ISLAND	110	1010.2		68	55	61.6	- 1.4	80	14	48	16	0	0			0.94	-1.92	0.31	7	1	0.0	0						8	8	14	6.3	
PROVIDENCE	55	1008.2	1014.4	78	58	67.5	1.9	93	13	47	16	1	0	56	71	1.48	-1.69	0.81	10	4	0.0	0	10.9	S	32*	SSW	5	8	8	14	6.0	57
SOUTH CAROLINA																																
CHARLESTON	41	1014.9	1016.9	86	67	76.7	- 1.2	94	7	54	19	9	0	68	80	6.84	2.12	4.12	14	10	0.0	0	8.6	S	46Y	S	21	5	14	11	6.6	57
CHARLESTON U	9			83	70	76.9	- 2.7	91	14	59	16	4	0			6.53	2.24	2.35	12		0.0	0	10.3		33	SW	15					
COLUMBIA	217	1003.7	1016.3	89	66	77.1	- 2.4	98	8	51	19	18	0	64	69	1.95	-2.10	0.62	11	8	0.0	0	7.4	SW	25*	SW	15	6	11	13	6.4	37
FLORENCE	146	1010.4	1016.2	86	65	75.7	- 3.3	95	7	54	19+	12	0	68	81	9.29	4.41	3.10	15	11	0.0	0	8.4	SSW	35*	SW	21	7	6	17	6.4	
GREENVILLE	1009	979.8	1016.7	86	63	74.2	- 2.4	95	14	52	16	13	0	62	70	4.24	1.24	1.45	11	9	0.0	0	7.3	NE	28	NE	15	5	13	12	6.5	56
SPARTANBURG	801	986.9	1016.6	84	63	73.1	- 4.1	92	14+	50	16+	8	0	61	72	9.89	6.89	3.45	12	8	0.0	0	6.0	SW	32*	NW	11	7	9	14	6.6	
SOUTH DAKOTA																																
HURON	1282	967.0	1013.7	82	55	68.5	0.3	99	30	38	3	8	0	59	72	4.54	1.48	2.19	7	5	0.0	0	10.9	S	42	W	11	14	5	11	5.2	83
RAPID CITY	3165	901.5	1013.5	86	57	71.3	7.6	106	29	45	3	12	0	44	42	0.76	-2.60	0.36	5	5	0.0	0	9.3	NNW	42	N	18	14	10	6	4.3	77
SIOUX FALLS	1420	962.9	1013.8	81	57	68.8	0.8	98	30	43	15	6	0	54	63	3.86	-0.39	1.93	10	7	0.0	0	8.7	S	28*	NE	14	13	9	8	4.9	
TENNESSEE																																
BRISTOL	1507	962.7	1016.4	80	59	69.8	- 2.5	88	11+	52	18	0	0	59	75	4.46	0.79	1.70	11	7	0.0	0	5.5	NE	29*	SW	9	5	10	15	6.9	
CHATTANOOGA	670	989.2	1016.4	84	63	73.7	- 2.1	91	30+	55	19	5	0	65	78	6.99	2.78	2.09	16	13	0.0	0	5.1	S	24	NW	15	5	8	17	6.8	49
KNOXVILLE	950	981.7	1016.8	80	61	70.7	- 5.1	87	30+	54	27+	0	0	61	77	4.54	1.07	1.47	13	8	0.0	0	7.4	SW	29	W	5	5	8	17	7.2	53
MEMPHIS	263	1001.1	1015.7	85	66	75.1	- 3.2	92	30	56	22+	3	0	63	69	1.49	-1.84	0.63	10	7	0.0	0	8.1	S	28	NW	5	5	11	14	6.5	60
MEMPHIS U	271			84	68	75.8	- 2.9	92	30+	57	16	2	0			2.59	-0.66	0.90	11		0.0	0										
NASHVILLE	577	996.0	1015.8	83	62	72.4	- 4.5	91	30	54	22+	2	0	62	73	2.96	-0.23	1.42	12	8	0.0	0	6.5	S	28	NW	14	6	8	16	6.5	60
OAK RIDGE	905	984.1		82	61	71.6	- 2.6	91	11+	52	24+	2	0			7.16	3.25	2.42	14	12	0.0	0	4.1		36Y		7	8	6	16	6.8	
TEXAS																																
ABILENE	1759	953.5	1013.1	87	65	76.2	- 3.6	94	13+	58	3	16	0	63	67	9.60	6.81	2.29	11	9	0.0	0	9.0	SSE	57	NE	4	12	11	7	4.8	74
AMARILLO	3607	889.1	1012.0	87	61	73.9	0.3	97	13	54	15	14	0	57	61	3.42	0.17	0.83	10	13	0.0	0	13.7	SSW	45	SE	2	14	9	7	4.2	76
AUSTIN	615	992.2	1013.7	89	70	79.6	- 1.9	95	7	61	22	18	0	68	73	11.43	8.23	4.79	9	6	0.0	0	10.5	SSE	26	SE	29+	4	14	12	6.1	66
BROWNSVILLE	16	1010.7	1013.3	91	74	82.8	0.2	94	26+	69	24+	24	0	72	74	0.48	-2.57	0.18	7	1	0.0	0	13.6	SE	26	SE	17+	9	17	4	5.1	79

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JUNE 1961

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
TEXAS	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In	In.	In.			In.	In.	M.p.h.		M.p.h.							%
CORPUS CHRISTI	43	1012.6	1013.8	89	74	81.6	- 0.6	94	26	67	20	15	0	72	75	5.64	2.76	2.54	9	5	0.0	0	10.1	SE	32	E	30	6	15	9	6.2	67
DALLAS	481	996.3	1014.6	86	68	77.2	- 4.7	95	23	60	17	12	0	66	71	7.85	4.40	1.57	12	9	0.0	0	10.7	S	30	W	14	10	9	11	5.8	64
DEL RIO U	957			93	72	82.7	0.0	98	12+	66	19	27	0			7.17	4.75	2.90	6	6	0.0	0										
EL PASO	3918	884.7	1009.5	96	66	80.8	0.6	103	24	53	5	27	0	41	29	0.27	-0.35	0.15	4	7	0.0	0	7.7	SE	49	N	27	16	9	5	3.7	91
FORT WORTH	544	994.3	1014.8	87	69	77.9	- 3.5	95	23+	61	18+	13	0	66	72	5.93	2.54	2.02	9	8	0.0	0	11.6	S	25*	ESE	24	9	9	12	5.7	
GALVESTON U	7			83	75	79.0	- 2.5	86	21	68	20+	0	0			14.76	11.41	12.56	7		0.0	0	11.8		53	S	19					78
GALVESTON	5	1013.1	1015.3	85	74	79.6	- 2.2	88	25+	68	20+	0	0	69	71	16.86	13.51	11.34	8	6	0.0	0	11.0	S				4	17	9	6.0	
HOUSTON U	41			86	71	78.3	- 3.5	90	24+	65	20	4	0			8.07	3.99	4.46	8		0.0	0										
HOUSTON	50	1012.3	1014.9	89	72	80.4	- 0.1	92	25+	67	22+	17	0	71	78	11.11	7.42	7.34	7	6	0.0	0	7.6	SSE				3	14	13	6.7	71
LAREDO	500	996.7	1011.9	97	75	86.0	0.2	102	7	67	9	29	0	67	60	1.86	-0.23	1.25	7	4	0.0	0	13.2	SE	32*	ESE	30	8	17	5	4.7	
LUBBOCK	3243	903.5	1012.9	88	62	75.0	- 1.4	101	1	55	21	18	0	59	64	4.03	1.50	2.92	7	9	0.0	0	15.2	SSE	52*	SW	24	13	10	7	4.5	
MIDLAND	2854	914.5	1011.5	90	65	77.5	- 2.6	99	1	59	15	22	0	59	59	2.96	1.00	2.12	4	6	0.0	0	11.1	SE	27*	N	8+	13	9	8	4.5	
PORT ARTHUR	16	1013.5	1015.0	88	70	78.9	- 1.2	92	16+	63	1	11	0	72	83	14.05	9.27	10.20	8	4	0.0	0	8.8	S	43	N	19	6	11	13	6.4	59
SAN ANGELO	1903	947.5	1012.4	90	68	79.0	- 1.6	98	13	58	19	22	0	64	64	5.82	4.00	2.86	4	1	0.0	0	13.1	S	40*	NE	4	13	11	6	4.5	
SAN ANTONIO	792	989.0	1013.6	91	72	81.3	- 0.7	97	7	63	22	22	0	69	71	7.87	4.67	3.35	7	5	0.0	0	10.5	SSE	25	SE	13	5	19	6	5.6	62
VICTORIA	104	1009.3		89	72	80.7	- 2.4	93	7	65	22	16	0			5.99	2.75	2.63	10	7	0.0	0	10.0		38Y	SE	29	4	14	12	6.3	
WACO	500	993.6	1014.3	88	69	78.3	- 3.5	94	23	61	22	20	0	68	73	12.06	8.87	4.13	8	5	0.0	0	13.0	SSE	69*	E	5	5	13	12	6.1	
WICHITA FALLS	994	977.1	1013.3	90	66	77.9	- 1.7	101	22	58	21	17	0	64	66	6.53	3.13	4.80	11	10	0.0	0	11.2	S	31*	ENE	14	10	12	8	5.3	
UTAH																																
MILFORD	5028	844.2		91	51	70.8	5.0	103	23	36	3	17	0			T	-0.45	T	0	2	0.0	0						19	8	3	2.9	
SALT LAKE CITY	4220	866.9	1011.2	92	57	74.7	7.6	104	21	44	3	20	0	39	31	0.09	-0.82	0.05	3	2	0.0	0	9.5	S	32	W	26	17	10	3	3.2	84
WENDOVER	4237	869.6		90	66	78.1		102	21	55	4	18	0			0.04		0.02	2	6	0.0	0						17	10	3	3.1	
VERMONT																																
BURLINGTON	331	997.8	1012.5	76	51	63.5	- 2.0	88	13	36	7	0	0	54	72	3.71	0.14	0.99	13	4	0.0	0	7.3	SSW	26	N	13	5	11	14	6.7	59
VIRGINIA																																
LYNCHBURG	947	991.6		81	60	70.7	- 2.1	92	2	47	16	1	0			6.12	2.24	3.04	16	7	0.0	0	7.2		29	S	9	4	12	14	6.7	63
NORFOLK	26	1015.2	1016.7	81	63	72.4	- 2.3	92	23+	48	17	4	0	61	71	6.70	2.54	2.51	13	9	0.0	0	8.9	SW	38	NE	15	5	11	14	6.5	57
RICHMOND	162	1010.5	1016.8	84	61	72.8	- 1.5	93	2	48	18+	9	0	63	75	6.49	2.62	2.01	14	11	0.0	0	7.6	SW	34	SE	14	4	14	12	6.4	60
ROANOKE	1174	974.7	1016.5	83	60	71.3	- 1.4	94	12+	46	17	4	0	59	70	3.79	0.09	1.18	13	8	0.0	0	6.8	SW				5	12	13	6.4	
WASHINGTON																																
OLYMPIA	190	1010.2	1017.7	76	46	60.8	1.9	89	17	38	12+	0	0	50	69	1.05	-0.23	0.51	6	0	0.0	0	6.0	SW	18*	W	26+	13	6	11	4.6	
SEATTLE TACOMA	400	1003.4	1017.4	74	53	63.5	3.6	90	17	46	10	1	0	49	63	0.54	-0.76	0.34	6	1	0.0	0	8.9	SSW	22*	SSW	29	11	10	9	4.9	
SEATTLE	14		1017.3											51	64	0.43	-0.82	0.20	6		0.0	0			27	SW	29					65
SEATTLE U	14			74	55	64.7	2.9	86	17+	50	10	0	0			1.64	0.47	0.80	7	3	0.0	0	7.5	SSW	38	SW	29	18	5	7	3.2	88
SPOKANE	2357	946.5	1014.8	81	52	66.6	5.2	97	17	42	30+	8	0	46	53	2.19	-1.78	0.81	9	1	T	21						16	7	7	4.2	
STAMPEDE PASS R	3958	881.8		65	46	55.5	5.1	86	16	35	29+	0	0			2.08	-0.50	0.68	12	0	0.0	0	11.7	SW	34	S	18+	6	9	15	6.6	36
TATOOSH ISLAND	101	1015.6	1018.5	59	51	54.9	0.9	67	13	45	9	0	0	50	85	0.87	-0.34	0.30	5	5	0.0	0	5.7	W#	35	E	2	20	6	4	2.8	91
WALLA WALLA U	949	978.0		87	60	73.2	5.3	106	17	49	7	13	0			0.52	-0.07	0.27	4	3	0.0	0	7.9	WNW	30*	SSW	5	20	4	6	2.8	
YAKIMA	1061	976.3	1014.7	86	51	68.4	3.0	103	16	40	30	13	0	45	47																	
WEST INDIES																5.26	-0.11	1.27	19	6	0.0	0	6.6	ENE	25	E	21	1	17	12	6.8	59
SAN JUAN P.R.	15	1014.9	1017.7	87	73	79.9	0.2	90	21+	70	19+	3	0	72	78	4.51	-1.64	2.32	10	2	0.0	0						0	12	18	7.5	
SWAN ISLAND	28	1011.7		87	78	82.4	0.3	90	4	72	11	1	0																			
WEST VIRGINIA																5.22	1.29	1.58	13	9	0.0	0	4.8	SW	29*	NW	2	1	14	15	7.2	
CHARLESTON	939	981.2	1016.6	79	57	67.9	- 4.1	90	12	46	16	1	0	59	77	7.28	2.94	2.17	13		0.0	0										
HUNTINGTON U	567			81	58	69.8	- 4.3	92	30+	48	16	5	0			5.15	0.97	2.04	13	6	0.0	0	4.4		30	NW	8+					53
PARKERSPURG U	621			81	57	69.1	- 3.3	93	12	46	16	3	0																			
WISCONSIN																4.31	0.74	1.20	10	6	0.0	0	10.7	SW	35	SW	27	12	11	7	5.2	69
GREEN BAY	689	991.4	1014.1	77	52	64.6	- 0.1	91	29	40	3	2	0	53	69	2.34	-1.53	0.69	10	8	0.0	0	9.3	S	55*	SSW	10	11	11	8	5.2	
LA CROSSE	652	989.1		80	58	69.2	0.6	95	28	46	3	4	0	56	67	1.84	-2.18	0.71	9	8	0.0	0	9.3	SW	31	N	24	12	10	8	5.2	76
MADISON	858	979.3	1014.2	79	54	66.4	- 1.0	92	29	41	15	4	0	56	71	1.53	-1.69	0.39	8	6	0.0	0	10.6	NNE	38	NW	24	13	8	9	4.7	72
MILWAUKEE	670	990.5	1015.3	78	53	65.3	0.4	95	29	41	16	4	0	52	66																	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JUNE 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No of days: Max. 90 F. or above	Temperature: No of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
WYOMING	Ft.	Mb.	Mb	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
CASPER	5319	838.8	1012.6	81	51	66.1	4.1	95	29+	43	7	5	0	39	43	0.54	-0.94	0.24	6	11	0.0	0	10.6	WSW	35*	N	19	12	11	7	5.0	
CHEYENNE	6131	814.4	1014.0	78	52	64.8	4.5	92	29+	44	15	5	0	43	50	2.91	0.81	1.18	12	12	0.0	0	11.7	WNW	44	NW	12	8	14	8	5.1	59
LANDER	5563	837.1		81	53	66.9	5.4	95	28	41	4	7	0	41	45	1.72	0.37	0.95	4	10	0.0	0	6.9	SW#	54	NW	23	9	14	7	4.8	72
SHERIDAN	3942	885.2		85	52	68.5	7.1	98	28	44	4	10	0	45	46	0.49	-2.11	0.24	3	9	0.0	0	6.5	NW	52	NW	18	12	13	5	4.2	77

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

A Maximum hourly average.

\+ And also on an earlier date or dates.

B Number of days maximum 70°F. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: .25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear 0-3	Partly cloudy 4-7	Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm	M p.s		M p.s								%
ALABAMA																																	
BIRMINGHAM	186	991.9	1016.9	30.0	17.8	23.9	-1.3	34.4	5	12.8	27	14	0	17.8	73	123	16	29	13	7	0	0	3.2	SW	12.1	SW	24	6	7	17	6.9	56
HUNTSVILLE	184	993.8	1016.7	29.4	17.2	23.2		33.3	30+	11.7	18	9	0	17.2	74	113		50	13	11	0	0	2.5	SE	9.4*	NNW	15	7	8	15	6.6	
MOBILE	64	1014.6	1016.8	30.0	20.0	25.0	-1.4	32.8	6	16.7	2	7	0	20.0	78	332	177	187	12	9	0	0	3.5	SSW	12.5*	SSW	20	5	8	17	7.1	
MONTGOMERY	59	1008.7	1016.7	30.0	18.9	24.4	-2.1	34.4	11	15.6	8+	16	0	20.0	80	130	10	68	13	9	0	0	3.0	SW	10.7	SW	14	5	8	17	6.9	51
ALASKA																																	
ANCHORAGE	27	1008.1	1013.4	17.2	8.3	12.7	0.7	25.0	19	0.6	4	5	0	5.6	65	28	6	9	8	0	0	0	3.2	SSE	8.0*	SSE	7	1	12	17	7.9	48
ANNETTE	34	1013.2	1017.1	15.6	9.4	12.6	0.2	22.8	17	5.6	13	1	0	7.8	76	132	12	25	17	0	0	0	4.0	SSE	11.2*	SE	4	1	5	24	9.1	
BARROW	7	1014.2	1014.9	3.3	- 0.6	1.4	0.4	17.2	17	- 3.3	5	0	23	0.0	89	2	- 1	1	4	0	8	102	5.4	E	15.6*	SW	18	4	3	23	8.2	
BARTER ISLAND	12	1012.5	1014.6	4.4	- 0.6	1.9	0.1	19.4	18	- 2.8	27+	0	26	0.0	87	20	10	9	8	0	20	T	4.9	ENE	12.5*	E	10	1	6	23	8.6	
BETHEL	38	1012.2	1013.9	12.8	5.0	8.8	-2.7	18.3	20	1.1	1	0	0	5.6	82	29	- 1	8	12	0	0	0	6.1	NW	14.3*	SSE	30	0	7	23	8.7	
COLD BAY	29	1013.9	1017.4	10.0	5.0	7.3	-0.3	14.4	23+	1.7	4	0	0	4.4	83	3	- 64	2	6	0	0	0	6.3	WNW	19.7*	SSE	30	0	2	28	9.3	
CORDOVA	12	1012.9	1014.5	14.4	5.6	10.1	0.4	24.4	18	0.0	4	1	1	7.2	83	191	85	53	20	0	0	0	2.5	E	7.2*	W	25+	2	4	24	8.5	
FAIRBANKS	133	994.2	1011.2	21.1	8.9	14.9	-0.3	26.1	28	2.2	4	18	0	7.2	61	17	- 18	10	8	1	0	0	3.1	SW	9.4*	ENE	4	1	12	17	7.6	
JUNEAU	5	1014.2	1015.1	15.6	7.2	11.3	-0.7	23.9	18	3.9	17+	2	0	7.2	78	62	1	22	17	0	0	0	4.3	ESE	13.4*	ESE	1	1	1	28	9.2	34
KING SALMON	13	1011.5	1013.5	13.9	5.6	9.6	-1.2	18.9	18	0.6	4	0	0	6.1	81	31	- 10	14	14	1	0	0	3.6	SW	11.2*	S	30	0	2	28	9.5	
KOTZEBUE	3	1011.9	1012.5	8.9	2.8	5.9	-0.4	18.3	28	0.0	14+	0	3	3.3	87	21	9	15	9	0	8	T	5.9	WNW	14.3*	WNW	13+	0	10	20	7.9	
MC GRATH	102	1000.0	1012.9	17.2	7.2	12.4	-0.8	22.8	28	1.1	2	4	0	6.1	69	43	- 9	12	11	4	0	0	3.1	SSW	8.9*	SSW	30	0	3	27	8.7	
NOME	4	1012.2	1012.9	8.9	2.8	6.1	-1.6	17.8	5	0.0	10+	0	4	3.3	83	71	44	31	15	0	0	0	5.2	SE	13.4*	ESE	30	3	7	20	8.0	30
ST. PAUL ISLAND	7	1015.2		7.8	2.8	5.2	-0.1	9.4	13+	- 2.8	1	0	8	3.9	91	31	- 2	14	12	0	0	0						0	3	27	9.3	
SHEMYA	37	1009.8	1013.6	6.1	3.9	5.1		7.8	20+	0.6	5	0	0	4.4	96	54		27	13	0	0	0	6.7	SW	18.3*	S	16	0	0	30	9.9	
YAKUTAT	9	1013.9	1014.9	14.4	6.7	10.6	0.8	27.2	18	2.2	7	1	0	7.8	84	160	34	21	19	0	0	0	3.9	ESE	11.6*	SE	1	1	6	23	8.7	
ARIZONA																																	
FLAGSTAFF	2131			27.2	7.2	17.3	2.7	32.2	19	- 2.8	1	1	1			9	- 4	6	3	8	0	0						15	12	3	3.8	
PHOENIX	338	969.5	1007.4	40.6	22.2	31.4	2.6	45.6	25	13.3	3+	30	0	6.1	21	T	- 2	T	0	0	0	0	3.3	W	15.6*	NE	17	23	5	2	2.2	97
PRESCOTT	1528	847.3	1010.2	32.8	14.4	23.6	2.4	38.3	20	6.1	3+	19	0	- 0.6	24	10	4	6	2	8	0	0	3.7	SSW	18.8	E	23	20	9	1	2.6	88
TUCSON	788	922.5	1007.9	37.8	21.1	29.3	1.4	41.1	25+	11.1	3	29	0	3.9	22	7	- 1	7	1	5	0	0	5.0	WNW	22.4	SE	15	19	8	3	2.8	96
WINSLOW	1487	851.0	1007.9	35.6	13.9	24.8	2.9	40.6	22	5.6	2	25	0	- 1.7	19	T	- 7	T	0	2	0	0	4.4	SW	15.6*	W	26	18	11	1	2.9	
YUMA	61	1003.1	1008.0	41.7	23.9	32.7	1.7	48.3	14	15.0	1	29	0	9.4	28	T	- 0	T	0	1	0	0	4.0	WSW	14.3	SE	21	26	4	0	1.0	98
ARKANSAS																																	
FORT SMITH	137	998.9	1015.5	30.0	17.8	23.9	-1.8	34.4	29	13.9	26+	10	0	17.8	73	101	- 8	52	7	7	0	0	2.5	NE	14.3	W	5	7	12	11	6.0	60
LITTLE ROCK	78	1002.8	1015.9	30.6	17.8	24.3	-1.5	35.0	30	12.2	18	11	0	17.8	71	38	- 50	24	7	5	0	0	3.3	WSW	10.7	E	10+	5	13	12	6.2	57
TEXARKANA	110		1015.6	28.9	18.9	23.9	-2.7	32.8	30+	15.0	17+	7	0	19.4	82	192	94	91	10	7	0	0	2.5	SSW								
CALIFORNIA																																	
BAKERSFIELD	151	993.9	1011.6	35.6	20.0	27.8	2.8	45.0	16+	11.7	2	19	0	11.7	39	0	- 2	0	0	0	0	0	3.2	NNW	9.8*	NNW	11	25	4	1	1.2	
BISHOP	1252	872.7		35.6	13.3	24.2	3.4	42.2	21	3.3	1	24	0			4	2	4	1	1	0	0						23	5	2	2.6	
BLUE CANYON	1609	840.8		23.9	14.4	19.1	4.1	32.2	21+	3.3	1	2	0			8	- 19	8	2	0	0	0	3.2	SSW	14.8	ENE	14	23	3	4	2.3	
BURBANK	213	986.8	1013.1	27.8	14.4	21.1	1.3	34.4	15	11.1	2	6	0	12.2	65	T	- 2	T	0	0	0	0	3.2	ESE	8.0*	ESE	15	18	10	2	2.9	
EUREKA U	13	1014.9		16.1	11.1	13.6	0.4	22.8	16	8.9	30	0	0			13	- 4	10	4	0	0	0	3.1	NW#	11.2	NW	30	5	10	15	6.4	58
FRESNO	101	999.3	1011.0	35.0	17.2	26.0	1.7	43.3	16	11.7	9	17	0	10.0	40	T	- 3	T	1	0	0	0	3.5	WNW	10.7	NW	11	24	5	1	1.3	94
LONG BEACH	10	1011.9	1013.0	23.9	14.4	19.3		32.8	30	10.0	2	1	0	13.3	76	3		3	1	0	0	0	3.0	S	7.6*	S	2	9	18	3	4.3	
LOS ANGELES	30	1009.8	1013.7	21.7	15.0	18.3	0.2	26.7	28	11.7	2	0	0	13.9	79	T	- 2	T	0	0	0	0	3.4	WSW	9.4*	W	29	5	19	6	5.1	
LOS ANGELES U	95			25.6	15.0	20.4	0.6	32.2	28	12.2	2	1	0	12.8	69	T	- 2	T	0	0	0	0	2.4	W#	7.2	W	2	19	9	2	3.0	76
MT SHASTA R	1080	893.0		27.8	10.0	18.8	3.3	35.6	15	3.9	12	12	0			19	- 37	13	4	2	0	0						20	6	4	2.5	
OAKLAND	1	1013.5	1014.0	22.8	13.3	18.0	1.6	40.0	14	10.0	29	2	0	11.1	70	T	- 4	T	0	0	0	0	4.5	WNW	10.7*	WNW	8	15	11	4	3.9	
POINT ARGUELLO	112	1000.7		17.8	10.6	14.1		26.1	15	8.9	30	0	0			1		T	2	0	0	0	3.6		9.4*	NW	8	4	12	14	6.8	
RED BLUFF	104	998.6	1011.1	35.6	18.3	26.9	2.4	45.0	15	12.2	8	18	0	9.4	38	7	- 5	6	3	1	0	0	4.0	S	10.7	NW	30	22	5	3	2.3	91
SACRAMENTO	5	1010.8	1011.9	35.0	14.4	24.7	3.4	46.1	15	10.6	9	20	0	11.7	54	T	- 3	T	1	0	0	0	3.9	SW	11.2	SW	17	22	7	1	1.8	94
SACRAMENTO U	7			32.8	15.0	23.8	2.1	43.9	15	10.6	8	14	0			1	- 3	1	1	0	0	0										
SANDBERG R	1377	862.9		28.3	16.7	22.3	4.1	36.7	16+	2.8	1	12	0			0	- 1	0	0	0	0	0	5.8	NNW	19.7*	NNW	8	28	1	1	1.0	
SAN DIEGO	4	1010.2	1013.2	21.1	15.0	18.2	-0.5	27.8	30	12.8	1	0	0	13.3	77	T	- 1	T	0	0	0	0	3.0	WNW	7.6	NW	29+	9	14	7	5.4	54
SAN FRANCISCO	2	1013.9	1014.6	22.8	12.2	17.3	1.9	41.1	14	9.4	30+	3	0	11.1	73	3	- 1	3	1	0	0	0	6.5	WNW	17.0	WNW	19+	17	8	5	3.4	
SAN FRANCISCO U	16			18.9	12.2	15.7	0.6	38.3	14	10.6	20+	1	0			1	- 3	1	2	0	0	0	4.6	W#	13.4	W	7					77
SANTA MARIA	73	1005.8	1014.6	21.1	10.6	15.7	0.1	28.3	15	7.8	30+	0	0	11.1	78	T	- 4	T	0	0	0	0	3.7	WNW	11.6*	WNW	12	23	5	2	3.1	
COLORADO																																	
ALAMOSA	2297	774.5		26.1	5.6	16.0	1.2	30.6	22	- 0.6	4	0	1			13	1	8	5	11	0	0						7	21	2	4.8	
COLORADO SPRINGS	1882	814.4	1016.0	25.0	10.0	17.4	-1.2	33.3	29	3.3	4	4	0	7.8	60	98	53	31	15	22	0	0	4.2	NNE	13.9*	NNW	14	7	17	6	4.9	
DENVER	1610	839.8	1014.6	27.2	10.6	18.9	-0.2	35.0	29	4.4	16	7	0	7.2	52	28	- 13	15	11	11	0	0	3.3	SSW	13.4	SW	3	9	16	5	5.0	69
GRAND JUNCTION	1478	858.5	1010.2	32.8	16.1	24.6	2.8	37.8	22	10.6	4	19	0	- 2.2	19	T	- 11	T	0	4	0	0	4.8	ESE	17.4	NW	23	17	13	0	3.5	84

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JUNE 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
COLORADO	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							°/o
PUEBLO	1414	857.4	1013.2	28.9	12.8	20.9	0.3	36.7	30+	8.9	3	8	0	9.4	55	108	73	48	13	12	0	0	3.9	SE	2 .0	N	13	12	11	7	4.8	73
CONNECTICUT																																
BRIDGEPORT	2	1014.4	1015.5	25.0	14.4	19.6	0.2	33.9	13	10.0	16+	1	0	14.4	75	52	- 36	37	10	2	0	0	4.3	WSW	13.0	SW	10+	9	8	13	6.2	
HARTFORD	52	1008.2	1014.2	27.2	13.9	20.6	0.1	35.0	13	3.9	16	2	0	13.3	65	62	- 29	33	9	4	0	0	3.5	S	10.7	SW	5	6	11	13	6.7	56
NEW HAVEN	2	1014.5		24.4	13.9	19.0	0.2	31.1	30	8.3	17+	0	0			61	- 36	31	12	3	0	0	3.1		13.0	SW	10	6	11	13	6.3	67
DELAWARE																																
WILMINGTON	24	1011.7	1015.2	27.2	15.6	21.4	-0.7	33.3	13	10.0	17	2	0	15.6	74	79	- 23	20	13	7	0	0	3.9	WSW	12.5*	S	21	7	11	12	6.0	
DIST.OF COLUMBIA																																
WASHINGTON U	22			28.3	17.2	22.8	-0.5	33.9	13+	11.1	16	4	0			112	25	24	12		0	0										
WASH NATL AP	4	1011.1	1015.6	27.8	17.8	22.9	-0.1	33.3	2	12.2	17+	4	0	17.2	72	123	36	34	11	5	0	0	3.6	S	16.5	WNW	2	10	10	10	5.4	66
FLORIDA																																
APALACHICOLA U	4	1014.8		29.4	22.2	25.9	-0.7	31.7	10+	18.3	18	0	0			125	- 14	82	6	6	0	0	3.0		13.0	SW	20	13	9	8	5.0	79
DAYTONA BEACH	9	1016.2	1017.9	30.0	20.0	24.9	-1.3	34.4	15	13.9	3	3	0	20.0	78	173	3	61	12	16	0	0	3.5	SE	16.5*	SSW	15	5	8	17	6.9	
FORT MYERS	4	1016.5		32.8	22.8	27.8	0.8	35.0	6	18.3	2+	27	0			248	14	82	15	17	0	0	3.1		10.3*	NE	12+	5	11	14	6.7	
JACKSONVILLE	7	1016.5	1017.8	31.1	20.6	26.0	-0.8	35.0	12+	15.6	18	15	0	20.0	75	134	- 39	38	13	11	0	0	4.4	SW	14.3	S	21	6	11	13	6.4	58
KEY WEST	2	1015.5	1016.8	31.1	25.0	28.1	0.0	32.8	27	20.0	28	5	0	2.8	72	142	38	102	11	8	0	0	4.5	ESE	13.9	NW	28	1	11	18	7.4	71
LAKELAND U	65			32.2	21.7	26.8	0.1	34.4	30	19.4	19+	17	0			132	- 74	41	11	18	0	0	2.7					5	11	14	6.7	63
MIAMI BEACH	3			29.4	25.0	27.3	-0.2	31.1	27+	21.7	9	0	0			106	- 21	31	14		0	0	3.5		10.7	W	10	2	18	10	6.6	62
MIAMI	2	1015.8	1017.1	30.6	23.9	27.3	-0.1	33.3	22	21.1	2	5	0	22.2	75	266	93	103	13	12	0	0	4.1	ESE	11.2*	NW	16	2	8	20	7.7	
ORLANDO	32	1013.3	1017.6	32.8	21.1	27.0	-0.1	36.7	12	17.8	2	19	0	20.6	74	205	6	36	11	14	0	0	3.7	SE	13.4*	SE	26+	5	8	17	7.0	
PENSACOLA U	4			28.9	21.7	25.2	-1.3	31.7	4	18.9	18+	0	0			231	100	143	9	5	0	0	4.0		13.9	SW	20					57
TALLAHASSEE	18	1014.6	1017.3	31.1	18.9	25.2	-1.3	34.4	12	15.6	4+	16	0	19.4	75	116	- 55	41	12	12	0	0	3.4	S	15.6*	SW	14	2	19	9	6.4	
TAMPA	6	1016.2	1017.7	32.2	22.2	27.2	0.3	35.0	5	19.4	19+	20	0	20.6	72	67	-130	23	10	14	0	0	4.6	E	13.9*	SSE	26	4	11	15	6.8	54
WEST PALM BEACH	5	1016.1	1017.1	31.7	23.3	27.3	0.3	35.0	16	20.6	19+	12	0	21.7	76	67	-133	22	11	10	0	0	4.2	SE	12.1*	SSE	26	1	9	20	8.0	
GEORGIA																																
ATHENS	245	988.5	1017.4	28.9	17.2	23.2	-2.8	33.3	12+	11.7	16	11	0	17.8	75	125	28	42	11	11	0	0	2.7	W	15.6*	SE	23	6	10	14	6.8	
ATLANTA	297	976.0	1017.0	27.2	17.8	22.6	-2.8	31.1	12	13.3	16	0	0	17.2	76	187	85	70	16	13	0	0	4.2	W	13.0*	NW	23	7	10	13	6.6	56
AUGUSTA	44	1009.7	1016.4	30.6	18.3	24.6	-1.7	35.6	8	11.1	19	16	0	18.3	73	84	- 11	41	11	9	0	0	2.7	SW	20.6*	NNE	11	3	11	16	7.0	
COLUMBUS	117	1002.9		30.6	18.3	24.3	-1.8	35.0	12+	14.4	19	15	0			110	9	62	8	5	0	0	3.0		10.3*	SSE	20	7	8	15	6.8	
MACON	109	1003.2	1016.8	31.1	18.9	25.1	-2.1	35.6	8	13.3	19	17	0	17.8	70	100	4	54	11	7	0	0	3.6	WSW	14.3	E	20	9	6	15	6.5	64
ROME	194	993.6		28.3	16.1	22.3	-2.9	32.2	30+	11.1	1	3	0			164	61	53	14	8	0	0						5	8	17	6.7	
SAVANNAH	15	1015.0	1017.5	31.1	19.4	25.3	-0.8	35.6	7	13.9	19+	18	0	19.4	76	95	- 36	38	10	10	0	0	3.6	SW	17.0	SW	15	5	13	12	6.2	65
THOMASVILLE U	86			31.7	20.0	25.7	-0.8	36.1	12+	14.4	18	16	0			97	- 26	29	9	10	0	0										
HAWAII																																
HILO	9	1015.2	1017.2	28.3	19.4	23.8	0.3	30.0	30+	17.8	9	0	0	18.9	76	147	- 25	24	27	1	0	0	4.3	WSW	13.4*	ESE	30	3	14	13	6.6	52
HONOLULU	2	1016.6	1016.9	29.4	22.2	25.8	0.3	30.6	14	20.6	30+	0	0	18.3	66	22	16	9	12	0	0	0	5.5	NE	15.2	NE	24	3	21	6	5.9	84
LIHUE	35	1012.5	1017.9	28.9	22.2	25.5	0.4	30.0	26+	20.0	22	0	0	20.0	73	77	35	20	18	0	0	0	6.3	NE	12.5	NE	19	1	19	10	6.5	66
IDAHO																																
BOISE	865	918.1	1012.2	31.7	13.9	22.7	4.3	40.0	17	6.7	30	14	0	6.1	39	14	- 7	14	2	3	0	0	3.6	WNW	11.6	NW	21+	19	7	4	3.4	84
IDAHO FALLS 42NW R	1460			30.0	8.3	19.2	3.8	36.1	20	2.2	30	14	0			10	- 18	9	2													
IDAHO FALLS 46W R	1504	849.0		29.4	10.0	19.7	4.4	36.1	22	4.4	30	13	0			14	- 7	12	3	3	0	0	3.4	WSW	12.1A	SW	21					
LEWISTON	431	963.1		30.6	13.3	21.9	2.8	38.9	17	7.2	10	11	0			13	- 31	8	5	5	0	0						20	5	5	3.0	
POCATELLO	1355	863.5	1013.3	30.0	11.1	20.6	3.4	36.7	18	5.6	2	11	0	3.9	38	10	- 15	7	4	4	0	0	4.1	WSW	19.7	W	27	16	9	5	4.0	81
ILLINOIS																																
CAIRO U	96	1002.3		29.4	18.9	24.1	-1.4	33.9	30	12.2	16	6	0			185	87	150	7	7	0	0	3.2	SW#	13.9	W	8	6	11	13	6.1	72
CHICAGO O HARE	201	990.1	1014.6	26.7	12.8	19.7		33.3	29	5.0	16	4	0	11.7	63	107		57	7	6	0	0	4.1	SW	11.6*	NNE	14	11	11	8	5.1	
CHICAGO MIDWAY	186	992.1	1015.0	27.2	14.4	20.9	0.1	35.0	29	8.9	3	6	0	11.1	56	94	- 11	45	8	8	0	0	4.5	SW	16.5	NW	24	10	11	9	5.0	80
MOLINE	177	992.0	1014.1	29.4	15.0	22.2	0.6	35.6	29+	5.6	16	8	0	13.3	60	94	- 24	59	9	8	0	0	3.7	SSW	11.6	SE	29+	8	13	9	5.4	76
PEORIA	199	993.1	1015.3	27.8	13.9	20.8	-0.8	34.4	29	6.1	16	4	0	13.3	65	86	- 12	44	9	7	0	0	4.0	S	13.4	NW	24	8	14	8	5.4	68
ROCKFORD	222	987.7	1014.7	27.8	13.3	20.5	-0.2	34.4	29	6.7	16	6	0	12.2	62	42	- 75	17	11	11	0	0	4.3	SSW	11.2*	SSW	27+	11	12	7	4.8	
SPRINGFIELD	179	991.5	1014.6	28.3	15.0	21.7	-0.5	35.0	29	6.7	16	8	0	13.9	65	62	- 44	40	9	8	0	0	4.3	SSW	21.9	W	6	9	9	12	5.4	69
INDIANA																																
EVANSVILLE	117	999.6	1015.3	28.9	15.6	22.2	-1.4	34.4	30	10.0	17	7	0	15.6	70	75	- 23	26	7	4	0	0	3.4	SW	13.4	S	1	12	9	9	5.1	80
FORT WAYNE	244	984.3	1015.3	26.1	14.4	20.4	-0.1	33.3	30	6.7	16	3	0	12.8	63	70	- 20	33	12	5	0	0	4.8	SW	24.1	W	13	8	15	7	5.5	70

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
INDIANAPOLIS	242	985.8	1015.5	26.1	13.9	19.9	-1.9	31.1	30+	7.8	16	0	0	14.4	71	88	- 19	47	9	6	0	0	3.1	SW	16.1	SW	1	6	13	11	5.7	61
SOUTH BEND	234	986.7	1014.6	26.1	13.3	19.8	-0.6	33.9	30+	6.7	16	3	0	12.2	67	93	- 4	22	12	10	0	0	4.3	SSW	13.4*	NW	13	10	10	10	5.5	
IOWA																																
BURLINGTON	212	989.7	1015.3	28.3	15.0	21.7	-0.3	35.0	29	7.2	16	5	0	13.3	62	60	- 83	25	9	8	0	0	4.3	S	14.8	N	6	11	11	8	5.0	83
DES MOINES	289	984.3	1015.3	27.8	15.0	21.4	0.0	36.1	30	9.4	20	5	0	13.9	66	74	- 53	40	9	9	0	0	4.6	S	18.8	SW	1	11	8	11	5.6	72
DUBUQUE	325	989.2		26.1	13.3	19.8	-0.1	32.8	29	7.2	15	2	0			79	- 50	27	8	10	0	0						9	10	11	5.5	
SIOUX CITY	334	973.5	1014.1	28.3	15.6	21.9	0.6	40.0	30	8.3	20	9	0	13.3	62	86	- 26	69	6	5	0	0	4.8	SSE	19.2	N	21	14	5	11	5.2	72
WATERLOO	265	982.5	1014.3	27.8	13.9	20.7	0.1	34.4	29	6.1	16	6	0	13.9	67	66	- 55	48	8	6	0	0	3.4	S	10.3*	NNW	23+	9	13	8	5.3	
KANSAS																																
CONCORDIA U	419	964.9		28.3	17.2	22.9	-0.3	37.8	30	12.2	20	6	0	15.0	64	70	- 38	22	9	12	0	0	2.8	SW	11.2	W	5	12	11	7	4.8	73
DODGE CITY	791	926.9	1013.2	28.9	16.1	22.6	-0.5	37.2	29+	12.2	20+	10	0	13.9	62	103	27	30	12	11	0	0	4.9	SSW	17.9	NE	19	15	8	7	5.1	68
GOODLAND	1111	888.4	1013.3	28.3	12.8	20.5	0.2	38.9	29	8.3	20+	9	0	11.7	63	73	- 4	24	9	11	0	0	4.6	SSE	13.0*	SSE	29+	14	12	4	4.4	
TOPEKA	267	979.2	1014.6	28.3	16.1	22.2	-1.0	35.0	30+	10.0	24	4	0	16.1	71	62	- 54	37	6	7	0	0	4.9	S	17.9	N	13	7	13	10	5.7	68
WICHITA	403	965.8	1013.8	29.4	17.8	23.4	-0.6	36.7	30+	11.7	21	7	0	16.1	66	66	- 60	38	7	8	0	0	4.7	S	17.9	E	13	9	11	10	5.4	69
KENTUCKY																																
LEXINGTON	298	980.7	1016.2	26.7	15.6	21.2	-1.6	32.2	30	7.8	16	1	0	15.0	73	130	23	39	13	7	0	0	3.6	S				10	8	12	5.6	
LOUISVILLE	144	996.3	1015.6	26.7	14.4	20.5	-2.9	31.1	30+	8.3	16	0	0	16.1	78	91	- 12	30	9	7	0	0	2.9	SSE	12.1	S	5	9	11	10	5.5	57
LOUISIANA																																
ALEXANDRIA	28	1011.4	1015.9	29.4	18.3	23.7		33.3	9+	15.0	28+	4	0	20.0	84	147		47	11	10	0	0	2.5	SSW				8	6	16	6.5	
BATON ROUGE	20	1013.2	1016.1	30.0	19.4	24.7	-1.8	32.2	12+	16.1	27+	4	0	20.6	82	93	- 34	30	11	9	0	0	3.6	SE				3	12	15	6.9	
BURWOOD R	2		1016.8	28.9	23.9	26.3	-0.9	31.1	16+	21.7	29+	0	0	22.2	80	106	8	74	5	6	0	0	3.5	S								
LAKE CHARLES	4	1013.9	1015.3	30.0	21.1	25.7	-1.3	33.3	9	19.4	27+	3	0	20.0	73	135	7	61	10	3	0	0	2.0	S	8.9*	E	19	8	7	15	6.6	
NEW ORLEANS U	3	1014.2		30.0	22.8	26.6	-1.2	32.8	24	21.1	27+	4	0	21.1	76	313	172	108	15	12	0	0	2.4		8.9	SW	20	5	19	6	5.3	73
NEW ORLEANS	1	1014.1	1016.1	30.0	20.6	25.2	-1.8	32.2	12	15.0	3	1	0	20.6	77	203	60	67	14	10	0	0	3.0	SW	9.4*	WSW	20+	9	8	13	5.9	
SHREVEPORT	77	1006.8	1016.0	29.4	18.9	24.2	-3.2	33.3	13	15.0	17+	10	0	18.3	75	315	248	104	14	7	0	0	4.1	S				7	9	14	6.4	65
MAINE																																
CARIBOU	190	987.9	1011.1	21.7	9.4	15.7	1.0	28.9	12	1.1	1	0	0	9.4	69	77	- 24	18	16	6	0	0	4.7	SSE	14.3*	NW	29	3	11	16	7.2	
PORTLAND	19	1010.6	1013.2	23.9	10.0	17.0	0.4	32.2	13	1.7	7	1	0	11.7	73	79	- 5	26	8	4	0	0	3.9	S	13.9	SW	5	6	12	12	6.1	65
MARYLAND																																
BALTIMORE	45	1010.8	1015.8	28.3	15.6	21.9	-0.4	34.4	13+	9.4	17	4	0	16.1	72	132	42	43	15	8	0	0	4.0	W	18.3	NW	9	9	12	9	5.5	67
BALTIMORE U	4			28.3	18.3	23.3	-0.2	35.0	2	12.2	16	5	0			81	- 9	27	11													
FREDERICK	90			27.2	13.9	20.7	-1.9	32.2	13+	6.1	16	3	0			122	22	21	14		0	0										
MASSACHUSETTS																																
BLUE HILL OBS R	192	990.2		25.0	13.3	19.3		32.8	13	7.2	16	1	0		72	41	- 65	11	12		0	0	6.4	WSW	17.9	SSW	21					58
BOSTON	5	1008.8	1013.5	26.1	15.0	20.5	0.9	35.0	13	9.4	16	2	0	12.8	66	42	- 46	11	8	5	0	0	5.1	SW	13.4	NNW	6+	6	11	13	6.3	65
NANTUCKET	13	1014.5	1015.3	18.3	12.8	15.7	-0.4	23.3	13	9.4	8	0	0	12.8	86	55	- 27	31	9	4	0	0	5.3	SW	14.8	SW	10	7	5	18	6.8	54
PITTSFIELD	357			23.9	10.6	17.3	0.1	31.1	13	2.2	16	0	0			92	- 25	26	12		0	0										
WORCESTER	301	977.6	1014.0	24.4	13.3	18.9	0.3	31.7	13	7.8	15+	0	0	12.2	68	58	- 42	24	8	3	0	0	3.4	WSW	9.4*	WSW	3	5	14	11	6.8	
MICHIGAN																																
ALPENA	210	988.3		22.8	7.2	15.1	-1.9	33.9	29	- 0.6	20+	1	2			69	2	17	12	9	0	0	3.3	SW*	17.4	NW	2	8	10	12	5.9	62
DETROIT	189	988.3	1014.7	26.1	13.9	19.9	-0.1	34.4	30	7.2	16	5	0	11.7	61	70	- 4	35	10	4	0	0	4.4	W	16.1	NW	1	10	10	10	5.5	67
DETROIT M WAYNE CO	192	990.5	1014.3	25.6	12.8	19.2		33.9	30	6.1	16	3	0	12.2	66	81		22	12	6	0	0	4.8	WSW				10	12	8	5.4	
DETROIT WILLOW RUN	220	986.3	1014.4	26.7	13.3	19.8	-0.5	35.6	30	7.8	21+	3	0	11.7	63	82	- 1	30	8	4	0	0	5.1	SW	15.6*	SE	13	9	12	9	5.6	
ESCANABA U	181	990.9		21.1	10.0	15.7	-0.2	34.4	29	3.9	3	1	0	10.0	72	102	30	32	12	6	0	0	4.4		17.0	NW	2	9	15	6	5.3	64
FLINT	233	987.0	1014.8	25.0	11.7	18.2	-1.5	33.3	30	5.6	21+	2	0	11.7	68	74	- 2	42	11	7	0	0	3.9	WSW	11.2*	NNW	13	9	10	11	5.8	
GRAND RAPIDS	208	989.5	1014.6	25.6	12.2	18.8	-0.4	33.3	30	5.0	24	3	0	10.6	61	33	- 52	13	9	6	0	0	4.1	W	11.6	S	22	10	10	10	5.3	74
LANSING	260	982.6	1014.4	25.0	11.1	18.2	-1.4	33.3	30	5.0	16	2	0	11.1	67	75	- 10	28	11	7	0	0	5.4	WSW	20.4	NW	13	9	10	11	5.6	72
MARQUETTE U	206	986.4		21.1	10.0	15.5	0.2	33.9	28	5.6	10+	3	0			78	- 10	35	9	6	0	0	3.4	NW*	11.6	N	28	7	13	10	5.8	73
MUSKEGON	191	991.4	1014.6	23.3	11.1	17.4	-0.6	32.8	30	3.9	16	1	0	10.0	64	33	- 40	14	9	5	0	0	4.4	SW	13.0*	WSW	1	10	11	9	5.1	
SAULT STE MARIE	220	990.5	1013.2	20.0	7.2	13.7	-0.8	31.7	29	1.1	3	0	0	8.3	73	146	69	91	11	8	0	0	3.9	WNW	10.3*	NW	19	4	12	14	6.6	57
MINNESOTA																																
DULUTH	435	973.0	1014.3	23.3	9.4	16.3	0.9	33.9	29+	3.3	15	3	0	8.3	62	34	- 76	19	6	4	0	0	5.1	ENE	16.5	NE	13	6	17	7	5.8	76
INTERNATIONAL FALLS	359	972.7	1013.7	25.6	9.4	17.5	1.9	35.6	28	1.7	15	1	0	8.9	60	18	- 77	11	6	3	0	0	3.4	NE	10.3*	WNW	3	6	18	6	5.3	
MINNEAPOLIS	253	983.0	1013.9	26.7	13.3	20.1	-0.1	36.7	28	5.6	15	5	0	13.3	67	47	- 61	18	8	8	0	0	4.3	SW	15.2	NW	18	6	15	9	5.7	70

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JUNE 1961

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MINNESOTA																																
ROCHESTER	395	966.8	1014.2	25.6	12.8	19.2	-0.2	33.3	30	5.6	15	2	0	13.3	70	99	- 11	40	8	5	0	0	4.5	SW				8	11	11	5.8	
ST CLOUD	315	976.4	1014.0	26.7	12.2	19.4	1.1	34.4	30+	4.4	15	4	0		63	66	- 32	22	9	7	0	0						7	15	8	5.4	
MISSISSIPPI																																
JACKSON	93	1004.2	1016.1	29.4	18.9	24.2	-2.4	33.3	9	14.4	22	11	0	18.9	75	190	96	76	16	10	0	0	1.9	S	11.6	SE	9	5	12	13	6.6	49
MERIDIAN	89	1002.9	1016.6	29.4	18.3	23.9	-2.3	33.3	8+	13.9	27	14	0	19.4	82	198	88	59	15	9	0	0	2.7	SSW	14.3*	E	30	7	8	15	6.6	
VICKSBURG U	71	1006.7		28.3	19.4	23.9	-2.4	32.2	30+	14.4	16	2	0			144	59	69	12	7	0	0	3.0		11.6	SW	13	4	11	15	6.5	54
MISSOURI																																
COLUMBIA	237	986.1	1014.4	27.8	15.6	21.6	-1.1	32.2	29+	8.9	17	4	0	15.0	70	134	9	49	9	7	0	0	3.8	SSE	20.1	NW	13	10	10	10	5.1	76
KANSAS CITY	226	980.2	1014.6	27.8	17.2	22.4	-1.7	33.3	30	10.6	24	4	0	15.6	68	166	39	76	8	5	0	0	3.6	S	19.2	NE	13	8	13	9	5.5	75
ST JOSEPH	247	980.0		28.3	16.1	22.1	-1.4	35.6	30	10.0	24	5	0			124	- 40	36	9	7	0	0	4.3	S	15.6*	NW	27+	12	10	8	4.8	
ST LOUIS	163	994.7	1015.2	27.2	15.0	21.2	-2.8	31.7	29+	7.8	17+	0	0	13.9	64	93	- 18	57	10	7	0	0	3.8	SSW	15.2	S	6	9	9	12	5.8	68
ST LOUIS RFC	142			28.3	17.8	23.1	-1.2	33.3	29+	11.7	16	5	0			122	25	36	9		0	0										
SPRINGFIELD	386	968.5	1015.6	27.8	15.0	21.4	-1.3	33.9	30	7.2	24	2	0	15.6	72	44	- 97	17	9	8	0	0	4.2	SSE	17.9	NW	13	7	11	12	6.2	50
MONTANA																																
BILLINGS	1087	891.0	1012.1	31.1	14.4	22.6	4.8	37.8	25	10.6	1	14	0	6.1	39	6	- 60	4	3	3	0	0	4.4	SW	16.1	W	9	11	16	3	4.2	83
GLASGOW	694	938.7		30.0	13.9	22.0	4.4	36.1	17	6.7	2	12	0	5.6	39	30	- 59	25	4	6	0	0						12	14	4	4.2	
GREAT FALLS	1116	888.6	1013.1	29.4	11.7	20.8	4.8	36.1	26+	7.8	10+	7	0	4.4	39	19	- 57	15	4	4	0	0	3.8	SW	25.0	SW	29	15	11	4	3.6	87
HAVRE	787	925.5		30.6	11.7	21.1	3.9	37.8	17	7.8	8	12	0			18	- 58	15	4	4	0	0	3.8	E#	28.2	W	29	15	11	4	3.6	87
HELENA	1187	874.4	1013.3	28.9	11.7	20.3	5.1	35.6	17	6.7	1	8	0	3.9	39	20	- 35	11	3	7	0	0	3.9	NW	21.0	S	10	15	11	4	3.5	85
KALISPELL	904	911.6		27.8	8.3	17.9	3.2	33.9	17	1.7	8	5	0			18	- 44	7	6	3	0	0	2.5					18	8	4	3.3	
MILES CITY	801			31.7	15.0	23.4	5.0	40.0	29	9.4	2	17	0	6.7	38	21	- 51	12	6	4	0	0	4.1	SE	15.6*	N	18+	16	12	2	3.7	
MISSOULA	972	902.8	1015.8	28.9	7.8	18.2	2.5	35.6	17	1.7	10	10	0	7.2	55	9	- 39	6	6	5	0	0	3.1	NW	13.4	W	27	16	9	5	3.5	83
NEBRASKA																																
GRAND ISLAND	561	948.6		28.9	15.0	21.9	-0.1	41.1	30	8.3	20	9	0	13.9	63	102	9	66	10	10	0	0	5.0	SSW				12	10	8	4.7	
LINCOLN U	351			28.9	16.1	22.4	-0.3	40.6	30	8.9	20	8	0			49	- 55	19	9	10	0	0	4.2	S#	15.2	SE	13+	7	15	8	5.5	76
NORFOLK	471	958.6		27.8	14.4	21.2	0.5	40.0	30	7.2	20	8	0			88	- 34	40	8	9	0	0						12	5	13	5.3	
NORTH PLATTE	847	915.4	1012.6	27.8	13.3	20.6	0.1	37.2	30+	8.3	23	9	0	12.8	64	66	- 9	38	6	8	0	0	4.4	SSE	16.1	NW	13	13	9	8	4.8	72
OMAHA	298	974.9	1014.3	28.3	16.1	22.0	-0.6	38.3	30	8.9	20	5	0	14.4	66	113	- 2	46	10	9	0	0	4.5	SSE	16.1	E	13	12	9	9	5.2	71
OMAHA N OMAHA AP	403	966.9		26.7	15.0	21.0	-0.4	37.8	30	8.9	20	2	0			94	- 21	33	10	11	0	0						9	11	10	5.6	
SCOTTSBLUFF	1204	879.5	1012.7	28.9	12.2	20.3	1.2	38.3	29	6.7	16	9	0	8.9	55	18	- 53	8	6	9	0	0	4.6	ESE	15.6*	W	12	13	11	6	4.6	
VALENTINE	789	923.6		28.9	12.2	20.5	1.2	40.0	29	5.6	3	11	0	11.7	61	59	- 22	41	6	5	0	0	4.1	S#	25.0	W	12	14	7	9	4.6	79
NEVADA																																
ELKO	1547	845.2	1012.9	30.0	8.9	19.4	3.7	36.1	25+	1.7	2	12	0	1.1	34	9	- 9	6	5	8	0	0	2.4	SW	10.7*	S	26	16	8	6	3.9	
ELY	1907	810.7		28.3	5.6	16.9	1.6	35.0	21	- 0.6	2+	9	3	- 2.2	30	14	2	13	3	5	0	0	5.1	S	15.6	N	23+	12	13	5	4.1	93
LAS VEGAS	659	943.4	1007.1	39.4	21.7	30.6	1.9	45.0	25+	11.7	3	28	0	- 1.1	14	T	- 3	T	0	2	0	0	4.2	SSW	19.7*	WSW	25	26	4	0	1.5	97
RENO	1342	862.5	1013.8	31.1	7.2	19.2	2.8	38.3	20	2.2	30+	13	0	4.4	42	14	4	14	3	2	0	0	2.2	WNW	13.9	W	28	21	7	2	2.6	88
WINNEMUCCA	1310	868.3		31.7	9.4	20.5	2.7	39.4	22+	0.0	2	15	1	0.6	32	12	- 8	8	5	5	0	0	3.6	W	14.3	W	26	15	9	6	3.8	85
NEW HAMPSHIRE																																
CONCORD	103	1002.0	1013.5	26.1	11.1	18.6	0.7	33.9	13	2.2	16	1	0	11.7	66	55	- 37	22	7	2	0	0	2.3	S	12.5	NW	13	8	14	8	5.8	61
MT WASHINGTON OBS	1909	806.6		10.6	3.3	6.7	-0.2	16.7	12	- 3.3	16+	0	7		84	146	- 13	41	14	5	0	0	12.6	W	34.0Y	W	13+	2	9	19	7.7	31
NEW JERSEY																																
ATLANTIC CITY	18	1013.6	1015.8	26.7	15.0	20.8	-0.2	33.3	13	8.9	17	3	0	15.0	73	76	0	29	12	5	0	0	4.5	S	16.5	WSW	2	8	8	14	6.5	58
ATLANTIC CITY U	3			22.8	16.1	19.4	-1.0	30.0	30	12.8	4	0	0			33	- 43	9	11				4.6		17.9*	WSW	2					
NEWARK	3	1013.5	1015.0	27.8	16.1	22.2	0.8	36.7	13	12.2	17+	4	0	13.9	63	62	- 34	31	12	4	0	0	4.0	SW	9.4*	SSE	25+	7	13	10	6.0	
TRENTON U	17	1007.5		27.2	16.1	21.4	-0.1	34.4	13	10.6	4	3	0			68	- 31	18	15	6	0	0	3.9	S#	15.6	W	2	6	11	13	6.2	61
NEW MEXICO																																
ALBUQUERQUE	1618	848.3	1009.2	32.8	16.1	24.3	0.5	37.2	22	7.8	3	22	0	3.3	29	3	- 15	3	1	7	0	0	4.1	ESE	18.8	E	25+	21	8	1	2.9	87
CLAYTON	1515	846.9		28.3	13.3	20.8	-0.1	34.4	27	8.3	16	7	0			43	- 5	20	9	13	0	0						10	10	10	5.1	
RATON	1944	808.3		27.8	10.0	18.7	1.0	32.8	27	7.2	25+	2	0			49	5	22	12	18	0	0						3	18	9	5.6	
ROSWELL	1101	892.0		35.0	14.4	24.7	-0.2	39.4	24+	6.7	4	27	0	9.4	46	16	- 22	10	5	7	0	0	4.2		16.1	NW	8	12	14	4	4.2	
SILVER CITY	1638	834.1		32.8	14.4	23.5		36.1	24+	7.8	3	20	0			50		38	5	16	0	0						15	14	1	3.5	
NEW YORK																																
ALBANY	84	1009.7	1013.6	26.1	12.8	19.4	0.0	32.8	13	4.4	16	1	0	13.3	70	75	- 10	37	11	5	0	0	3.4	S	12.5	S	21	7	10	13	6.3	59
BINGHAMTON	485	955.8	1014.3	23.3	12.8	18.1	0.2	29.4	13	5.0	16	0	0	12.8	74	99	7	47	11	10	0	0	3.8	SW	15.6	SW	25	5	14	11	6.6	67

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days: Partly cloudy, 4-7	No. of days: Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	°C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s		M.p.s.							%
NEW YORK																																
BUFFALO	215	986.6	1014.8	22.2	12.2	17.4	-1.2	29.4	13	6.1	16	0	0	12.8	75	93	24	29	11	5	0	0	4.8	SW	15.6	SW	19	6	12	12	6.4	61
NEW YORK U	40	1003.1		27.8	17.2	22.4	0.7	35.6	13	11.7	14	3	0	13.9	62	73	- 21	41	11	2	0	0	3.7	SW#	10.3	SE	21	14	8	8	5.0	56
NEW YORK	6	1012.8	1015.0	27.2	16.7	21.9	0.3	36.1	13	12.8	16+	1	0	13.9	65	70	- 16	39	13	2	0	0	4.6	SW	14.3	W	2	8	11	11	6.1	
ROCHESTER	166	995.1	1014.4	24.4	12.8	18.6	-0.7	32.2	13	6.1	16	1	0	12.2	70	96	24	28	9	8	0	0	5.1	WSW	21.9	W	24	6	13	11	6.0	62
SCHENECTADY	66			25.6	13.3	19.3	-0.7	32.2	29+	6.7	16	2	0			86	- 12	35	10	3	0	0						17	9	4	3.9	
SYRACUSE	129	992.1	1013.9	25.0	13.3	19.2	-0.7	32.8	13	7.2	7	2	0	12.2	67	93	0	47	11	8	0	0	4.0	WSW	21.9	NW	10	8	13	9	5.8	59
NORTH CAROLINA																																
ASHEVILLE U	671	938.5		26.7	14.4	20.3	-1.5	31.1	2	9.4	16	0	0			113	23	25	13	8	0	0	2.4		13.9	NW	13	4	13	13	6.8	38
CAPE HATTERAS R	2	1015.7	1016.7	25.6	19.4	22.6	-1.6	29.4	13	13.9	16	0	0	20.0	86	102	- 9	37	11	7	0	0	6.2	WSW	12.1	SSW	22+	3	11	16	7.2	66
CHARLOTTE	221	988.6	1016.6	28.3	17.2	22.7	-2.1	32.8	14	11.1	18+	5	0	18.3	79	210	121	58	14	9	0	0	3.0	SW	13.9	SW	21+	7	8	15	6.7	56
GREENSBORO	272	984.7	1016.5	27.8	16.1	22.1	-1.6	32.2	7+	9.4	18	2	0	16.7	75	158	66	48	15	11	0	0	3.3	SW	16.1	S	7	4	14	12	6.6	61
RALEIGH	132	1002.4	1016.3	28.3	16.7	22.7	-1.6	33.9	8	8.3	18	7	0	17.2	75	103	- 1	31	14	10	0	0	3.2	SSW	10.3*	SSE	21+	8	7	15	6.3	54
WILMINGTON	9	1014.0	1016.9	29.4	19.4	24.3	-1.1	33.9	7	12.8	18+	8	0	20.0	81	299	185	73	14	12	0	0	4.7	SSW	17.9	SE	14	4	11	15	6.7	56
WINSTON SALEM	295	981.6	1016.7	27.8	16.7	22.2	-1.6	32.2	14+	9.4	15	4	0	15.6	69	178	87	83	12	8	0	0	3.7	WSW	16.5*	NE	15	5	15	10	6.1	
NORTH DAKOTA																																
BISMARCK	502	951.9	1013.6	30.0	11.1	20.6	2.7	37.8	27	2.2	15	15	0	7.8	47	45	- 39	38	5	7	0	0	4.6	ENE	17.0	NW	21	14	11	5	4.4	83
DEVILS LAKE U	448	960.8		28.9	11.7	20.3	3.4	39.4	27	5.6	23+	9	0			24	- 57	11	6	4	0	0	3.7	SW#	12.5	N	17	12	12	6	4.2	79
FARGO	274	979.9	1014.1	28.3	12.2	20.4	2.3	35.0	27	4.4	20	6	0	12.2	60	35	- 43	13	8	6	0	0	5.3	SSW	26.8	SW	28	13	8	9	4.8	65
WILLISTON U	572	946.5		29.4	13.9	21.7	4.5	35.0	28+	4.4	2	12	0			11	- 80	5	4	5	0	0	3.0	S#	21.0	SE	29	11	14	5	4.8	84
OHIO																																
AKRON	369	977.9	1015.9	25.0	12.8	18.7	-1.6	32.8	12	5.6	16	1	0	12.8	70	61	- 36	24	15	9	0	0	3.8	SW				9	9	12	5.9	
CINCINNATI OBS	232			27.2	15.0	21.1	-1.6	33.3	30	8.3	16	2	0			91	- 12	45	8	6	0	0	2.2	SW#	7.2	W	23+					71
CINCINNATI	169			27.8	16.1	21.9	-1.7	34.4	12	10.0	16	3	0			63	- 40	33	9	5	0	0										
CLEVELAND	237	987.3	1015.1	24.4	12.2	18.3	-2.4	32.8	12	3.9	16	2	0	13.3	74	75	- 3	24	11	5	0	0	4.4	S	13.9	SW	1	7	9	14	6.0	74
COLUMBUS	247	986.2	1016.1	26.1	12.8	19.6	-1.9	32.8	30	6.7	22+	1	0	14.4	73	89	- 21	43	9	8	0	0	3.0	S	15.2	N	1	8	9	13	5.8	71
COLUMBUS U	221			26.7	15.6	20.9	-1.3	33.9	12	8.3	16	3	0			74	- 19	44	8	5	0	0										
DAYTON	305	979.8	1015.8	26.1	14.4	20.3	-1.3	32.2	30	7.2	16	1	0	12.8	67	88	- 11	43	9	7	0	0	4.0	SSW	16.1	W	13	8	10	12	5.6	58
MANSFIELD	395			24.4	13.3	18.9		31.1	30	5.6	16	0	0			101		34	13	9	0	0						11	8	11	5.5	
SANDUSKY U	184			26.1	14.4	20.1	-0.9	34.4	30+	8.3	16	5	0			83	- 12	28	11	4	0	0	3.5		15.6	NW	1	9	14	7	5.2	68
TOLEDO	206	989.9	1015.3	25.6	11.7	18.4	-1.9	32.8	30	5.0	17	4	0	12.8	73	69	- 22	21	10	4	0	0	3.8	SW	21.0	W	1	8	10	12	5.6	71
YOUNGSTOWN	359	973.2	1015.5	24.4	12.2	18.3	-1.7	31.1	13+	5.0	16	0	0	12.2	70	143	49	33	12	7	0	0	3.7	SW	14.3*	SW	23	8	9	13	6.3	
OKLAHOMA																																
OKLAHOMA CITY	390	971.9	1014.7	28.9	17.8	23.4	-1.9	36.7	22	13.3	21	7	0	17.2	70	98	- 2	35	10	9	0	0	5.1	SSE	17.4	NW	7	8	8	14	5.9	59
TULSA	198	990.5	1014.7	28.3	17.8	23.2	-2.1	33.9	29	12.2	21	5	0	18.3	75	162	31	66	6	8	0	0	4.2	SSE	13.0*	NNE	13	9	8	13	5.9	67
OREGON																																
ASTORIA	2	1017.6	1018.2	19.4	10.0	14.8	0.6	27.8	17	6.1	22+	0	0	10.6	78	28	- 40	12	10	0	0	0	4.3	NW	12.5*	SW	17	10	7	13	5.7	
BURNS U	1265	873.4		28.3	9.4	19.1	3.2	36.7	22	2.8	7	9	0	4.4	43	21	- 1	11	5	5	0	0						16	10	4	3.5	
EUGENE	110	1003.4		25.6	9.4	17.6	1.3	37.8	17	3.9	7	3	0			19	- 15	10	4	1	0	0	3.9		13.0*	SW	1	13	10	7	4.3	
MEACHAM	1234			23.3	9.4	16.3	4.1	33.9	16	1.7	30	2	0			22	- 45	5	9	3	0	0						17	8	5	3.2	
MEDFORD	396	968.2	1015.4	31.1	10.6	20.7	2.4	42.8	15	3.9	7	13	0	10.0	57	9	- 16	5	3	4	0	0	2.4	WNW	8.0*	SSE	1	17	8	5	3.3	
PENDLETON	452	961.7	1014.7	31.1	13.3	22.0	2.7	42.2	17	6.1	7	13	0	4.4	37	7	- 24	3	6	3	0	0	4.3	W	23.2*	WNW	6	20	5	5	2.7	
PORTLAND	6	1011.2	1016.7	25.0	11.7	18.5	1.5	34.4	17	5.6	30	3	0	11.1	64	12	- 32	7	4	0	0	0	3.4	NW	9.8	SW	8	15	5	10	4.3	75
PORTLAND U	9			25.6	13.3	19.6	1.9	36.1	17	9.4	7	4	0			12	- 29	6	5		0	0										
ROSEBURG	154	998.3		27.2	10.0	18.6	1.8	38.9	17+	4.4	7	7	0			12	- 23	6	4	1	0	0	2.3	N#	7.6	NW	25+	12	13	5	3.9	76
SALEM	59	1009.5	1016.9	25.6	8.9	17.4	0.3	36.7	17	3.9	30+	5	0	11.1	71	8	- 23	3	4	0	0	0	2.7	N	7.6*	SW	29+	15	4	11	4.4	
SEXTON SUMMIT R	1169	885.2		22.2	10.0	16.1	2.8	35.0	15	2.2	9	3	0			29	- 9	15	3	1	0	0	4.8	N				20	4	6	3.0	
PACIFIC AREA																																
CANTON ISLAND	2	1008.8	1009.1	31.7	25.6	28.4	-0.7	32.2	29+	22.8	10+	7	0	23.3	78	137	66	58	17	2	0	0	4.9	E	13.0*	NNE	15	2	8	20	7.8	
ENIWETOK	4	1009.1		31.1	25.6	28.3		32.2	11	23.9	30+	1	0	24.4	79	79		16	17	0	0	0	7.1									
JOHNSTON	2	1013.5		28.3	23.9	25.9		28.9	14+	21.7	28	0	0	22.2	78	21		3	15	0	0	0	8.0		15.6	E	29	3	24	3	5.4	71
KOROR R	29	1006.1	1008.9	30.0	23.9	26.9	-0.4	31.7	9+	22.8	24+	0	0	24.4	88	576	260	107	26	4	0	0	2.5	S	10.7	SW	25	0	0	30	9.8	34
KWAJALEIN	2	1009.1	1009.4	30.0	25.0	27.3		30.6	28+	22.8	27	0	0	24.4	83	199		47	25	0	0	0	5.9	ENE	13.0*	E	13	0	8	22	8.5	
MAJURO	3	1009.8	1010.1	29.4	25.0	27.3		31.1	20	23.3	4	0	0	23.9	81	353		87	27	3	0	0	4.7	ENE	12.5	E	4	0	9	21	8.6	
PONAPE R	37	1004.4	1008.9	30.6	22.8	26.7	-0.6	32.2	7	21.1	15	1	0	23.9	87	460	44	69	26	3	0	0	1.9	NE	8.0	E	12	0	4	26	9.3	55
TAGUAC GUAM R	110			30.0	23.3	26.6	-0.1	31.1	17+	21.1	8	0	0			150	21	33	27	3	0	0	2.5	E#	8.5	E	28+					33
TRUK MOEN ISLAND	2	1009.1	1009.4	30.6	24.4	27.3	0.4	31.7	8	22.8	13	0	0	24.4	85	323	- 13	81	26	1	0	0	1.7	NE				0	4	26	9.3	82
WAKE ISLAND	3	1013.9	1014.3	30.6	24.4	27.6	0.2	32.2	8	22.2	14	1	0	22.8	77	28	- 18	8	14	0	0	0	5.7	E	13.4*	ENE	16	2	9	19	7.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm	M p.s.		M p.s							%
PACIFIC AREA																																
YAP R	17	1007.1	1008.2	30.0	23.9	27.1	-0.2	32.2	10	22.2	12	1	0	24.4	87	313	49	58	27	1	0	0	2.7	NE	14.8	S	11	0	0	30	9.8	29
PENNSYLVANIA																																
ALLENTOWN	115	1001.1	1015.4	27.2	14.4	20.7	-0.2	33.9	13	6.7	16	2	0	14.4	71	53	- 50	19	14	6	0	0	4.1	SW	12.5*	SE	21+	9	12	9	5.7	
ERIE	223	988.6	1014.6	23.3	13.3	18.2	-0.4	32.2	13	5.0	16	1	0	12.2	71	99	26	33	11	11	0	0	5.0	WSW	13.0*	WSW	2+	7	14	9	5.9	
HARRISBURG	102	1001.2	1015.1	27.2	15.0	19.3	-0.7	34.4	30	5.0	16	4	0	14.4	69	49	- 43	23	14	13	0	0	3.4	W	13.0	W	2	9	9	12	5.9	70
PHILADELPHIA	2	1010.4	1015.1	26.7	15.6	21.1	-1.2	33.3	30	8.9	17+	2	0	15.0	70	75	- 23	19	10	4	0	0	3.6	WSW	11.6	N	14	7	12	11	6.4	65
PHILADELPHIA U	11			27.8	17.2	22.6	0.0	35.0	13	12.8	16+	5	0																			
PITTSBURGH	351	985.7	1016.3	25.0	11.7	18.4	-1.9	31.7	12	5.6	4	0	0	13.3	74	107	4	29	14	7	0	0	3.1	SW	15.6*	WNW	23	4	13	13	6.5	66
PITTSBURGH U	228			26.1	15.0	20.5	-1.6	33.3	12	7.8	16	1	0			107	10	36	13		0	0										50
READING U	81	1002.8		27.8	16.7	22.1	0.3	34.4	13	8.9	16	3	0			50	- 45	13	15	10	0	0	4.1		15.2	S	21	8	9	13	6.0	67
SCRANTON	287	980.9	1015.1	25.6	13.3	19.5	-0.4	32.2	13	4.4	16	1	0	12.8	68	97	- 16	36	13	8	0	0	3.8	SW	18.8	SW	2	7	15	8	5.7	62
WILLIAMSPORT	161	995.9	1014.8	27.2	13.3	20.2	-0.5	33.3	12	4.4	16	2	0	13.9	70	130	43	57	10	6	0	0	2.7	W	14.3*	WSW	1	5	18	7	5.7	
RHODE ISLAND																																
BLOCK ISLAND	34	1010.2		20.0	12.8	16.4	-0.8	26.7	14	8.9	16	0	0			24	- 49	8	7	1	0	0						8	8	14	6.3	
PROVIDENCE	17	1008.2	1014.4	25.6	14.4	19.7	1.1	33.9	13	8.3	16	1	0	13.3	71	38	- 43	21	10	4	0	0	4.9	S	14.3*	SSW	5	8	8	14	6.0	57
SOUTH CAROLINA																																
CHARLESTON	12	1014.9	1016.9	30.0	19.4	24.8	-0.7	34.4	7	12.2	19	9	0	20.0	80	174	54	105	14	10	0	0	3.8	S	20.6Y	S	21	5	14	11	6.6	57
CHARLESTON U	3			28.3	21.1	24.9	-1.5	32.8	14	15.0	16	4	0			166	57	60	12		0	0	4.6		14.8	SW	15					
COLUMBIA	66	1003.7	1016.3	31.7	18.9	25.1	-1.3	36.7	8	10.6	19	18	0	17.8	69	50	- 53	16	11	8	0	0	3.3	SW	11.2*	WSW	15	6	11	13	6.4	37
FLORENCE	45	1010.4	1016.2	30.0	18.3	24.3	-1.8	35.0	7	12.2	19+	12	0	20.0	81	236	112	79	15	11	0	0	3.8	SSW	15.6*	SW	21	7	6	17	6.4	
GREENVILLE	308	979.8	1016.7	30.0	17.2	23.4	-1.3	35.0	14	11.1	16	13	0	16.7	70	108	31	37	11	9	0	0	3.3	NE	12.5	NE	15	5	13	12	6.5	56
SPARTANBURG	244	986.9	1016.6	28.9	17.2	22.8	-2.3	33.3	14+	10.0	16+	8	0	16.1	72	251	175	88	12	8	0	0	2.7	SW	14.3*	NW	11	7	9	14	6.6	
SOUTH DAKOTA																																
HURON	391	967.0	1013.7	27.8	12.8	20.3	0.2	37.2	30	3.3	3	8	0	15.0	72	115	38	56	7	5	0	0	4.9	S	18.8	W	11	14	5	11	5.2	83
RAPID CITY	965	901.5	1013.5	30.0	13.9	21.8	4.2	41.1	29	7.2	3	12	0	6.7	42	19	- 66	9	5	5	0	0	4.2	NNW	18.8	N	18	14	10	6	4.3	77
SIOUX FALLS	433	962.9	1013.8	27.2	13.9	20.4	0.4	36.7	30	6.1	15	6	0	12.2	63	98	- 10	49	10	7	0	0	3.9	S	12.5*	NE	14	13	9	8	4.9	
TENNESSEE																																
BRISTOL	459	962.7	1016.4	26.7	15.0	21.0	-1.4	31.1	11+	11.1	18	0	0	15.0	75	113	20	43	11	7	0	0	2.5	NE	13.0*	SW	9	5	10	15	6.9	
CHATTANOOGA	204	989.2	1016.4	28.9	17.2	23.2	-1.2	32.8	30+	12.8	19	5	0	18.3	78	178	71	53	16	13	0	0	2.3	S	10.7	NW	15	5	8	17	6.8	49
KNOXVILLE	290	981.7	1016.8	26.7	16.1	21.5	-2.8	30.6	30+	12.2	27+	0	0	16.1	77	115	27	37	13	8	0	0	3.3	SW	13.0	W	5	5	8	17	7.2	53
MEMPHIS	80	1001.1	1015.7	29.4	18.9	23.9	-1.8	33.3	30	13.3	22+	3	0	17.2	69	38	- 47	16	10	7	0	0	3.6	S	12.5	NW	5	5	11	14	6.5	60
MEMPHIS U	83			28.9	20.0	24.3	-1.6	33.3	30+	13.9	16	2	0			66	- 17	23	11		0	0										
NASHVILLE	176	996.0	1015.8	28.3	16.7	22.4	-2.5	32.8	30	12.2	22+	2	0	16.7	73	75	- 6	36	12	8	0	0	2.9	S	12.5	NW	14	6	8	16	6.5	60
OAK RIDGE	276	984.1		27.8	16.1	22.0	-1.4	32.8	11+	11.1	24+	2	0			182	83	61	14	12	0	0	1.8		16.1Y		7	8	6	16	6.8	
TEXAS																																
ABILENE	536	953.5	1013.1	30.6	18.3	24.6	-2.0	34.4	13+	14.4	3	16	0	17.2	67	244	173	58	11	9	0	0	4.0	SSE	25.5	NE	4	12	11	7	4.8	74
AMARILLO	1099	889.1	1012.0	30.6	16.1	23.3	0.2	36.1	13	12.2	15	14	0	13.9	61	87	4	21	10	13	0	0	6.1	SSW	20.1	SE	2	14	9	7	4.2	76
AUSTIN	187	992.2	1013.7	31.7	21.1	26.4	-1.1	35.0	7	16.1	22	18	0	20.0	73	290	209	122	9	6	0	0	4.7	SSE	11.6	SE	29+	4	14	12	6.1	66
BROWNSVILLE	5	1010.7	1013.3	32.8	23.3	28.2	0.1	34.4	26+	20.6	24+	24	0	22.2	74	12	- 65	5	7	1	0	0	6.1	SE	11.6	SE	17+	9	17	4	5.1	79
CORPUS CHRISTI	13	1012.6	1013.8	31.7	23.3	27.6	-0.3	34.4	26	19.4	20	15	0	22.2	75	143	70	65	9	5	0	0	4.5	SE	14.3	E	30	6	15	9	6.2	67
DALLAS	147	996.3	1014.6	30.0	20.0	25.1	-2.6	35.0	23	15.6	17	12	0	18.9	71	199	112	40	12	9	0	0	4.8	S	13.4	W	14	10	9	11	5.8	64
DEL RIO U	292			33.9	22.2	28.2	0.0	36.7	12+	18.9	19	27	0			182	121	74	6	6	0	0										
EL PASO	1194	884.7	1009.5	35.6	18.9	27.1	0.3	39.4	24	11.7	5	27	0	5.0	29	7	- 9	4	4	7	0	0	3.4	SE	21.9	N	27	16	9	5	3.7	91
FORT WORTH	166	994.3	1014.8	30.6	20.6	25.5	-1.9	35.0	23+	16.1	18+	13	0	18.9	72	151	65	51	9	8	0	0	5.2	S	11.2*	ESE	24	9	9	12	5.7	
GALVESTON U	2			28.3	23.9	26.1	-1.4	30.0	21	20.0	20+	0	0			375	290	319	7		0	0	5.3		23.7	S	19					78
GALVESTON	2	1013.1	1015.3	29.4	23.3	26.4	-1.2	31.1	25+	20.0	20+	0	0	20.6	71	428	343	288	8	6	0	0	4.9	S				4	17	9	6.0	
HOUSTON U	12			30.0	21.7	25.7	-1.9	32.2	24+	18.3	20	4	0			205	101	113	8		0	0										
HOUSTON	15	1012.3	1014.9	31.7	22.2	26.9	-0.1	33.3	25+	19.4	22+	17	0	21.7	78	282	188	186	7	6	0	0	3.4	SSE				3	14	13	6.7	71
LAREDO	152	996.7	1011.9	36.1	23.9	30.0	0.1	38.9	7	19.4	9	29	0	19.4	60	47	- 6	32	7	4	0	0	5.9	SE	14.3*	ESE	30	8	17	5	4.7	
LUBBOCK	988	903.5	1012.9	31.1	16.7	23.9	-0.8	38.3	1	12.8	21	18	0	15.0	64	102	38	74	7	9	0	0	6.8	SSE	23.2*	WSW	24	13	10	7	4.5	
MIDLAND	870	914.5	1011.5	32.2	18.3	25.3	-1.4	37.2	1	15.0	15	22	0	15.0	59	75	25	54	4	6	0	0	5.0	SE	12.1*	N	8+	13	9	8	4.5	
PORT ARTHUR	5	1013.5	1015.0	31.1	21.1	26.1	-0.7	33.3	16+	17.2	1	11	0	22.2	83	357	235	259	8	4	0	0	3.9	S	19.2	N	19	6	11	13	6.4	59
SAN ANGELO	580	947.5	1012.4	32.2	20.0	26.1	-0.9	36.7	13	14.4	19	22	0	17.8	64	148	102	73	4	1	0	0	5.9	S	17.9*	NE	4	13	11	6	4.5	
SAN ANTONIO	241	989.0	1013.6	32.8	22.2	27.4	-0.4	36.1	7	17.2	22	22	0	20.6	71	200	119	85	7	5	0	0	4.7	SSE	11.2	SE	13	5	19	6	5.6	62
VICTORIA	32	1009.3		31.7	22.2	27.1	-1.3	33.9	7	18.3	22	16	0			152	70	67	10	7	0	0	4.5		17.0Y	SE	29	4	14	12	6.3	
WACO	152	993.6	1014.3	31.1	20.6	25.7	-1.9	34.4	23	16.1	22	20	0	20.0	73	306	225	105	8	5	0	0	5.8	SSE	30.8*	E	5	5	13	12	6.1	
WICHITA FALLS	303	977.1	1013.3	32.2	18.9	25.5	-0.9	38.3	22	14.4	21	17	0	17.8	66	166	80	122	11	10	0	0	5.0	S	13.9*	ENE	14	10	12	8	5.3	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JUNE 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 32.2 °C or above	Temperature: No. of days: Min. 0 °C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .25 mm. or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days: Partly cloudy, 4-7	No. of days: Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
UTAH	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MILFORD	1533	844.2		32.8	10.6	21.6	2.8	39.4	23	2.2	3	17	0			T	- 11	T	0	2	0	0						19	8	3	2.9	
SALT LAKE CITY	1286	866.9	1011.2	33.3	13.9	23.7	4.2	40.0	21	6.7	3	20	0	3.9	31	2	- 21	1	3	2	0	0	4.2	S	14.3	W	26	17	10	3	3.2	84
WENDOVER	1291	869.6		32.2	18.9	25.6		38.9	21	12.8	4	18	0			1		1	2	6	0	0						17	10	3	3.1	
VERMONT																																
BURLINGTON	101	997.8	1012.5	24.4	10.6	17.5	-1.1	31.1	13	2.2	7	0	0	12.2	72	94	4	25	13	4	0	0	3.3	SSW	11.6	N	13	5	11	14	6.7	59
VIRGINIA																																
LYNCHBURG	289	991.6		27.2	15.6	21.5	-1.2	33.3	2	8.3	16	1	0			155	57	77	16	7	0	0	3.2		13.0	S	9	4	12	14	6.7	63
NORFOLK	8	1015.2	1016.7	27.2	17.2	22.4	-1.3	33.3	23+	8.9	17	4	0	16.1	71	170	65	64	13	9	0	0	4.0	SW	17.0	NE	15	5	11	14	6.5	57
RICHMOND	49	1010.5	1016.8	28.9	16.1	22.7	-0.8	33.9	2	8.9	18+	9	0	17.2	75	165	67	51	14	11	0	0	3.4	SW	15.2	SE	14	4	14	12	6.4	60
ROANOKE	358	974.7	1016.5	28.3	15.6	21.8	-0.8	34.4	12+	7.8	17	4	0	15.0	70	96	2	30	13	8	0	0	3.0	SW				5	12	13	6.4	
WASHINGTON																																
OLYMPIA	58	1010.2	1017.7	24.4	7.8	16.0	1.1	31.7	17	3.3	12+	0	0	10.0	69	27	- 6	13	6	0	0	0	2.7	SW	8.0*	W	26+	13	6	11	4.6	
SEATTLE TACOMA	122	1003.4	1017.4	23.3	11.7	17.5	2.0	32.2	17	7.8	10	1	0	9.4	63	14	- 19	9	6	1	0	0	4.0	SSW	9.8*	SSW	29	11	10	9	4.9	
SEATTLE	4		1017.3											10.6	64	11	- 21	5	6		0	0			12.1	SW	29					65
SEATTLE U	4			23.3	12.8	18.2	1.6	30.0	17+	10.0	10	0	0			42	12	20	7	3	0	0	3.4	SSW	17.0	SW	29	18	5	7	3.2	88
SPOKANE	718	946.5	1014.8	27.2	11.1	19.2	2.9	36.1	17	5.6	30+	8	0	7.8	53	56	- 45	21	9	1	T	533						16	7	7	4.2	
STAMPEDE PASS R	1206	881.8		18.3	7.8	13.1	2.8	30.0	16	1.7	29+	0	0			53	- 13	17	12	0	0	0	5.2	SW	15.2	S	18+	6	9	15	6.6	36
TATOOSH ISLAND	31	1015.6	1018.5	15.0	10.6	12.7	0.5	19.4	13	7.2	9	0	0	10.9	85	22	- 9	8	5	5	0	0	2.5	W#	15.6	E	2	20	6	4	2.8	91
WALLA WALLA U	289	978.0		30.6	15.6	22.9	2.9	41.1	17	9.4	7	13	0			13	- 2	7	4	3	0	0	3.5	WNW	13.4*	SSW	5	20	4	6	2.8	
YAKIMA	323	976.3	1014.7	30.0	10.6	20.2	1.7	39.4	16	4.4	30	13	0	7.2	47																	
WEST INDIES																134	- 3	32	19	6	0	0	3.0	ENE	11.2	E	21	1	17	12	6.8	59
SAN JUAN P.R.	5	1014.9	1017.7	30.6	22.8	26.6	0.1	32.2	21+	21.1	19+	3	0	22.2	78	115	- 42	59	10	2	0	0						0	12	18	7.5	
SWAN ISLAND	9	1011.7		30.6	25.6	28.0	0.2	32.2	4	22.2	11	1	0																			
WEST VIRGINIA																133	33	40	13	9	0	0	2.1	SW	13.0*	NW	2	1	14	15	7.2	
CHARLESTON	286	981.2	1016.6	26.1	13.9	19.9	-2.3	32.2	12	7.8	16	1	0	15.0	77	185	75	55	13		0	0										
HUNTINGTON U	173			27.2	14.4	21.0	-2.4	33.3	30+	8.9	16	5	0			131	25	52	13	6	0	0	2.0		13.4	NW	8+					53
PARKERSBURG U	189			27.2	13.9	20.6	-1.8	33.9	12	7.8	16	3	0																			
WISCONSIN																109	19	30	10	6	0	0	4.8	SW	15.6	SW	27	12	11	7	5.2	69
GREEN BAY	210	991.4	1014.1	25.0	11.1	18.1	-0.1	32.8	29	4.4	3	2	0	11.7	69	59	- 39	18	10	8	0	0	4.2	S	24.6*	SSW	10	11	11	8	5.2	
LA CROSSE	199	989.1		26.7	14.4	20.7	0.3	35.0	28	7.8	3	4	0	13.3	67	47	- 55	18	9	8	0	0	4.2	SW	13.9	N	24	12	10	8	5.2	76
MADISON	262	979.3	1014.2	26.1	12.2	19.1	-0.6	33.3	29	5.0	15	4	0	13.3	71	39	- 43	10	8	6	0	0	4.7	NNE	17.0	NW	24	13	8	9	4.7	72
MILWAUKEE	204	990.5	1015.3	25.6	11.7	18.5	0.2	35.0	29	5.0	16	4	0	11.1	66																	
WYOMING																14	- 24	6	6	11	0	0	4.7	WSW	15.6*	N	19	12	11	7	5.0	
CASPER	1621	838.8	1012.6	27.2	10.6	18.9	2.3	35.0	29+	6.1	7	5	0	3.9	43	74	21	30	12	12	0	0	5.2	WNW	19.7	NW	12	8	14	8	5.1	59
CHEYENNE	1869	814.4	1014.0	25.6	11.1	18.2	2.5	33.3	29+	6.7	15	5	0	6.1	50	44	9	24	4	10	0	0	3.1	SW#	24.1	NW	23	9	14	7	4.8	72
LANDER	1696	837.1		27.2	11.7	19.4	3.0	35.0	28	5.0	4	7	0	5.0	45	12	- 54	6	3	9	0	0	2.9	NW	23.2	NW	18	12	13	5	4.2	77
SHERIDAN	1202	885.2		29.4	11.1	20.3	3.9	36.7	28	6.7	4	10	0	7.2	46																		

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.
A Maximum hourly average.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
\# Wind direction to 8 compass points only.
Y Peak Gust.

Data in this table is obtained by conversion from data in the English Units table.

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F) 1960 - 1961

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
ALABAMA														
Birmingham	0	0	0	99	346	723	798	356	252	199	48	4	2825	2780
Huntsville	0	0	0	114	411	815	885	415	305	261	65	5	3276	----
Mobile	0	0	0	36	170	482	604	214	123	131	7	0	1767	1612
Montgomery	0	0	0	64	289	655	749	302	209	170	28	1	2467	2137
ALASKA														
Anchorage	227	295	530	860	1267	1226	1359	1312	1500	865	526	294	10261	10789
Annette	214	241	362	520	712	769	796	755	751	618	424	306	6468	7096
Barrow	848	953	1208	1649	2244	2261	2358	2579	2666	2172	1341	904	21183	19994
Barter Island	854	861	1057	1487	2158	2089	2359	2557	2678	2253	1301	879	20533	-----
Bethel	266	456	671	1109	1442	1413	1667	1965	1901	1319	666	510	13385	12880
Cold Bay	409	422	527	748	957	976	1045	1164	1232	951	724	587	9742	9687
Cordova	376	393	521	752	991	1011	999	1003	1166	843	624	438	9117	9615
Fairbanks	124	299	701	1190	1978	1846	2078	1948	1995	1189	481	180	14009	14158
Juneau	321	355	466	660	915	956	1062	932	938	746	538	371	8260	8888
King Salmon	280	388	559	926	1317	1128	1347	1699	1696	1018	620	465	11443	11229
Kotzebue	349	379	816	1314	1743	1638	1815	2186	2211	1598	919	667	15635	16151
McGrath	204	356	721	1212	1857	1786	2068	1974	2040	1187	537	314	14256	14390
Nome	324	443	790	1173	1542	1386	1553	1884	2011	1402	808	656	13972	14086
St. Paul	575	554	636	852	1019	1078	1161	1313	1427	1093	855	704	11267	10839
Shemya	542	443	490	736	954	1060	1048	930	1069	864	825	710	9671	----
Yakutat	355	369	490	698	926	925	1026	962	1020	806	589	413	8579	9354
ARIZONA														
Flagstaff	7	55	156	613	839	1116	1072	868	925	619	495	116	6881	7525
Phoenix (U)	0	0	0	14	101	346	245	160	115	6	31	11	1029	1492
Phoenix	0	0	0	16	153	445	326	259	166	6	0	0	1371	1698
Prescott	0	0	4	290	550	848	766	619	609	317	134	15	4152	4533
Tucson	0	0	0	37	183	486	381	331	206	41	9	0	1674	1776
Winslow	0	0	3	295	596	1261	1088	667	594	308	87	3	4902	4702
Yuma	0	0	0	0	59	269	159	73	38	0	0	0	598	951
ARKANSAS														
Ft. Smith	0	0	0	102	396	809	902	532	344	238	46	0	3369	3188
Little Rock	0	0	0	103	431	841	894	480	295	200	44	0	3288	2982
Texarkana	0	0	0	53	295	686	729	397	228	166	19	7	2580	2362
CALIFORNIA														
Bakersfield	0	0	0	60	333	600	656	296	296	93	33	0	2367	2115
Bishop	0	1	3	245	627	775	751	565	538	265	122	19	3911	4222
Blue Canyon	3	48	32	327	719	734	599	703	889	556	566	131	5307	5719
Burbank	0	0	0	35	193	253	178	140	194	110	82	13	1198	1808
Eureka (U)	325	293	336	318	408	496	441	409	464	467	379	253	4589	4632
Fresno	0	0	0	96	394	656	694	369	352	138	57	1	2757	2532
Long Beach	0	0	0	33	188	344	216	209	235	126	94	20	1465	----
Los Angeles (U)	0	0	0	22	135	194	116	111	146	74	61	11	870	1451
Los Angeles	4	0	0	57	197	306	188	193	248	156	122	21	1492	2015
Mt. Shasta (R)	3	64	46	383	763	846	782	697	803	530	455	92	5464	5913
Oakland	62	64	77	140	340	508	549	329	365	234	242	74	2984	3163
Point Arguello (R)	205	225	187	250	353	449	365	347	389	347	333	224	3674	----
Red Bluff	0	0	0	53	377	570	632	365	418	145	90	0	2650	2546
Sacramento (U)	0	0	3	52	369	572	675	328	334	151	111	3	2598	2600
Sacramento	0	0	0	27	357	591	695	363	364	172	84	0	2653	2822
Sandberg (R)	0	8	16	208	574	643	569	582	641	382	402	61	4086	4243
San Diego	0	0	0	25	129	261	136	160	182	100	103	43	1139	1574
San Francisco (U)	206	219	170	141	276	415	486	262	327	241	277	167	3187	3069
San Francisco	79	89	94	138	330	498	531	324	357	231	241	88	3000	3421
San Jose (U)	4	2	1	84	287	449	470	277	318	185	180	25	2282	2410
Santa Maria	90	133	104	195	340	433	330	311	385	290	319	138	3068	2934
COLORADO														
Alamosa	41	56	254	657	964	1554	1607	1106	996	728	407	120	8490	8659
Colorado Springs	24	23	116	440	780	1095	1075	892	885	634	324	94	6382	6254
Denver	7	13	90	396	759	1187	1026	828	804	560	299	65	6034	6132
Grand Junction	0	4	17	338	696	1077	1099	774	696	434	127	2	5264	5796
Pueblo	2	4	41	330	679	1087	1050	824	721	460	170	29	5397	5709
CONNECTICUT														
Bridgeport	0	0	66	303	532	1119	1250	916	845	552	296	15	5894	5896
Hartford	4	13	130	438	653	1308	1487	1045	916	589	292	20	6895	6139
Middletown	6	9	140	436	664	1267	1425	996	913	625	347	45	6873	----
New Haven	0	5	103	350	588	1138	1275	932	854	567	311	31	6154	6026
DELAWARE														
Wilmington	0	0	18	297	565	1130	1215	843	687	486	203	6	5450	4910
DIST. OF COLUMBIA														
Washington (U)	0	0	6	208	460	1014	1032	704	527	398	126	8	4483	4258
Washington	0	0	7	212	489	1048	1081	740	536	399	123	6	4641	4333
FLORIDA														
Apalachicola (U)	0	0	0	7	85	436	463	193	77	70	1	0	1332	1307
Daytona Beach	0	0	0	0	22	336	336	165	62	47	0	0	968	868
Fort Myers	0	0	0	0	3	148	131	52	17	2	0	0	353	405
Jacksonville	0	0	0	2	65	454	39	162	60	59	0	0	841	1243
Key West	0	0	0	0	0	33	39	9	3	0	0	0	84	77
Lakeland (U)	0	0	0	0	18	263	251	91	26	14	0	0	663	649
Miami	0	0	0	0	0	63	77	29	11	1	0	0	181	178
Miami Beach	0	0	0	0	0	39	46	21	7	0	0	0	113	123
Orlando	0	0	0	0	14	250	250	97	25	9	0	0	645	650
Pensacola (U)	0	0	0	19	119	430	517	191	97	98	6	0	1477	1435
Tallahassee	0	0	0	15	130	493	525	219	92	119	6	0	1599	1519
Tampa	0	0	0	0	16	240	231	92	22	15	0	0	616	674
West Palm Beach	0	0	0	0	0	85	99	47	17	1	0	0	249	248
GEORGIA														
Athens	0	0	7	102	386	774	792	467	319	291	56	9	3203	2800
Atlanta	0	0	5	84	352	744	814	429	322	276	66	5	3097	2826
Augusta	0	0	0	76	312	733	722	388	221	202	17	1	2672	2138
Columbus	0	0	0	70	279	655	722	347	225	190	24	2	2514	2396
Macon	0	0	0	67	273	660	680	316	202	166	23	3	2390	2049
Rome	0	0	8	152	470	855	902	482	377	297	72	5	3620	3138
Savannah	0	0	0	44	183	607	593	295	119	143	7	4	1995	1710
Thomasville (U)	0	0	0	18	124	496	537	201	76	86	7	0	1545	1472
IDAHO														
Boise	0	67	63	377	727	1063	989	661	631	500	234	13	5325	5890
Idaho Falls 46W (R)	5	119	186	657	1026	1381	1404	988	959	689	374	42	7830	8556
Idaho Falls 42NW (R)	0	112	200	691	1077	1440	1475	988	995	683	351	51	8063	8925
Lewiston	0	57	71	408	726	1028	899	624	623	452	254	14	5156	5483
Pocatello	0	83	93	529	833	1221	1214	830	813	596	311	29	6552	6976
ILLINOIS														
Cairo (U)	0	0	0	143	483	946	986	612	417	337	81	3	4008	3756
Chicago (Midway)	0	0	26	301	657	1225	1284	853	741	612	265	31	5995	6310
Chicago (O'Hare)	2	3	54	346	691	1282	1377	935	830	640	332	53	6545	----
Moline	2	1	55	348	700	1277	1355	954	789	614	242	12	6349	6364
Peoria	2	0	53	342	724	1278	1351	922	750	612	277	29	6340	6087
Rockford	4	3	89	406	751	1331	1403	934	849	654	288	30	6742	----
Springfield	0	0	13	263	639	1209	1248	877	650	521	227	22	5669	5693

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F) 1960 - 1961

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
INDIANA														
Evansville	0	0	6	215	591	1060	1097	706	472	384	149	11	4691	4360
Ft. Wayne	3	0	51	367	705	1276	1332	917	733	618	281	40	6323	6287
Indianapolis	0	0	28	316	674	1245	1275	861	657	580	268	35	5939	5611
South Bend	9	0	51	371	690	1239	1333	961	806	666	342	52	6520	6524
IOWA														
Burlington	0	0	45	312	677	1193	1307	927	742	573	231	11	6018	6101
Des Moines	0	0	82	339	715	1202	1328	970	845	600	221	10	6312	6446
Dubuque	9	8	112	427	806	1381	1466	979	932	693	317	40	7170	7271
Sioux City	0	0	96	336	768	1224	1443	1107	843	568	219	11	6615	7012
Waterloo	5	3	130	453	804	1381	1515	1049	931	688	296	24	7279	7144
KANSAS														
Concordia (U)	0	0	28	213	648	1027	1084	815	683	464	195	2	5159	5323
Dodge City	0	0	34	219	620	992	977	758	658	420	154	9	4841	5058
Goodland	2	5	91	332	742	1061	1064	856	786	605	286	44	5874	6367
Topeka	0	0	31	216	611	1044	1113	816	663	460	197	3	5154	5209
Wichita	0	0	13	171	545	990	1036	771	562	376	129	0	4593	4571
KENTUCKY														
Lexington	0	0	6	212	575	1081	1144	672	554	490	188	21	4943	4979
Louisville	0	0	10	240	596	1078	1115	721	536	477	193	23	4989	4439
LOUISIANA														
Alexandria	0	0	0	51	244	577	688	353	162	163	23	0	2261	----
Baton Rouge	0	0	0	43	171	505	633	251	117	129	15	0	1864	1595
Lake Charles	0	0	0	29	117	445	562	232	95	100	2	0	1582	1543
New Orleans (U)	0	0	0	17	69	366	480	162	48	45	0	0	1187	1175
New Orleans	0	0	0	30	132	406	539	216	97	88	2	0	1510	1317
Shreveport	0	0	0	43	251	626	661	342	167	148	15	5	2258	2117
MAINE														
Caribou	76	91	292	711	929	1497	1897	1462	1356	872	540	161	9884	10173
Greenville (U)	66	78	312	723	914	1529	1866	1382	1297	872	533	173	9745	----
Portland	14	39	211	575	723	1317	1532	1140	1075	688	427	95	7836	7681
MARYLAND														
Baltimore (U)	0	0	4	188	411	1015	1043	705	559	398	113	5	4441	4203
Baltimore	0	0	18	266	536	1127	1153	780	612	457	173	11	5133	4787
Frederick	0	0	40	352	621	1220	1265	896	673	522	222	27	5838	4854
MASSACHUSETTS														
Blue Hill Obs. (R)	6	22	153	415	583	1206	1336	983	924	658	338	31	6655	----
Boston	0	5	103	335	503	1094	1231	928	865	587	287	22	5960	5791
Nantucket	7	21	106	354	521	1022	1154	943	876	655	439	140	6238	6102
Pittsfield	51	57	190	539	723	1374	1540	1101	1040	723	393	101	7832	7694
Worcester	19	31	186	495	688	1288	1427	1036	985	685	363	41	7244	----
MICHIGAN														
Alpena	92	116	289	574	801	1387	1607	1187	1116	819	508	216	8712	8073
Detroit (City AP)	4	0	53	368	636	1229	1291	950	795	638	295	47	6306	6404
Detroit (M. Wayne Co.)	8	0	59	378	677	1280	1333	949	803	668	324	65	6544	----
Detroit (Willow Run)	3	0	48	358	668	1273	1312	935	794	649	299	49	6388	6469
Escanaba (U)	72	36	219	529	808	1406	1538	1169	1083	780	504	169	8313	8657
Flint	34	17	128	473	709	1336	1412	1045	879	694	393	86	7206	7128
Grand Rapids	17	3	90	413	688	1259	1359	997	841	675	343	72	6767	7075
Lansing	29	10	112	460	709	1301	1389	1037	864	692	379	88	7070	----
Marquette (U)	92	61	243	509	833	1388	1511	1119	1060	812	523	191	8342	8529
Muskegon	26	4	113	437	704	1186	1327	1033	898	702	402	106	6938	7089
S. Ste. Marie	124	61	276	596	854	1489	1677	1279	1183	810	554	262	9165	9475
MINNESOTA														
Duluth	65	62	299	607	998	1626	1769	1261	1100	883	468	160	9298	9937
International Falls	73	55	366	664	1106	1855	1963	1334	1122	900	446	102	9986	10600
Minneapolis	8	11	202	503	943	1490	1641	1184	1013	788	335	43	8161	7853
Rochester	27	14	203	485	883	1476	1544	1096	1067	804	348	63	8010	8095
St. Cloud	15	14	242	524	991	1525	1675	1176	968	825	376	58	8389	8893
MISSISSIPPI														
Jackson	0	0	0	71	276	626	748	336	169	172	37	2	2437	2202
Meridian	0	0	0	81	313	635	758	331	202	182	41	0	2543	2333
Vicksburg (U)	0	0	0	61	249	597	704	324	147	146	30	7	2265	2000
MISSOURI														
Columbia	0	0	11	213	548	1042	1095	768	610	465	184	15	4951	5113
Kansas City	0	0	12	148	555	1046	1026	732	649	457	179	5	4809	4888
St. Joseph	0	0	44	240	634	1066	1161	830	707	481	185	5	5353	5336
St. Louis (RFC)	0	0	5	193	503	958	1020	714	521	385	137	7	4443	4469
St. Louis	0	0	7	213	551	1048	1132	810	597	455	232	25	5070	4699
Springfield	0	0	13	179	539	1003	1041	728	544	409	164	17	4637	4693
MONTANA														
Billings	1	37	150	416	836	1067	1010	733	738	660	285	6	5939	7106
Butte	54	239	387	756	1066	1392	1299	927	1062	884	538	133	8737	9760
Glasgow	11	35	207	521	1092	1468	1429	1116	836	753	294	11	7773	8690
Great Falls	11	78	187	455	878	1073	989	807	839	732	326	14	6389	7555
Havre	5	47	208	467	1036	1351	1157	*982	857	759	297	9	7175	8213
Helena	7	114	242	572	934	1266	1158	789	863	726	354	21	7046	8250
Kalispell	15	149	307	664	1006	1342	1269	821	870	730	393	70	7636	8055
Miles City	0	24	156	417	960	1291	1249	927	765	678	246	6	6719	7850
Missoula	8	136	256	655	957	1442	1340	856	862	679	425	67	7683	7873
NEBRASKA														
Grand Island	0	0	90	324	759	1136	1205	904	791	555	260	18	6042	6311
Lincoln (U)	0	0	55	266	690	1087	1199	899	769	509	211	7	5692	5865
Norfolk	0	0	118	381	801	1208	1379	1020	876	612	257	27	6679	7065
North Platte	0	4	124	389	844	1162	1182	914	833	660	314	37	6463	6546
Omaha	0	0	63	282	704	1110	1245	942	784	528	188	4	5850	6160
Omaha N. Omaha AP	0	0	90	324	749	1179	1322	985	839	574	225	18	6305	----
Scottsbluff	4	17	145	436	835	1305	1155	901	819	661	329	49	6656	6841
Valentine	0	9	179	422	860	1278	1264	978	873	719	335	52	6969	7075
NEVADA														
Elko	0	102	130	575	858	1201	1166	889	896	673	381	60	6931	7335
Ely	10	75	137	574	883	1183	1170	925	953	702	454	128	7194	7443
Las Vegas	0	0	0	63	351	636	611	384	268	63	5	0	2381	2425
Reno	5	78	127	493	742	1015	970	674	721	531	352	55	5763	6036
Tonopah	0	10	13	409	760	958	949	759	740	447	272	38	5355	5813
Winnemucca	0	81	109	518	795	1071	1049	791	787	603	369	44	6217	6369
NEW HAMPSHIRE														
Concord	8	22	180	560	745	1360	1562	1121	1002	665	383	54	7662	7612
Mt. Washington Obs. (R)	578	502	614	1158	1325	1880	2089	1552	1630	1334	1033	621	14316	----

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.
* Airport data after January 25, 1961.

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F) 1960 - 1961

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
NEW JERSEY														
Atlantic City	0	0	20	267	488	1007	1174	804	677	540	198	14	5189	----
Atlantic City (U)	0	0	16	233	505	1074	1115	795	906	478	290	21	5433	4741
Newark	0	0	14	247	485	1079	1185	814	729	487	169	3	5212	5252
Trenton (U)	0	0	31	284	504	1104	1188	815	719	492	201	11	5349	5068
NEW MEXICO														
Albuquerque	0	0	3	256	548	956	956	678	551	308	65	0	4321	4389
Clayton	15	0	63	338	634	1002	939	800	710	467	181	18	5167	5138
Raton	20	7	103	460	750	1177	1182	915	792	589	243	26	6264	6417
Roswell	0	0	10	178	507	1102	942	627	463	234	17	1	4081	3424
Silver City	0	0	0	224	464	872	774	601	540	248	63	0	3786	----
NEW YORK														
Albany	12	11	100	480	696	1338	1530	1101	987	627	314	47	7243	6962
Binghamton	36	12	114	502	724	1365	1490	1099	1016	748	394	81	7581	7537
Buffalo	16	10	77	441	660	1338	1435	1072	952	749	385	90	7225	6838
New York (U)	0	0	20	254	476	1054	1149	788	719	473	172	6	5111	5050
New York (LaGuardia)	0	0	11	215	432	1022	1132	784	739	490	202	3	5030	4989
Rochester	22	24	83	452	647	1280	1410	1045	945	692	366	64	7030	6863
Schenectady	7	6	83	437	664	1265	1504	1084	951	610	360	43	7014	7050
Syracuse	11	12	83	460	630	1273	1427	1091	977	656	317	44	6981	6520
NORTH CAROLINA														
Asheville (U)	0	0	32	194	522	931	971	582	453	444	169	18	4316	4072
Cape Hatteras (R)	0	0	0	81	219	682	700	440	326	262	109	3	2822	2392
Charlotte	0	0	4	112	388	809	825	513	383	376	74	8	3492	3205
Greensboro	0	0	21	182	485	929	935	607	444	410	100	10	4123	3810
Raleigh	0	0	11	170	422	874	878	559	393	367	83	8	3765	3369
Wilmington	0	0	0	88	286	721	708	394	230	243	29	7	2706	2323
Winston-Salem	0	0	15	166	459	887	900	597	419	374	90	13	3920	3721
NORTH DAKOTA														
Bismarck	7	13	228	551	1076	1488	1437	1283	892	733	344	36	8088	9033
Devils Lake (U)	28	31	230	610	1135	1704	1791	1381	1084	871	413	49	9327	9940
Fargo	23	9	223	538	1046	1701	1803	1292	936	811	375	41	8798	9274
Grand Forks CAA	39	20	246	599	1114	1738	1847	1358	1004	824	380	46	9215	----
Pembina	38	18	184	543	1123	1805	1939	1430	1111	839	334	45	9409	----
Williston (U)	10	26	209	532	1070	1417	1414	1186	917	781	321	22	7905	9068
OHIO														
Akron	15	0	49	373	672	1328	1341	897	787	664	351	80	6557	6203
Cincinnati (U)	0	0	4	180	486	1049	1072	676	510	451	148	0	4576	4532
Cincinnati	0	0	18	252	559	1116	1146	729	568	497	196	14	5095	5195
Cincinnati Obs.	0	0	14	242	551	1113	1135	719	558	497	194	20	5043	4870
Cleveland	38	7	67	427	671	1299	1336	930	771	640	341	95	6622	6006
Columbus	1	0	33	306	611	1229	1282	782	601	536	267	53	5701	5615
Columbus (U)	0	0	26	267	585	1199	1247	760	618	544	227	25	5498	5277
Dayton	1	0	28	297	641	1252	1279	811	653	580	259	32	5833	5597
Mansfield	15	0	60	375	670	1299	1336	889	764	668	336	82	6494	----
Sandusky (U)	1	0	22	329	608	1218	1287	897	732	605	275	48	6022	5859
Toledo	7	0	64	393	716	1327	1313	938	795	698	322	92	6665	6394
Youngstown	24	2	60	426	670	1316	1345	922	812	681	385	85	6728	6172
OKLAHOMA														
Oklahoma City	0	0	2	96	407	852	885	618	395	247	49	0	3551	3644
Tulsa	0	0	0	88	393	814	943	619	394	281	70	0	3602	3584
OREGON														
Astoria	178	155	235	349	537	661	541	511	590	520	378	186	4841	4995
Burns (U)	7	138	152	543	907	1129	1072	803	838	619	444	76	6728	6918
Eugene	21	84	117	350	581	802	658	507	556	436	309	98	4519	4779
Meacham	24	234	257	597	946	1086	1010	851	926	761	561	170	7423	7888
Medford	0	35	39	318	612	839	759	558	575	411	289	35	4470	4547
Pendleton	0	43	72	347	670	1061	860	540	573	434	237	25	4862	5204
Portland (U)	13	44	83	250	497	734	577	463	509	395	227	47	3839	4143
Portland	18	52	114	316	548	807	654	494	530	442	261	66	4302	4632
Roseburg	3	48	70	321	557	742	657	480	531	396	261	67	4133	4556
Salem	32	59	106	309	538	765	675	524	570	473	334	112	4497	4574
Sexton Summit (R)	50	194	155	420	800	748	676	781	892	680	593	200	6189	6217
PENNSYLVANIA														
Allentown	0	0	55	366	646	1257	1353	959	801	568	239	16	6260	5880
Erie	25	6	49	397	597	1221	1302	989	848	681	370	96	6581	6558
Harrisburg	0	0	23	307	593	1216	1232	871	720	509	204	22	5697	5258
Philadelphia (U)	0	0	2	207	430	1000	1085	734	642	424	148	5	4677	4523
Philadelphia	0	0	25	312	577	1150	1232	862	672	452	214	15	5511	4866
Pittsburgh (U)	0	0	18	284	540	1133	1176	784	638	551	244	23	5391	5048
Pittsburgh	15	0	47	352	648	1284	1321	907	729	627	311	73	6314	5905
Reading (U)	0	0	24	285	540	1141	1184	838	702	488	178	7	5387	5060
Scranton	[illegible]	4	92	446	700	1331	1422	1005	922	684	293	44	6951	6047
Williamsport	4	2	60	422	698	1325	1369	976	822	581	264	28	6551	5898
RHODE ISLAND														
Block Island	2	5	79	309	504	1021	1182	920	880	634	415	100	6051	5843
Providence	0	8	117	382	573	1159	1274	955	864	581	302	26	6241	6125
SOUTH CAROLINA														
Charleston (U)	0	0	0	35	149	567	563	326	143	143	5	2	1933	1769
Charleston	0	0	0	62	216	651	635	347	155	181	11	2	2260	1973
Columbia	0	0	0	85	317	728	728	412	238	227	15	3	2753	2435
Florence	0	0	0	83	286	734	713	406	237	234	25	5	2723	2507
Greenville	0	0	3	106	367	781	781	480	314	287	56	6	3181	3060
Spartanburg	0	0	8	117	389	813	801	508	327	316	64	8	3351	3044
SOUTH DAKOTA														
Huron	4	1	220	505	982	1523	1725	1269	879	758	341	54	8261	7902
Pierre	1	1	149	402	899	1402	1385	1028	827	686	318	23	7121	----
Rapid City	1	12	154	407	837	1234	1158	884	787	690	314	25	6503	7535
Sioux Falls	3	2	173	439	867	1357	1566	1153	906	689	321	43	7519	7848
TENNESSEE														
Bristol	0	0	8	198	550	999	1031	586	441	423	138	12	4386	4148
Chattanooga	0	0	6	160	477	877	928	486	373	279	57	2	3645	3384
Knoxville	0	0	3	142	481	917	947	507	400	377	112	6	3892	3590
Memphis (U)	0	0	0	87	367	821	829	473	318	241	59	2	3197	3006
Memphis	0	0	0	104	425	853	892	490	311	249	70	2	3396	3137
Nashville	0	0	0	148	509	931	977	501	393	336	98	4	3897	3513
Oak Ridge (U)	0	0	4	165	528	935	976	513	400	350	105	5	3981	4028
TEXAS														
Abilene	0	0	3	55	261	739	749	473	241	114	10	3	2648	2657
Amarillo	3	0	27	210	530	929	935	714	507	303	54	7	4219	4345
Austin	0	0	0	26	182	512	582	299	116	80	0	0	1797	1713
Brownsville	0	0	0	2	41	229	302	123	16	14	0	0	727	617
Corpus Christi	0	0	0	12	78	330	408	186	39	35	0	0	1088	1011
Dallas	0	0	0	45	237	639	708	382	193	115	8	4	2331	2272
Del Rio (U)	0	0	0	17	137	499	530	260	67	33	0	0	1543	----
El Paso	0	0	0	86	357	806	735	473	266	97	1	0	2821	2641

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

MONTHLY AND SEASONAL HEATING DEGREE DAYS

(Base 65°F.)

1960 - 1961

State and Station	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total for Season	Normals July-June
TEXAS (Cont'd.)														
Ft. Worth	0	0	0	45	253	658	740	409	209	132	9	2	2457	2361
Galveston (U)	0	0	0	15	74	366	484	235	51	55	1	0	1281	1211
Galveston	0	0	0	11	73	371	486	260	58	57	0	0	1316	1233
Houston (U)	0	0	0	16	111	402	473	224	59	59	0	0	1344	1276
Houston	0	0	0	17	104	390	473	227	56	61	0	0	1328	1388
Laredo	0	0	0	4	81	382	392	162	25	13	0	0	1059	781
Lubbock	0	0	8	135	421	872	906	653	444	210	30	5	3684	3587
Midland	0	0	2	64	307	758	761	474	293	124	5	4	2792	2565
Port Arthur	0	0	0	25	122	443	542	240	81	99	0	0	1552	1517
San Angelo	0	0	0	39	232	662	701	411	215	85	1	1	2347	2107
San Antonio	0	0	0	17	138	457	523	272	82	63	0	0	1552	1579
Victoria	0	0	0	17	106	395	466	233	67	57	0	0	1341	1126
Waco	0	0	0	36	206	586	665	333	159	101	0	0	2086	2025
Wichita Falls	0	0	1	61	294	786	790	525	300	167	16	0	2940	3025
UTAH														
Milford	0	14	31	442	756	1121	1184	808	809	540	252	34	5991	6445
Salt Lake City	0	19	16	419	730	1088	1116	743	678	440	183	14	5446	5866
Wendover	0	18	5	346	751	1121	1249	757	701	397	169	4	5518	---
VERMONT														
Burlington	28	55	195	600	767	1399	1728	1297	1187	788	454	91	8589	7865
VIRGINIA														
Lynchburg	0	0	29	226	492	989	1005	681	489	439	137	17	4504	4153
Norfolk	0	0	0	139	368	877	921	595	385	318	110	16	3729	3454
Richmond	0	0	24	257	439	936	971	632	461	390	106	7	4223	3955
Roanoke	0	0	19	209	511	1001	981	663	465	433	127	15	4424	4152
WASHINGTON														
Olympia	59	140	251	424	690	835	708	579	629	534	380	137	5366	5501
Seattle (U)	28	97	146	298	536	675	568	503	525	438	259	63	4136	4438
Seattle	19	74	145	313	569	745	793	509	525	441	253	56	4270	4785
Seattle-Tacoma	41	126	210	374	607	783	657	569	607	531	345	93	4943	5275
Spokane	3	97	153	503	886	1186	1067	775	771	592	367	70	6470	6852
Stampede Pass (R)	186	424	387	653	1030	1233	1148	982	1042	926	713	306	9030	9149
Tatoosh Island (R)	310	274	330	388	536	610	571	573	650	580	435	295	5552	5724
Walla Walla	0	36	55	314	664	1066	840	534	546	416	213	21	4705	----
Walla Walla (U)	0	26	41	292	624	1039	809	495	511	382	187	14	4420	4848
Yakima	0	91	145	431	799	1164	996	673	676	452	280	55	5762	5845
WEST VIRGINIA														
Charleston	0	0	16	215	523	1074	1154	696	522	471	201	33	4905	4417
Huntington (U)	0	0	[illegible]	204	523	1041	1083	637	480	451	171	15	4613	4073
Parkersburg (U)	0	0	14	256	546	1107	1036	696	531	507	197	21	4911	4750
WISCONSIN														
Green Bay	40	31	197	544	829	1408	1519	1109	991	703	373	86	7830	8259
La Crosse	8	6	148	438	798	1342	1504	1040	951	688	272	28	7223	7650
Madison	23	23	134	484	816	1361	1484	1018	959	726	352	62	7442	7417
Milwaukee	40	20	142	494	766	1312	1407	978	918	708	434	86	7305	7205
WYOMING														
Casper	11	61	185	535	931	1220	1118	936	863	714	331	71	6976	7638
Cheyenne	17	45	176	496	877	1176	1109	923	1028	722	377	90	7036	7562
Lander	13	49	164	549	1030	1381	1321	997	887	692	348	61	7492	8303
Sheridan	6	50	205	506	936	1194	1168	862	832	721	351	24	6855	7903

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

Note: "Heating Degree Days" has been discontinued in the June issues of this publication, the data appearing therein being shown in the last three columns of the above Table.

STORM SUMMARY

JUNE 1961

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS
Alabama	2	2	0	0	4	0	0	0	2	0	0	0	3	1	2	0	0												
Alaska *																													
Arizona										1	0	5	0																
Arkansas *																													
California																										0	0	0	6
Colorado	14	4	0	0	5	0	0	6	7	0	0	4	5	0	1	0	0									0	0	5	5
Connecticut *																													
Delaware *																													
Florida	4	2	0	0	5					0	0	4	0	1	6	0	0												
Georgia	1	1	0	0	4	0	0	0	5	0	0	5	3																
Idaho	F3	2	0	0	0	U	U	U	U	U	U	U	U	1	1	4													
Illinois	3	3	0	0	4	0	0	3	5	0	1	6	5	2	5	5	0												
Indiana	4	3	0	1	4	0	0	0	2	0	0	5	0	0	1	4	0									0	0	5	3
Iowa	1	1	0	1	4	0	0	4	5	0	0	4	4	0	1	0	0									3	0	6	3
Kansas	6	4			3			4	6						2	4													
Kentucky	2	1	1	50	6					0	0	5	4	1	0	4													
Louisiana																												4	0
Maine	2	2	0	0	4									0	0	5	0												
Maryland	1	1	0	0	5									1	3	4	0												
Massachusetts						0	0	3	4	0	0	4	0	1	4	4	0									0	0	4	0
Michigan						0	0	4	C	0	0	5		0	0	4													
Minnesota	4	2	0	0	5	0	0	3	5	0	0	4	3	0	0	4	3												
Mississippi	2	2	0	0	3																								
Missouri	3	1	0	0	3									3	4	4	0									0	0	5	3
Montana	2	1	0	0	2	0	0	6	5	0	1	4	0																
Nebraska	3	2	0	0	0	0	0	5	6	0	0	4	0	1	1	0	0												
Nevada *																													
New Hampshire						0	0	0	2	0	0	4	0																
New Jersey *																													
New Mexico	7	6	0	3	5	0	0	2	4																				
New York									4	1		5				5												4	
North Carolina	2	1	0	1	5	0	0	5	6	0	0	5	4													0	0	4	6
North Dakota	2	1	0	0		0	0	3	4	0	0			0	0	3	3												
Ohio	2	2	0	0	6					0	0	5	0																
Oklahoma	7	4	0	0	4	0	1	5	5	0	0	5	0	0	1	2	0									0	0	5	5
Oregon						0	0	4	4	1	5-10	5	4	0	0	4	4									1	0	4	5
Pennsylvania	1	1	0	0	4	0	0	3	3	0	0	5	0	1	0	5	0												
Puerto Rico *																													
Rhode Island *																													
South Carolina	3	1	0	1	5	2	0	4	5					0	0	4	0									2	0	5	5
South Dakota	5	3	1	7	5			5	6			4			1	4													
Tennessee										0	1	3	0	2	3	5	0												
Texas	28	10	0	7	5	0	0	6	6	0	5	5	5	1	3	4	0									5	0	6	6
Utah															3														
Vermont	1	1	0	0	4					0	0	3	0	4	0	0	0												
U.S. Virgin Is. *																													
Virginia	1	1	0	0	4	0	0	?	?	0	0	?	?	1	0	?	?									0	0	?	?
Washington						0	0	3	5																				
West Virginia								3				4				4													
Wisconsin														0	3	0	0												
Wyoming	1	1	0	0	0	0	0	2	C	0	1	0	0	1	1	3	0												

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
C Crop Damage.
° Includes crop damage.
F Funnel clouds.
U Unknown.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

JUNE 1961

Heavy flooding recurred for the second consecutive month on the Solomon River in Kansas. Flooding was a little heavier in June on the North Fork than in May. Serious flooding occurred on the Kootenai River at Bonners Ferry, Idaho, during the last 2 weeks of May and the first 2 weeks of June. Previous floods have caused more damage, but none have lasted as long.

Flooding occurred in the Tanana River Valley in Alaska during June due to heavy rains. The crest on the Tanana River near Tanacross was the highest since records began in 1953.

ST. LAWRENCE DRAINAGE

Lake Ontario.--The only flooding in the Lake Ontario Drainage during June was on Canaseraga Creek at Groveland, N. Y., on the 2d. This rise had no direct effect on the nurserymen in the valley, as had the previous rises in May. However, an indirect effect was that the additional water in the creek prevented drainage of the nursery lands so that cultivation could not proceed until nearly the first of July. Little or no direct damage resulted from the rise.

ATLANTIC SLOPE DRAINAGE

Rainfall, ranging from 1 to 2 inches with locally heavier amounts on the 21st and 22d, was sufficient to cause minor rises on most streams and rivers in eastern North Carolina, with sharp rises occurring only at varied points. Precipitation on the 26th and 27th, with the greatest amounts 1 to 2 inches, prolonged slightly the rises that were occurring along the lower portions of the Cape Fear and Neuse Rivers from rains of the previous week. The Dan River at Danville, Va., barely reached bankfull of 11 feet during the afternoon of the 22d. The Neuse River reached bankfull stage on the 29th, with 1/2 foot above flood stage observed at Smithfield during the morning of the 30th. Flooding continued into July on the lower Neuse.

Minor flooding occurred on the North Fork of the Edisto River at Orangeburg, S. C., the last 3 days of the month, and considerable flooding occurred on the Waccamaw beginning on the 29th at Conway, S. C. This rise was due to heavy rain on the 26th and 27th. Generally heavy showers preceded this storm on the 20th and 21st.

The Saluda River at Pelzer, S. C., crested 6.5 feet above flood stage late on the 23d. At Chappells, S. C., the crest was only 0.1 foot above flood stage on the 23d. The Broad River reached bankfull stage at Gaffney, S. C., on the 23d and 4 feet over bankfull at Blair, S. C., on the same date. This flooding was due to heavy rains (up to 5 inches) on the 20th and 21st. A small, isolated area in Greenville County had amounts of 12 to 14 inches which caused locally heavy flooding of small streams in that area. This storm was followed by rains up to 3 inches on the 28th over the upper part of the Saluda. There was ample storage capacity in the reservoirs to control streamflow in the lower reaches of the Santee System during the month. Damage was not extensive in the upper reaches of the Saluda and Broad. Although the Congaree at Columbia and the Wateree at Camden did not reach flood stage, there was considerable lowland flooding below these points.

EAST GULF OF MEXICO DRAINAGE

The only flooding in the East Gulf of Mexico Drainage during June was on the lower Pearl River in Louisiana. This overflow was caused by locally excessive rainfall from scattered showers and thunderstorms during the period from the 15th to the 26th. No damage of consequence resulted.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--A flash flood occurred in Mad Creek, which runs through Muscatine, Iowa, on the 30th. This flash rise was due to 6.42 inches of rain between 4:30 a.m., and 8:30 a.m., C.S.T. Three persons drowned when their house was swept downstream. Property damage is estimated near $1 million.

Heavy rain (1 to 2 inches) on the 6th and 7th caused the Wapsipinicon River to rise to bankfull stage at DeWitt, Iowa, on the 9th. No damage resulted.

Missouri Basin.--Drought conditions developed in northwestern and north-central South Dakota in June as a result of high temperatures and a scarcity of rain. Southwestern and south-central South Dakota were also very dry. Most of the rain occurred in the first half of June, with amounts varying from 2.5 to 4 inches in eastern South Dakota, northwest Iowa, and southwestern Minnesota. Minor fluctuations occurred on rivers in southeastern South Dakota. Heavy rains, amounting to 2 to 3 inches in 24 hours, moved across the lower half of the Floyd River Valley in northwest Iowa, causing the Floyd to exceed bankfull by 1 to 1-1/2 feet for 10 to 15 miles above Sioux City. Perry Creek, which passes through Sioux City, rose to about three-fourths bankfull and posed a threat on the 14th. However, it did not flood within the City and overflow was limited to farms upstream. The overflow on the lower end of the Floyd was confined to willow thickets, and no damage was reported.

The North Fork River was near bankfull stage on May 31 to June 1 from near Pierce to just above Norfolk, Nebr.

Locally heavy rains in northwestern Iowa during the early morning hours of the 13th resulted in some flash flooding on the middle reaches of the Maple and Little Sioux Rivers. Locally heavy rains on the afternoon of the 14th in the Wahoo area on Wahoo and Silver Creek drainage areas produced some flash flooding below Wahoo, Nebr. Damage was confined to small areas of farm fields in lowland areas.

Heavy flooding recurred for the second consecutive month on the Solomon River in Kansas. Extent of flooding increased downstream, with crests on the lower reaches at Minneapolis and Niles, Kans., within a half foot of the very high May levels. Flooding was less extensive but more prolonged than in May on the South Fork at Osborne, Kans., while on the North Fork near Downs, Kans., the flooding was a little heavier than in May. Minor overflows were recorded during the earlier part of the month on the Smoky Hill River at Enterprise, the Saline River at Tescott, the Big Blue River at Blue Rapids, the Little Blue River at Deweese, Nebr., and on Prairie Dog Creek at Woodruff, Kans., in the Republican Basin. The June flooding developed from recurring and locally heavy rains on saturated soil and on streams that were flooded the latter part of May. Rains which fell the first 6 days of

the month were centered in north-central Kansas and became more general and intense toward the end of the period. A second precipitation period from the 13th to the 16th was more general at the start, with heaviest rains concentrated on the lower Smoky Hill River and adjacent tributaries; resultant flooding was mainly confined to smaller tributaries. Due to the recent flooding in May, additional damages will be largely confined to delays in farming operations and some increase in harvest losses.

The flooding on the Grand River in Missouri was due to localized heavy rain on the 14th and 15th. No property damage resulted.

Ohio Basin.--A flash flood occurred over Little Sinking Creek in the vicinity of Grahn, Ky., in Carter County on the afternoon of the 5th, due to heavy rain associated with a severe thunderstorm. A rainfall recording gage in the vicinity recorded 1.5 inches of rain in 7 minutes, and a total of 3.3 inches in 90 minutes. A nonrecording gage collected 4.5 inches in the same length of time. Many homes and business places were damaged. The greatest damage occurred to railroad tracks along the creek.

Moderate to locally heavy rains on the 13th-15th in Kentucky and 14th-15th in southeastern Illinois resulted in minor overflow along the middle and lower reach of the Green River and along Skillet Fork in Illinois.

Light flooding occurred along the Wabash River at Montezuma, Ind., on the 9th and 10th from locally heavy showers. An intense flash flood occurred in the Waveland, Ind., area on the 9th from 6 inches of rain in 2 hours and 15 minutes. Approximately 3 inches of this occurred in 30 minutes. Although the heavy precipitation did not cover an area much more than 5 miles in diameter, damage was extensive and estimated at several hundred thousand dollars. Some flash flooding occurred at Crawfordsville, Ind., on the 8th from rainfall totaling 4.22 inches during the 24-hour period ending at 7 a.m., on the 8th. Some flooding occurred on the Muscatatuck River (tributary of the East Fork) near Austin, Tex., from the 16th to 17th from locally heavy showers.

White Basin.--The lower White River continued in flood from around the middle of May to the 12th of June at Clarendon, Ark. This flooding was due to severe thundershowers from May 4 to 8. Principal flood damage during May and June was below Calico Rock, Ark., and is estimated at over $1 million with most of the damage occurring to crops and livestock. A total of 75,000 acres of land was inundated.

Arkansas Basin.--The Neosho River continued in flood at Oswego, Kans., from May 26 to June 1. After cresting 2.9 feet above flood stage at 1 a.m., on the 1st, it fell rapidly and returned to its banks by noon of that day.

Lower Mississippi Basin.--The Yazoo River continued in flood into June below Yazoo City, Miss., but dropped to below flood stage at Yazoo City on June 3. Heavy rains of 3 to 4 inches on the 19th caused a sharp rise on the Big Black River. The river rose to near flood stage at Bovina, Miss., and some lowland flooding occurred. Flooding along the Mississippi reached its crest in the Vicksburg reach during the last week of May and continued into June. The Mississippi River continued in flood into June from Greenville, Miss., to Donaldsonville, La. After cresting early in June, the Mississippi continued falling rapidly and was within its banks along its entire course by the 8th. Damages along the lower Yazoo backwater area and on the Mississippi at and above Natchez, Miss., are known to be heavy, but the full extent cannot be determined until late in the crop year.

Preliminary reports indicate that savings to farmers and ranchers and also to shipping interests will be considerable because of early accurate stage forecasts, and timely warnings from the Weather Bureau. In Warren County alone, the County Agent stated that the early warning gave farmers time to construct temporary levees protecting cotton acreage with a potential value of $250,000.

Atchafalaya Basin.--The Atchafalaya River crested at Atchafalaya, La., 0.4 foot above flood stage on the 3d and at Morgan City, La., 0.1 foot above flood stage on the 9th. This rise resulted from the heavy rains during the period from May 4 to 9. Very little flood damage resulted from this rise.

WEST GULF OF MEXICO DRAINAGE

Light flooding occurred on the Sabine River at Mineola, Tex., from the 28th to the 30th, due to scattered heavy rains (1 to 4 inches) on the 25th and 26th. Little or no damage resulted from the flooding.

Flash flooding developed over the upper Trinity Basin in the early morning hours of the 25th. Flooding on most of the creeks lasted only a few hours, and the Trinity River never reached flood stage in the reach of the Fort Worth Floodway. There was some overflow along the Trinity just east of Fort Worth, Tex., causing Highway 157 to be closed for about 24 hours. The greatest amount of flooding occurred along Big Fossil Creek in the southwest portion of Richland Hills. The stage of 23.07 feet was the highest at that point since the gage was established in January 1959. High water marks of the Highway Department indicate that the floods of 1949 and 1942 reached about a foot higher than this flood, but there were major floods on the Trinity at that time which contributed to the high stages on the Big Fossil. The discharge of 18,400 c.f.s., on Big Fossil Creek on the morning of June 25, 1961 was probably one of the highest of record. Flooding on Village Creek caused some disruption of traffic in the Kenndale area and Lake Arlington to reach 3.55 feet above spillway level. This stage was second only to the May 1957 flood which reached 4.1 feet above the spillway just after the lake was completed. There was some flooding of the Little Fossil in the Haltom City area, also of the lowlands along lower portions of the Trinity East Fork, Chambers and Richland Creeks, and along the Trinity at Dallas and below. No significant flooding occurred below Tarrant County, Texas. The heavy rain which caused the flash flooding occurred in the early morning hours of the 25th. The rainfall was extremely heavy with a center of near 9 inches over the Big Fossil Basin. There was considerable damage to homes along Big Fossil and Little Fossil Creeks and lesser damage to some homes in Fort Worth, where storm sewers became overloaded. Two deaths resulted from drowning when a truck was driven off a culvert into the flood waters.

Minor flooding occurred on the Double Mountain Fork of the Brazos near Hamlin, Tex., from the 15th to the 17th and on the Little River below Belton Dam on the 19th. No

damages were reported.

Heavy rains, which began in the Colorado River Basin in Texas on the 15th and continued above and below Austin through the 18th, caused sharp rises and some local flooding on rivers and streams above Austin. Flood stages were reached at all points below Austin during the period from the 18th to the 21st. Damage was light and confined to roads and low water bridges.

Following more than 3 months of extremely light rainfall with total amounts for the period averaging approximately 1 inch, heavy rains began falling on the afternoon of the 16th in the upper portion of the Guadalupe and San Antonio Rivers in Texas. Heavy rains of 3 to 10 inches were general on the 17th and during the night of the 17th-18th over the entire area, and the heavy rains continued until the early morning hours of the 19th. Flooding occurred along the Guadalupe, Lavaca, and Navidad Rivers between the 18th and 23d. The principal damage was to growing crops.

Locally heavy rains on the 17th and 18th on the watersheds of the Frio and Atascosa Rivers in Texas resulted in extensive flooding on the 17th and 18th and through the 26th in the lower Frio. Thirteen inches of rain fell in a 24-hour period in the vicinity of Quihi on Hondo Creek, 7 to 8 inches fell at Batesville on the Leona River, and 10 to 13 inches of rainfall covered a large area centered 10 miles north of the Whitsett gage on the Atascosa River. A 48-hour total of 17 inches was reported 6 miles northwest of Campbellton on the Atascosa River. The resulting crest of 13.5 feet on the Frio at Derby, Tex., (flood stage 6 feet) was the highest since May 1951, and the crest of 27.0 feet on the Atascosa at Whitsett, Tex., was the highest since February 1958. Minor flooding occurred at Calallen on the Nueces from June 24 to July 2.

A flash rise occurred on the Devils River in Texas on the 17th and 18th from rainfall ranging from 4 to 7 inches on the 16th to the 18th. A rise of about 12 feet occurred at Juno, Tex., and the river crested at Bakers Crossing, Tex., 2.1 feet above flood stage. Damage was relatively minor and generally restricted to road shoulders at numerous crossings on Highway 163. A flash rise occurred on the Rio Grande River in the reach from Del Rio, Tex., to Falcon Lake, due to heavy rains in Mexico south of Del Rio. A total of 6.50 inches was recorded at Del Rio from the 16th to the 18th and apparently equal or larger amounts fell in Mexico over the Las Vascas Creek and Rio San Diego and Rio San Rodrigo watersheds. The Rio Grande rose rapidly on the afternoon of the 17th and crested at a stage of 23.4 feet at Del Rio, 8.4 feet above flood stage. It remained above flood stage at this point for about 16 hours. The river crested at Eagle Pass, Tex., at a stage of 30.8 feet (flood stage 16 feet) on the morning of the 18th and was in flood for about 48 hours. Damage on the Rio Grande on the American side was insignificant, but on the Mexican side of the river in Villa Acuna the damage was considerable. The greatest damage was to the railroad bridge. Three persons were reported to have drowned on the Mexican side.

PACIFIC SLOPE DRAINAGE

During the last 2 weeks of May and the first two weeks of June, most of the main tributaries of the upper Columbia River were near flood stage because of the rapid snowmelt in the mountain areas. The only flooding of serious nature occurred on the Kootenai River from a short distance above Bonners Ferry, Idaho, downstream to the Kootenay Lake in British Columbia.

The St. Joe River at St. Maries, Idaho, was above 32 feet for approximately 2 weeks, reaching a peak stage of 33.6 feet on May 28, but no flooding of consequence occurred. The Columbia River was near record heights in British Columbia and near flood stage in the area between Lake Roosevelt and the International Boundary. The Flathead River was also near flood stage in the Kalispell-Columbia Falls, Mont., area.

The Kootenai River was in flood or threatening for an exceptionally long period and included two crest dates, May 29 and June 6. The first crest of 37.3 feet was a new record and the crest of 37.1 feet on June 6 was only a tenth of a foot below the record set in 1956. Previous floods at Bonners Ferry have caused more damage, but none have lasted over as long a period. It has been estimated that slightly over $1 million was spent in attempting to control the high water.

The outflow from the snowmelt in British Columbia was greater this year than during the previous flood years. This belief is supported by the record outflow at Revelstoke of 179,000 c.f.s., on June 7. The backwater from Kootenay Lake extended much farther upstream during the second rise than with the record stage. One resident several miles downstream from Bonners Ferry reported that the stage at his place was 10 inches higher on June 6 than on May 29.

Precipitation was near or above normal during the months of March, April, and May. Temperatures were generally below normal, with very few really warm days until the hot period began the latter part of May. During the flood period there were scattered thundershowers in the Kootenai Basin, with some isolated showers in excess of 1 inch. At Rexford, Mont., an inch of rain fell on May 28, and this contributed materially to the record stage downstream at Bonners Ferry on May 29.

Flood damage was confined to flooding of cultivated fields, damage or loss of a few farm buildings, and damage to dikes and county roads. There were no lives lost or serious injuries attributed to the flood.

The Columbia River after cresting at a stage of 24.3 feet at Vancouver, Wash., on the 9th and 10th fell very slowly through the 18th. It went below flood stage on the 29th after having been above flood stage for a total of 35 days. The Willamette River at Portland, Oreg., followed a similar pattern as the Columbia and fell below flood stage on the 25th. Damages from this year's spring flood were confined primarily to the lower Columbia River from Bonneville Dam to the mouth. There were no dike failures anywhere along the lower Columbia, although seepage curtailed harvesting of hay and forage crops on both sides of the Columbia from Bonneville Dam to the mouth in diked areas. Outside diked areas, there was inundation of about 3,500 acres of meadow- and pastureland. The biggest percentage of this land lies on Sauvies Island, along the southern boundary of Vancouver Lake, and along both sides of the Columbia River from Vancouver, Wash., to St. Helens, Oreg.

FLOOD STAGE DATA

(All dates in June unless otherwise specified)

JUNE 1961

River and station	Flood stage	Above flood stages -dates From—	Above flood stages -dates To—	Crest* Stage	Crest* Date
	Ft.			Ft.	
ST. LAWRENCE DRAINAGE					
Lake Ontario					
Canaseraga Creek: Groveland, N. Y.	11	2	2	12.0	2
ATLANTIC SLOPE DRAINAGE					
Dan: Danville, Va.	11	22	22	11.0	22
Neuse: Neuse, N. C.	14	29	29	14.0	29
Smithfield, N. C.	13	30	30	13.5	30
Waccamaw: Conway, S. C.	7	29	1/	8.0	July 1
Saluda: Pelzer, S. C.	6	22	25	12.5	23
Chappells, S. C.	13	29	29	13.1	29
Broad: Gaffney, S. C.	10	23	23	10.0	23
Blair, S. C.	14	22	24	18.0	23
North Fork Edisto: Orangeburg, S.C.	8	28	30	8.6	29
EAST GULF OF MEXICO DRAINAGE					
Pearl: Bogalusa, La.	15	23	30	17.7	30
Pearl River, La.	12	July 2	July 2	12.4	July 2
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Wapsipinicon: DeWitt, Iowa	10	9	9	10.0	9
Missouri Basin					
Bad: Ft. Pierre, S. Dak.	16	May 16	May 17	21.9	May 17
Floyd: James, Iowa	16	13	14	17.5	14
Saline: Tescott, Kans.	25	3	4	25.95	3
North Fork: Downs, Kans.	18	5	8	24.65	7
South Fork: Hill City, Kans.	8	5	5	8.50	5
Osborne, Kans.	12	May 31	8	17.4 18.0 15.5 18.0	1 2-3 5 6-7
Solomon: Beloit, Kans.	20	2	10	25.25 29.6	3 8
Glasco, Kans.	22	2	11	26.2 32.7	5 9
Minneapolis, Kans.	26	9	12	31.2	11
Niles, Kans.	24	3	14	27.1 27.05 28.5	5 9 12
Smoky Hill: Enterprise, Kans.	21	14	15	21.3	14
Prairie Dog Creek: Woodruff, Kans.	18	5	5	22.9	5
Little Blue: DeWeese, Nebr.	6	7	8	8.9	8
Big Blue: Blue Rapids, Kans.	20	8	8	20.1	8
Grand: Sumner, Mo.	26	15	16	27.1	15
Brunswick, Mo.	12	16	17	12.0	16-17
Ohio Basin					
Green: Lock 4, Woodbury, Ky.	33	16	19	34.6	17
Lock 2, Calhoun, Ky.	23	19	21	23.5	20
Muscatatuck: Austin, Ind.	T16	16	17	20.9	16
Skillet Fork: Wayne City, Ill.	13	16	16	15.6	16
Wabash: Montezuma, Ind.	14	9	10	15.4	10
Saline: Wayne City, Ill.	15	16	16	15.6	16
Harrisburg, Ill.	13	15	18		
Elk: Fayetteville, Tenn.	659	21	21	659	21
White Basin					
White: Clarendon, Ark.	26		12	31.0	May 18
St. Charles, Ark.	25		11	31.6	May 26
MISSISSIPPI SYSTEM (Cont'd.)					
Arkansas Basin					
Neosho: Oswego, Kans.	17	May 26	1	19.9	1
Lower Mississippi Basin					
Yazoo: Yazoo City, Miss.	29	May 31	3	29.0	May 31-2
Mississippi: Greenville, Miss.	48	May 18	4	52.7	May 26
Vicksburg, Miss.	43	May 24	5	44.95	May 30
Natchez, Miss.	48	May 25	6	50.2	1
Red River Landing, La.	45	May 25	8	47.45	1-2
Baton Rouge, La.	35	May 26	8	37.1	1-3
Donaldsonville, La.	28	May 31	5	28.2	2-4
Atchafalaya Basin					
Atchafalaya: Atchafalaya, La.	29	May 27	7	29.4	3
Morgan City, La.	7	9	9	7.1	9
WEST GULF OF MEXICO DRAINAGE					
Sabine: Mineola, Tex.	14	28	30	14.75	29
Trinity: Dallas, Tex.	30	26	27	32.3	26
Rosser, Tex.	26	28	29	26.5	28
Liberty, Tex.	24	23	30	25.0	26
Double Mountain Fork-Brazos: Hamlin 9NW, Tex.	8	15	17	11.0	16
Little: Cameron, Tex.	30	19	20	34.4	19
Colorado: Smithville, Tex.	25	19	19	27.3	19
Columbus, Tex.	24	19	20	25.5	20
Wharton, Tex.	26	20	21	28.0	21
Guadalupe: Gonzales, Tex.	20	18	21	34.5	19
Cuero, Tex.	23	19	23	35.1	21
Victoria, Tex.	21	19	25	30.3	22
Lavaca: Edna, Tex.	21	19	21	25.4	20
Navidad: Ganado, Tex.	21	19	23	28.8	22
Atascosa: Whitsett, Tex.	20	18	21	27.0	19
Frio: Derby, Tex.	5	19	22	13.5	20
Calliham, Tex.	12	18 21	19 27	18.0 27.55	19 25
Nueces: Calallen, Tex.	7	24	July 2	8.0	July 1
Devils: Bakers Crossing, Tex.	12	17	18	14.1	17
Rio Grande: Del Rio, Tex.	15	17	17	23.4	17
Eagle Pass, Tex.	16	17	19	30.8	18
PACIFIC SLOPE DRAINAGE					
Kootenai: Rexford, Mont.				29.2	May 28
Libby, Mont.	16	May 26	10	18.2	May 29
Bonners Ferry, Idaho	31	May 25	12	37.3 37.1	May 29 6
Flathead: Columbia Falls, Mont.	14	May 28	May 28	14.2	May 28
St. Joe: St. Maries, Idaho	32			33.6	May 28
Willamette: Portland, Oreg.	18	May 29	25	23.0	9,10
Columbia: Vancouver, Wash.	16	May 26	29	24.3	9,10
St. Helens, Oreg.	20	4	18	22.3	10

* Provisional
T Tentative
1/ Continued at end of month

RAWINSONDE DATA

Average monthly values

JUNE 1961

Standard pressure surface (mb.)	ALBANY, N. Y. (1004 MB.)						ALBUQUERQUE, N. MEX. (839 MB.)						AMARILLO, TEXAS (892 MB.)						ANCHORAGE, ALASKA (1010 MB.)						ANNETTE, ALASKA (1013 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	86	16.5	84	192	2.0	30	1,619	17.4	42	58	3.5	30	1,095	17.1	80	179	5.4	30	30	10.1	74	161	5.1	30	37	10.6	81	133	3.9
1,000	30	118			195	4.5	30	85					30	110					30	110	10.3	72	168	4.9	30	144	10.3	80	141	6.4
950	30	555	15.8	69	268	9.3	30	530					30	551					30	534	8.3	70	176	4.7	30	573	8.0	79	153	13.2
900	30	1,013	13.4	68	276	14.2	30	1,007					30	1,023					30	981	5.5	73	139	2.1	30	1,014	5.2	81	156	15.3
850	30	1,492	10.3	70	274	16.1	30	1,506					30	1,512	18.4	61	201	12.2	30	1,445	2.4	77	80	2.9	30	1,479	2.2	81	165	16.5
800	30	1,995	7.1	69	270	17.9	30	2,027	17.9	37	167	7.0	30	2,031	16.3	55	224	12.2	30	1,933	- .7	80	101	4.3	30	1,967	- .5	76	174	17.7
750	30	2,523	4.6	57	265	20.6	30	2,573	14.8	38	213	6.6	30	2,573	13.0	52	253	8.7	30	2,443	- 3.8	80	107	6.0	30	2,480	- 3.3	75	177	19.4
700	30	3,084	2.1	51	263	22.9	30	3,157	11.1	39	252	6.0	30	3,154	9.2	52	299	8.2	30	2,988	- 7.0	78	104	7.8	30	3,024	- 6.2	67	180	21.0
650	30	3,679	- 1.2	47	266	25.8	30	3,765	6.5	42	280	7.0	30	3,759	4.6	52	303	8.5	30	3,558	-10.4	72	103	9.1	30	3,601	- 9.1	61	179	21.8
600	30	4,314	- 4.6	42	265	27.4	30	4,421	1.3	44	286	7.2	30	4,411	- .2	48	316	8.9	30	4,174	-14.1	69	102	10.1	30	4,217	-12.6	58	181	23.3
550	30	4,993	- 8.4	40	261	31.9	30	5,103	- 4.7	51	291	7.0	30	5,094	- 4.9	45	323	9.7	30	4,823	-18.4	65	99	10.5	30	4,877	-16.7	57	184	25.3
500	30	5,729	-12.8	37	260	34.0	30	5,857	-10.5	51	288	8.0	30	5,844	-10.3	40	323	12.0	30	5,534	-23.2	60	93	12.0	30	5,588	-21.3	51	184	25.6
450	30	6,520	-18.0	37	259	34.8	30	6,650	-15.7	38	286	9.7	30	6,642	-15.3		308	12.2	30	6,289	-28.4	57	97	11.9	30	6,355	-26.8	52	189	29.0
400	30	7,397	-24.1		259	41.8	30	7,540	-21.7		289	11.1	30	7,527	-21.7		304	14.6	29	7,129	-34.8	55	93	13.4	30	7,198	-32.8	52	187	32.8
350	30	8,358	-31.2		260	43.7	30	8,509	-28.9		283	14.4	30	8,499	-28.4		298	16.1	29	8,048	-41.7		95	13.2	30	8,126	-39.3		184	35.0
300	30	9,432	-39.3		257	46.4	30	9,593	-37.4		279	17.7	30	9,585	-37.0		292	19.4	29	9,078	-47.3		96	16.1	30	9,166	-45.9		189	39.6
250	30	10,657	-48.5		259	49.9	30	10,827	-46.8		276	21.8	30	10,822	-46.5		279	23.9	29	10,276	-48.9		80	12.8	30	10,371	-47.9		195	40.4
200	30	12,096	-56.4		264	46.0	30	12,276	-55.3		281	27.4	30	12,273	-55.4		279	28.8	29	11,759	-44.8		86	8.2	30	11,848	-46.2		195	30.9
175	30	12,942	-57.4		263	44.7	30	13,122	-58.2		280	25.8	30	13,118	-58.9		284	28.8	29	12,653	-44.6		97	6.8	30	12,736	-46.5		195	25.6
150	30	13,917	-57.0		261	47.0	30	14,086	-61.0		278	23.1	29	14,076	-61.9		286	25.8	29	13,684	-45.3		99	5.8	30	13,756	-47.5		193	21.8
125	30	15,072	-57.1		263	43.5	30	15,212	-63.9		283	16.3	28	15,202	-63.6		296	21.0	29	14,898	-46.2		133	7.4	30	14,957	-49.4		192	15.9
100	30	16,484	-57.3		263	38.9	30	16,574	-65.6		295	6.0	27	16,569	-65.6		324	10.1	29	16,379	-47.0		121	7.4	30	16,414	-50.2		187	13.0
80	30	17,899	-55.9		257	25.1	30	17,929	-65.0		51	4.7	27	17,924	-64.9		37	7.6	29	17,856	-47.2		117	8.4	30	17,868	-50.9		167	10.9
70	30	18,755	-54.8		247	17.1	30	18,746	-62.9		66	11.1	27	18,743	-62.7		61	11.1	29	18,737	-47.4		115	8.4	30	18,742	-50.9		154	8.5
60	30	19,738	-54.0		236	9.1	30	19,702	-60.1		79	16.7	27	19,697	-59.7		73	13.8	27	19,752	-47.4		104	9.5	28	19,744	-50.7		142	6.8
50	30	20,911	-52.8		130	6.2	30	20,847	-57.3		86	19.2	27	20,844	-57.0		89	16.3	27	20,957	-47.3		98	11.1	28	20,932	-50.2		114	7.0
40	30	22,357	-51.1		88	13.4	30	22,266	-54.2		89	18.8	27	22,264	-54.5		92	19.2	27	22,434	-46.8		98	11.5	28	22,385	-49.4		105	10.3
30	29	24,239	-48.8		92	16.3	30	24,124	-51.2		90	22.5	26	24,119	-50.5		83	22.5	27	24,343	-46.2		90	14.6	26	24,281	-48.0		99	12.2
25	28	25,444	-47.1		89	19.4	30	25,313	-49.5		84	23.9	26	25,313	-48.2		87	23.7	24	25,546	-45.1		94	16.5	25	25,491	-46.5		98	15.0
20	25	26,927	-45.2		87	19.2	30	26,781	-47.3		86	24.3	23	26,784	-45.7		88	23.3	23	27,044	-43.5		91	16.9	20	26,978	-44.5		89	15.2
15	16	28,880	-41.8		91	29.7	27	28,702	-43.6		87	27.0	12	28,698	-43.6				17	28,995	-40.5		87	17.1	12	28,948	-40.6			
10																			9	31,761	-35.1									

Standard pressure surface (mb.)	ATHENS, GA. (989 MB.)						BARROW, ALASKA (1013 MB.)						BARTER IS., ALASKA (1012 MB.)						BETHEL, ALASKA (1009 MB.)						BISMARCK, N. DAK. (955 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	246	18.5	93	286	1.0	30	8	0.1	94	91	5.8	30	15	0.7	90	72	5.1	30	4	6.6	90	270	5.8	30	505	11.7	73	69	4.3
1,000	30	151					30	114	.1	92	95	9.3	30	114	.5	89	75	6.0	30	112	6.1	89	272	6.0	30	118				
950	30	593	19.2	73	271	5.1	30	524	1.3	82	100	11.3	30	527	3.5	82	97	7.6	30	530	4.8	80	259	5.2	30	552			75	4.9
900	30	1,057	17.1	69	259	9.3	30	963	2.0	71	96	8.0	30	968	4.4	70	101	4.3	30	972	3.2	73	235	5.1	30	1,013	17.4	48	187	4.1
850	30	1,544	14.1	68	254	11.7	30	1,423	.6	62	120	5.1	30	1,434	3.2	68	176	1.6	30	1,435	1.6	74	242	5.2	30	1,499	14.8	45	215	3.3
800	30	2,054	11.0	66	248	11.1	30	1,908	- 1.6	56	143	4.3	30	1,922	.7	64	242	2.9	30	1,922	- .6	68	247	4.7	30	2,009	11.5	45	306	3.5
750	30	2,585	8.4	58	245	12.6	30	2,416	- 4.1	57	156	4.3	30	2,432	- 2.3	63	234	4.7	30	2,435	- 3.5	68	256	3.7	30	2,542	8.0	43	313	6.6
700	30	3,158	5.3	54	246	12.6	30	2,961	- 7.1	56	161	4.7	30	2,983	- 5.4	58	230	4.3	30	2,978	- 6.6	65	269	3.9	30	3,112	4.0	44	316	8.9
650	30	3,757	1.6	52	250	14.0	30	3,529	-10.4	56	175	5.6	30	3,553	- 8.7	52	216	6.2	30	3,550	- 9.8	59	269	4.3	30	3,706	- .1	41	318	10.7
600	30	4,402	- 2.0	45	255	15.7	30	4,147	-14.1	53	180	6.0	30	4,178	-12.4	49	212	8.9	30	4,168	-13.5	53	277	5.6	30	4,347	- 3.9	34	318	13.8
550	30	5,081	- 6.0	47	257	16.5	30	4,794	-18.2	52	187	8.0	30	4,828	-16.1	40	217	8.9	30	4,819	-17.7	51	280	6.4	30	5,021	- 8.4		320	17.5
500	30	5,830	-10.8	43	254	19.6	30	5,507	-23.0	46	188	10.3	30	5,550	-20.8	41	207	10.3	30	5,532	-22.6	49	282	6.8	30	5,762	-13.3	33	317	18.3
450	30	6,627	-15.6	39	260	21.6	30	6,265	-28.3	39	191	10.9	30	6,309	-26.5	42	213	12.2	30	6,292	-28.1	49	284	7.6	30	6,547	-18.6		315	22.0
400	30	7,514	-21.6	37	258	21.4	30	7,106	-34.1	38	199	13.0	30	7,161	-32.8	43	207	12.6	30	7,133	-34.2	50	285	10.3	30	7,426	-24.9		315	25.5
350	30	8,485	-28.5		258	24.7	30	8,027	-40.8		201	16.5	30	8,087	-39.5		204	16.1	30	8,054	-41.0		288	11.7	30	8,383	-31.9		311	29.9
300	30	9,572	-36.6		254	28.8	30	9,061	-47.4		198	17.7	30	9,125	-46.9		202	17.7	30	9,088	-46.9		289	11.9	30	9,454	-40.1		306	35.2
250	30	10,811	-46.2		254	36.3	30	10,262	-47.5		189	16.7	30	10,318	-51.1		202	17.9	30	10,290	-48.6		301	11.7	30	10,673	-49.4		304	35.8
200	30	12,260	-56.2		260	36.5	30	11,753	-43.5		195	6.6	30	11,783	-46.3		207	12.6	30	11,765	-46.2		323	9.1	30	12,110	-55.8		297	35.2
175	30	13,102	-60.0		265	30.9	30	12,651	-43.4		188	4.5	30	12,673	-45.2		216	8.4	28	12,659	-46.2		333	6.2	30	12,959	-55.6		300	35.8
150	30	14,059	-62.5		272	23.7	30	13,687	-44.3		181	3.9	30	13,701	-45.6		214	5.1	28	13,683	-46.6		344	4.7	30	13,941	-55.4		306	30.9
125	30	15,181	-63.6		273	17.5	30	14,907	-44.9		155	2.5	30	14,914	-46.0		209	3.5	28	14,892	-47.1		360	1.6	30	15,100	-56.7		315	25.1
100	30	16,548	-65.0		295	7.2	30	16,398	-45.4		118	3.1	30	16,397	-46.2		183	2.7	28	16,367	-47.7		81	3.5	30	16,509	-57.3		324	18.3
80	30	17,914	-62.7		24	4.1	30	17,885	-45.4		110	3.1	30	17,880	-46.0		154	2.1	28	17,840	-47.8		86	5.6	30	17,920	-57.2		359	9.1
70	30	18,740	-60.4		72	7.4	30	18,771	-45.2		103	4.1	30	18,764	-45.8		111	2.7	28	18,719	-47.8		90	6.0	29	18,767	-56.2		27	7.0
60	30	19,707	-58.1		78	11.5	30	19,805	-44.9		100	5.6	30	19,799	-45.6		90	4.7	28	19,739	-47.7		92	7.0	29	19,748	-54.7		50	7.6
50	30	20,861	-55.7		84	15.2	29	21,024	-44.8		96	5.6	30	21,012	-45.3		88	7.0	28	20,944	-47.5		89	8.7	29	20,919	-52.9		69	11.1
40	29	22,292	-53.2		93	18.8	28	22,513	-44.5		91	9.7	28	22,501	-45.1		92	9.1	28	22,420	-47.1		91	10.3	29	22,365	-51.2		80	13.6
30	28	24,158	-49.9		88	20.1	28	24,441	-44.3		87	10.1	27	24,426	-44.8		80	12.2	25	24,327	-46.1		85	13.0	28	24,249	-48.8		91	17.9
25	27	25,355	-48.0		87	22.2	27	25,666	-43.2		90	12.0	25	25,645	-44.0		90	14.0	24	25,544	-44.9		90	13.1	27	25,451	-47.1		88	17.5
20	24	26,830	-46.0		91	23.5	23	27,170	-41.4		92	13.6	22	27,142	-42.6		95	13.0	19	27,053	-42.6		84	11.7	26	26,936	-45.0		94	19.4
15	15	28,752	-43.4		93	27.0	12	29,124	-38.3				14	29,089	-39.2		92	15.7	10	29,007	-39.4				21	28,866	-41.8		89	26.8
10													6	31,934	-34.1										7	31,633	-36.2			

Standard pressure surface (mb.)	BOISE IDAHO (915 MB.)						BROWNSVILLE, TEX. (1013 MB.)						BUFFALO, N. Y. (989 MB.)						BURRWOOD, LA. (1016 MB.)						CAPE HATTERAS, N. C. (1016 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	868	15.0	55	168	2.1	30	7	23.9	91	147	4.5	30	218	14.4	83	220	4.5	30	3	24.2	89	219	2.9	30	4	21.4	91	254	3.9
1,000	30	104					30	118	24.4	86	153	9.7	30	127					30	140	24.0	84	206	5.1	30	141	21.1	86	239	8.0
950	30	543					30	568	22.3	83	163	18.3	30	559	14.6	72	244	9.9	30	587	21.3	78	197	7.4	30	583	19.4	76	242	12.4
900	30	1,010	17.7	44	292	1.4	30	1,038	19.6	76	170	18.1	30	1,019	13.0	71	266	14.0	30	1,056	18.6	71	203	7.6	30	1,050	17.0	69	248	11.9
850	30	1,500	18.5	33	329	4.1	30	1,530	16.8	70	174	15.9	30	1,498	10.5	71	268	16.1	30	1,545	15.7	64	207	8.5	30	1,536	14.2	70	247	12.6
800	30	2,017	15.5	33	303	4.7	30	2,045	14.2	59	170	11.3	30	2,001	7.5	69	272	18.3	30	2,058	13.0	58	215	9.1	30	2,046	11.5	65	249	14.4
750	30	2,557	11.8	37	282	6.2	30	2,587	11.2	53	165	6.6	30	2,525	4.7	62	271	19.6	30	2,596	10.0	53	222	9.3	30	2,579	8.5	61	249	17.1
700	30	3,134	7.6	39	260	8.5	30	3,163	8.4	41	121	3.7	30	3,091	1.8	58	273	20.8	30	3,168	7.1	41	228	9.3	30	3,152	5.3	61	249	19.4
650	30	3,738	3.2	38	247	9.9	30	3,769	5.0	34	83	3.1	30	3,680	- 1.2	50	274	23.3	30	3,772	3.7	39	237	9.7	30	3,750	1.8	57	251	17.7
600	30	4,384	- 1.8	41	253	13.8	30	4,421	1.5		47	2.9	30	4,321	- 4.7	45	275	23.5	30	4,420	- .1	39	241	9.7	30	4,396	- 1.8	55	246	18.7
550	30	5,064	- 7.0	44	249	16.9	30	5,107	- 2.7		4	4.7	30	4,993	- 8.9	40	274	25.3	30	5,106	- 4.0	39	250	8.9	30	5,076	- 5.7	53	245	20.8
500	30	5,806	-12.1	44	249	18.5	30	5,866	- 7.5		350	3.9	30	5,733	-13.5	37	267	27.6	30	5,858	- 8.5		252	10.5	30	5,826	- 9.8	46	246	22.7
450	30	6,599	-17.7		255	19.2	30	6,676	-12.8		346	4.1	30	6,517	-19.0		270	30.1	30	6,664	-13.7	35	260	12.6	30	6,628	-14.7	46	246	23.1
400	30	7,475	-23.8		251	18.7	30	7,568	-18.8		317	7.8	30	7,397	-24.7	34	267	33.0	30	7,554	-19.6	35	269	14.0	30	7,515	-20.7	44	245	25.8
350	30	8,437	-31.1		253	19.6	30	8,547	-25.8		308	11.5	30	8,355	-31.8		265	36.1	30	8,531	-26.6		275	13.6	30	8,489	-27.6	38	244	29.0
300	30	9,511	-39.5		254	22.2	30	9,644	-34.2		306	16.9	30	9,428	-39.8		262	41.2	30	9,626	-34.8		277	17.3	30	9,579	-35.9	37	246	29.9
250	30	10,735	-48.3		262	25.1	30	10,895	-43.6		288	20.2	30	10,651	-48.4		263	47.0	30	10,873	-44.4		277	20.6	30	10,820	-45.7		246	31.1
200	30	12,182	-54.2		265	29.5	30	12,359	-54.5		295	25.3	30	12,095	-55.2		269	45.5	30	12,333	-55.1		287	23.9	30	12,270	-56.4		251	36.9
175	20	13,036	-55.8		260	28.4	30	13,204	-60.2		299	22.9	30	12,947	-55.7		270	41.0	30	13,176	-59.9		290	23.7	30	13,108	-60.9		260	33.0
150	30	14,017	-57.7		259	23.3	30	14,152	-66.1		302	19.4	30	13,928	-56.1		268	35.0	29	14,128	-64.2		296	21.4	30	14,057	-64.1		260	24.3
125	30	15,159	-60.0		256	16.3	30	15,244	-70.5		323	13.4	30	15,088	-56.5		269	25.5	29	15,235	-67.2		308	15.5	29	15,174	-63.5		263	19.0
100	30	16,549	-60.7		254	8.2	30	16,564	-71.5		26	11.9	28	16,503	-56.9		273	17.7	29	16,578	-67.9		354	8.5	29	16,542	-63.4		280	9.7
80	30	17,938	-59.9		111	2.1	30	17,890	-68.5		70	18.3	28	17,918	-56.2		277	9.9	29	17,924	-65.9		59	11.1	29	17,919	-61.1		83	1.9
70	28	18,776	-58.4		86	4.5	30	18,703	-64.8		82	21.0	27	18,767	-55.0		296	7.2	29	18,747	-63.3		70	15.0	28	18,750	-58.9		80	6.6
60	28	19,744	-57.1		87	8.4	30	19,645	-61.6		86	22.3	26	19,747	-53.9		357	3.1	29	19,696	-59.9		78	18.1	27	19,724	-57.0		80	12.4
50	28	20,903	-55.0		86	9.7	29	20,785	-58.2		84	26.1	25	20,922	-52.6		68	5.6	29	20,844	-56.8		80	22.7	27	20,883	-54.9		90	15.9
40	28	22,336	-52.7		81	14.2	27	22,198	-55.1		88	32.4	22	22,363	-51.1		83	8.9	26	22,269	-53.9		87	25.1	24	22,320	-52.2		91	18.5
30	27	24,205	-49.7		83	16.1	24	24,051	-50.4		90	31.7	22	24,243	-48.6		85	10.9	23	24,133	-50.4		90	29.3	22	24,188	-49.1		87	20.4
25	26	25,402	-48.2		85	17.5	23	25,246	-47.5		92	28.8	22	25,445	-47.2		81	15.0	22	25,326	-48.1		89	28.2	15	25,369	-47.0		86	21.6
20	26	26,882	-45.3		84	20.2	20	26,730	-45.0		77	24.9	22	26,929	-44.8		83	16.7	20	26,810	-45.1		85	29.5	9	26,849	-44.3			
15	19	28,810	-41.7		89	20.6	9	28,645	-42.2				14	28,842	-41.2		87	16.9	13	28,729	-41.3		85	25.3	5	28,784	-41.4			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JUNE 1961

Standard pressure surface (mb)	CARIBOU, ME. (989 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CHARLESTON, S. C. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	191	13.1	80	229	4.3	30	13	21.3	90	194	1.2
1,000--	30	96					30	147	21.5	86	231	4.3
950----	30	526	11.8	71	263	11.7	30	591	20.6	72	247	9.5
900----	30	980	9.9	68	265	11.3	30	1,059	18.3	69	248	10.9
850----	30	1,453	7.0	68	256	15.0	30	1,547	15.2	72	243	11.3
800----	30	1,950	4.7	63	255	19.6	30	2,059	12.0	68	237	11.7
750----	30	2,473	1.9	59	261	22.9	30	2,594	8.2	62	236	12.6
700----	30	3,028	1.1	58	261	26.6	30	3,166	5.7	58	238	13.4
650----	30	3,613	- 4.2	53	262	29.7	30	3,763	2.4	50	244	15.0
600----	30	4,244	- 7.4	48	261	34.2	30	4,413	- .9	43	247	17.7
550----	30	4,913	-11.3	42	260	36.9	30	5,095	- 5.1	42	247	17.5
500----	30	5,643	-15.8	37	261	40.2	30	5,846	- 9.5	38	249	21.2
450----	30	6,421	-21.2	35	260	43.7	30	6,645	-14.8	39	250	22.0
400----	30	7,289	-27.3	32	258	47.8	30	7,535	-20.7	35	253	21.6
350----	30	8,237	-34.1		258	52.3	30	8,509	-27.5		251	24.1
300----	30	9,300	-41.6		260	60.2	30	9,601	-35.7		253	27.0
250----	30	10,516	-49.2		258	63.3	30	10,843	-45.6		251	29.1
200----	30	11,964	-52.9		262	51.1	30	12,295	-56.5		261	31.9
175----	30	12,826	-52.0		261	48.4	30	13,132	-61.6		263	27.8
150----	30	13,824	-52.2		256	39.2	30	14,080	-64.6		265	24.1
125----	30	15,001	-53.2		258	31.7	30	15,192	-65.1		262	15.7
100----	30	16,439	-53.3		258	19.2	30	16,551	-65.4		294	5.4
80-----	30	17,878	-52.4		258	10.1	30	17,918	-62.6		55	6.6
70-----	30	18,739	-51.7		250	5.1	30	18,746	-60.6		81	8.9
60-----	30	19,745	-51.3		131	3.7	30	19,712	-57.9		87	15.7
50-----	30	20,933	-50.3		109	5.6	29	20,867	-55.4		89	19.6
40-----	29	22,393	-49.2		93	9.3	29	22,299	-53.0		92	21.8
30-----	26	24,291	-46.9		92	14.0	27	24,164	-49.9		92	21.4
25-----	22	25,487	-45.4		84	14.4	23	25,368	-47.4		90	24.5
20-----	14	26,967	-43.3		92	22.3	16	26,856	-45.3		88	26.6
15-----	8	28,901	-40.2				7	28,803	-43.0			
10-----												

Standard pressure surface (mb)	COLD BAY, ALASKA (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	COLUMBIA, MO. (987 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	27	5.7	89	290	5.6	30	238	16.5	89	155	2.3
1,000--	30	140	5.0	83	306	7.4	30	121				
950----	30	556	3.3	97	314	8.0	30	562	19.0	66	215	5.6
900----	30	995	1.7	43	336	9.9	30	1,025	16.6	65	246	7.2
850----	30	1,454	.5	64	339	9.1	30	1,510	13.7	64	275	7.2
800----	30	1,940	- 1.1	58	337	11.1	30	2,020	11.0	58	278	7.6
750----	30	2,450	- 3.4	49	339	9.3	30	2,554	7.7	58	279	8.9
700----	30	2,995	- 6.3	47	337	10.1	30	3,122	4.2	56	280	11.1
650----	30	3,566	- 9.4	49	334	9.3	30	3,720	.9	45	281	11.5
600----	30	4,186	-13.1	42	334	11.3	30	4,362	- 2.3	36	286	13.0
550----	30	4,839	-17.1	43	334	13.0	30	5,044	- 6.6	35	288	12.6
500----	30	5,553	-21.6	44	335	15.2	30	5,788	-11.4		291	13.2
450----	30	6,331	-26.7	43	333	16.5	30	6,584	-16.7		297	15.0
400----	30	7,163	-32.5	43	327	18.7	30	7,464	-22.9		300	17.9
350----	30	8,090	-39.2		324	20.4	30	8,430	-29.7		302	20.4
300----	30	9,131	-45.9		319	24.7	30	9,510	-38.0		303	24.5
250----	30	10,332	-49.4		324	25.6	30	10,741	-47.2		298	29.5
200----	30	11,797	-48.4		327	23.9	30	12,191	-54.8		295	33.2
175----	30	12,676	-48.2		325	18.7	30	13,039	-57.4		298	33.5
150----	30	13,691	-48.5		321	13.8	30	14,011	-58.2		302	27.4
125----	30	14,888	-49.1		325	9.1	30	15,156	-59.8		302	19.6
100----	29	16,353	-49.7		357	6.0	30	16,544	-61.4		309	14.4
80-----	28	17,810	-49.4		34	3.1	29	17,927	-60.4		343	8.9
70-----	28	18,689	-49.2		48	3.7	29	18,766	-59.0		23	7.8
60-----	27	19,699	-49.0		66	4.5	29	19,732	-57.0		64	8.4
50-----	27	20,896	-48.6		78	6.6	29	20,892	-55.0		75	10.9
40-----	27	22,365	-48.1		87	8.0	29	22,326	-52.6		81	13.0
30-----	27	24,264	-47.1		90	11.3	27	24,198	-50.1		88	14.6
25-----	27	25,475	-45.8		83	11.7	22	25,381	-48.5		86	17.7
20-----	22	26,967	-43.9		83	13.[illegible]	11	26,843	-46.1			
15-----	16	28,898	-36.7		82	14.2	5	28,734	-43.7			
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Standard pressure surface (mb)	DAYTON, OHIO (982 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DENVER, COLO. (840 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	297	15.7	79	235	1.2	30	1,611	11.1	77	219	2.5
1,000--	30	137					30	125				
950----	30	576	17.1	68	261	7.8	30	562				
900----	30	1,036	14.7	65	269	9.1	30	1,027				
850----	30	1,518	11.8	60	275	8.5	30	1,511				
800----	30	2,024	9.2	53	270	9.3	30	2,024	16.0	47	299	3.7
750----	30	2,552	6.5	49	272	11.1	30	2,565	13.7	42	323	4.5
700----	30	3,121	3.4	46	274	12.2	30	3,149	9.7	42	322	8.2
650----	30	3,715	- .2	49	275	13.6	30	3,756	5.2	44	319	9.7
600----	30	4,355	- 3.8	44	272	16.3	30	4,408	- .1	48	320	12.4
550----	30	5,031	- 7.6	35	274	15.3	30	5,090	- 5.8	49	313	13.6
500----	30	5,775	-12.0		268	20.0	30	5,838	-11.3	47	304	14.4
450----	30	6,565	-17.6		266	20.2	30	6,635	-16.6	36	293	15.3
400----	30	7,446	-23.5		269	21.0	30	7,516	-22.8		297	19.0
350----	30	8,409	-30.6		271	24.5	30	8,481	-30.3		293	21.0
300----	30	9,486	-38.7		269	26.4	30	9,559	-38.9		291	22.7
250----	30	10,714	-47.7		267	30.9	30	10,787	-47.6		290	25.3
200----	29	12,163	-55.1		271	33.0	30	12,234	-54.7		288	26.8
175----	29	13,009	-58.1		274	32.3	30	13,084	-56.8		289	25.6
150----	29	13,980	-57.8		274	28.2	30	14,058	-58.4		293	20.4
125----	29	15,127	-59.1		274	21.4	30	15,198	-60.7		302	15.0
100----	29	16,524	-60.0		284	14.2	30	16,581	-62.4		324	9.7
80-----	29	17,920	-58.7		318	5.4	30	17,878	-60.1		61	6.6
70-----	29	18,764	-57.7		8	3.5	30	18,739	-60.9		41	8.9
60-----	29	19,736	-55.8		61	5.1	30	19,745	-59.8		41	9.9
50-----	29	20,901	-53.9		74	8.5	30	20,933	-57.0		41	11.1
40-----	28	22,344	-51.7		84	13.6	30	22,393	-54.5		42	12.6
30-----	27	24,214	-49.6		84	16.1	30	24,291	-52.7		42	14.4
25-----	26	25,412	-47.0		81	17.3	30	25,487	-51.3		42	14.4
20-----	23	26,897	-45.1		84	20.6	30	26,967	-49.3		42	22.3
15-----	22	28,830	-42.2		87	24.1	30	28,901	-46.2			
10-----	9	31,580	-36.4				30	31,611	-46.7			

Standard pressure surface (mb)	DODGE CITY, KANS. (925 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	EL PASO, TEX. (882 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	792	16.9	81	223	1.9	30	1,197	19.5	45	71	0.6
1,000--	28	115					30	89				
950----	28	559					30	542				
900----	28	1,023	18.1	68	207	6.0	30	1,020				
850----	28	1,512	17.5	58	242	8.2	30	1,511	21.4	35	153	1.9
800----	28	2,029	15.2	54	260	9.1	30	2,034	18.6	34	196	4.7
750----	28	2,569	11.7	51	273	8.4	30	2,580	14.9	35	219	3.9
700----	28	3,147	7.9	51	297	8.7	30	3,164	10.5	37	275	2.7
650----	27	3,749	3.8	48	306	8.7	30	3,772	5.7	41	294	1.7
600----	27	4,399	- .7	47	316	9.7	30	4,427	.8	43	332	2.5
550----	27	5,080	- 5.5	43	316	11.5	30	5,110	- 4.5	44	15	1.7
500----	27	5,830	-10.6	42	306	14.6	30	5,864	-10.2	46	348	2.7
450----	27	6,629	-16.0	41	304	15.2	30	6,668	-15.0	38	324	4.1
400----	27	7,512	-22.2	38	296	17.1	30	7,552	-21.0		280	7.0
350----	27	8,481	-29.4		296	18.5	30	8,525	-28.2		269	12.8
300----	27	9,563	-37.9		300	21.8	30	9,613	-36.3		272	17.9
250----	27	10,794	-47.4		278	21.6	30	10,854	-45.6		270	25.3
200----	26	12,235	-56.6		270	26.0	29	12,315	-55.0		270	35.8
175----	26	13,078	-58.9		283	30.5	29	13,159	-59.7		269	34.2
150----	26	14,044	-59.6		296	27.0	29	14,114	-63.5		272	24.1
125----	26	15,178	-61.6		301	15.2	28	15,227	-66.7		269	14.0
100----	26	16,553	-63.6		308	9.7	28	16,570	-68.4		308	5.2
80-----	26	17,924	-62.9		9	6.6	28	17,908	-67.5		65	11.1
70-----	25	18,757	-61.1		33	6.4	28	18,721	-64.7		74	14.2
60-----	25	19,714	-58.4		74	11.5	28	19,664	-61.1		81	19.6
50-----	23	20,875	-56.2		82	12.8	28	20,803	-58.3		87	22.3
40-----	23	22,301	-53.6		82	17.7	27	22,216	-55.1		89	23.1
30-----	22	24,166	-50.6		92	19.4	27	24,066	-51.9		85	24.7
25-----	20	25,357	-48.5		77	21.6	26	25,252	-49.9		88	25.3
20-----	12	26,816	-46.6				24	26,718	-47.3		87	26.8
15-----							21	28,634	-43.8		85	27.0
10-----							9	31,353	-39.0			

Standard pressure surface (mb)	ELY, NEV. (811 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FAIRBANKS, ALASKA (995 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,908	7.8	46	172	9.7	30	135	10.6	80	324	0.8
1,000--	30	128					30	92			246	3.3
950----	30	567					30	521	11.3	63	304	3.3
900----	30	1,030					30	971	8.4	64	267	5.1
850----	30	1,512					30	1,441	5.0	68	247	5.1
800----	30	2,019	13.7	39	171	6.2	30	1,932	1.3	71	225	4.9
750----	30	2,562	13.8	31	69	.8	30	2,444	- 2.5	74	225	4.7
700----	30	3,142	9.7	32	332	1.6	30	2,994	- 5.8	68	211	3.9
650----	30	3,747	5.2	36	248	3.1	30	3,560	- 9.4	63	199	4.1
600----	30	4,399	.1	39	244	6.0	30	4,185	-13.2	61	179	4.9
550----	30	5,078	- 5.4	42	244	8.0	30	4,834	-17.4	58	166	6.2
500----	29	5,831	-10.9	41	242	9.9	30	5,551	-22.0	57	158	7.6
450----	29	6,625	-16.0		260	11.1	30	6,307	-27.5	58	156	8.2
400----	29	7,510	-22.5		263	13.2	30	7,156	-33.7	58	157	10.7
350----	29	8,477	-30.2		264	15.2	30	8,079	-40.5		162	12.4
300----	29	9,556	-38.7		269	17.3	30	9,114	-47.3		159	12.6
250----	29	10,784	-47.3		270	20.8	30	10,307	-51.1		157	14.6
200----	29	12,237	-54.5		276	19.8	30	11,779	-45.3		152	10.7
175----	29	13,086	-57.2		276	21.2	30	12,672	-44.7		148	8.7
150----	29	14,056	-59.8		276	15.5	30	13,702	-45.3		142	6.8
125----	29	15,191	-61.7		275	9.1	30	14,917	-46.2		140	7.0
100----	29	16,569	-63.1		247	3.5	29	16,398	-46.4		132	7.2
80-----	29	17,943	-62.3		99	3.3	29	17,878	-46.8		118	7.0
70-----	29	18,775	-60.7		89	6.6	29	18,750	-46.5		106	7.4
60-----	29	19,735	-58.5		89	14.8	29	19,787	-46.4		98	8.4
50-----	29	20,887	-56.0		84	13.4	29	20,997	-46.3		96	9.3
40-----	28	22,317	-53.2		87	15.7	26	22,481	-46.0		95	11.3
30-----	28	24,185	-49.8		86	17.5	25	24,400	-45.1		86	13.0
25-----	28	25,383	-47.6		84	19.6	25	25,620	-43.9		89	14.2
20-----	28	26,866	-45.0		84	21.8	23	27,131	-42.0		90	14.0
15-----	23	28,809	-41.7		89	24.1	17	29,103	-38.8		80	15.5
10-----	9	31,537	-36.0				11	32,058	-32.8			

Standard pressure surface (mb)	FLINT, MICH. (988 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FORT WORTH, TEXAS (994 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	27	234	13.8	80	235	3.1	30	180	20.9	87	182	2.1
1,000--	27	130					30	128				
950----	27	565	14.9	64	279	10.3	30	577	20.6	78	196	11.1
900----	27	1,021	12.9	65	288	12.0	30	1,041	19.1	69	203	10.1
850----	27	1,499	10.0	66	282	12.2	30	1,532	17.1	62	211	5.6
800----	27	2,001	7.4	58	282	13.2	30	2,047	14.3	59	247	3.5
750----	27	2,533	4.7	51	284	13.2	30	2,588	11.0	54	280	3.7
700----	27	3,091	1.8	43	281	15.5	30	3,162	7.4	54	306	3.9
650----	27	3,683	- 1.5	41	278	18.[illegible]	30	3,765	3.5	49	298	4.5
600----	27	4,319	- 5.4	44	281	20.6	30	4,414	- .2	45	314	4.7
550----	27	4,992	- 9.4	38	281	22.3	30	5,100	- 4.5	39	312	6.6
500----	27	5,729	-13.9		280	24.3	30	5,850	- 9.2	36	309	9.1
450----	27	6,514	-19.2		280	25.5	30	6,655	-14.3	34	313	10.7
400----	27	7,388	-25.3		281	26.8	30	7,542	-20.6		305	14.4
350----	27	8,344	-32.4		279	29.5	30	8,516	-27.7		308	17.7
300----	27	9,413	-40.4		279	31.9	30	9,607	-35.8		308	23.3
250----	27	10,634	-48.8		280	35.2	30	10,849	-45.4		300	27.6
200----	27	12,080	-54.7		279	39.4	30	12,305	-55.0		292	32.1
175----	27	12,933	-55.6		282	34.4	30	13,150	-59.1		296	32.4
150----	27	13,916	-55.4		283	29.5	30	14,108	-62.7		301	29.5
125----	27	15,078	-56.0		283	22.7	30	15,225	-64.4		311	19.2
100----	27	16,492	-57.2		292	15.7	30	16,581	-66.7		339	9.1
80-----	27	17,908	-56.1		307	8.0	28	17,938	-65.6		53	8.5
70-----	27	18,763	-55.1		338	3.1	27	18,759	-63.0		74	10.9
60-----	27	19,747	-53.9		46	4.1	27	19,712	-59.9		81	14.6
50-----	27	20,922	-52.7		75	7.8	27	20,858	-57.2		86	18.8
40-----	27	22,369	-50.9		82	11.9	27	22,280	-54.2		87	22.0
30-----	26	24,250	-48.4		84	14.8	27	24,139	-50.9		90	25.1
25-----	25	25,453	-47.0		86	17.3	27	25,332	-48.9		90	25.5
20-----	23	26,933	-45.3		85	21.0	21	26,808	-46.1		84	26.0
15-----	17	28,876	-42.3		80	22.5	9	28,739	-43.0			
10-----	5	31,611	-36.7									

Standard pressure surface (mb)	GLASGOW, MONT. (934 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GRAND JUNCTION, COLO. (852 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	696	15.2	57	80	4.1	30	1,474	18.1	29	119	8.2
1,000--	30	110					30	71				
950----	30	548					30	518				
900----	30	1,013	18.4	42	141	4.1	30	997				
850----	30	1,501	16.2	40	269	3.3	30	1,494			119	7.4
800----	30	2,014	12.8	42	276	6.0	30	2,015	18.9	26	139	8.0
750----	30	2,550	9.0	43	284	8.5	30	2,561	15.7	27	165	4.5
700----	30	3,120	5.2	45	285	10.5	30	3,146	11.2	31	246	1.2
650----	30	3,715	.9	48	279	13.0	30	3,756	6.2	36	269	4.3
600----	30	4,360	- 3.6	49	284	15.7	30	4,409	.4	44	265	6.8
550----	30	5,035	- 8.1	44	283	16.1	30	5,090	- 5.4	50	262	9.1
500----	30	5,776	-12.8	35	279	16.7	30	5,841	-10.8	48	268	13.8
450----	30	6,563	-18.6		286	19.0	30	6,637	-16.7	42	275	14.0
400----	30	7,439	-24.9		289	20.0	30	7,518	-23.0	32	277	15.5
350----	30	8,396	-32.3		288	20.8	30	8,482	-30.1		276	16.3
300----	30	9,465	-40.7		287	24.1	30	9,560	-38.8		274	19.2
250----	30	10,683	-49.7		288	27.6	30	10,787	-47.8		281	22.0
200----	30	12,120	-55.6		294	30.3	30	12,235	-54.7		289	22.5
175----	30	12,972	-55.4		300	29.1	30	13,084	-57.4		288	21.8
150----	30	13,955	-55.8		297	23.1	30	14,053	-59.5		288	18.1
125----	30	15,112	-57.0		301	19.4	30	15,184	-61.6		290	11.7
100----	30	16,522	-57.7		310	13.4	30	16,561	-63.6		311	5.4
80-----	29	17,929	-57.2		337	9.5	30	17,931	-62.2		43	3.7
70-----	29	18,775	-56.5		359	7.2	30	18,763	-61.1		75	7.0
60-----	29	19,755	-55.0		38	6.6	30	19,721	-58.9		80	10.9
50-----	29	20,924	-53.4		71	8.9	29	20,870	-56.4		81	12.8
40-----	29	22,365	-51.2		78	10.5	29	22,295	-53.8		85	15.0
30-----	28	24,246	-49.0		82	15.7	28	24,157	-50.5		88	18.3
25-----	27	25,443	-47.2		88	17.1	28	25,351	-48.8		87	19.8
20-----	26	26,931	-44.9		88	18.1	25	26,823	-46.5		87	20.2
15-----	21	28,862	-41.4		86	20.8	18	28,729	-43.2		86	21.2
10-----	12	31,605	-36.2				7	31,461	-39.3			

Standard pressure surface (mb)	GREAT FALLS, MONT. (888 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,123	12.3	58	225	3.3
1,000--	30	107				
950----	30	545				
900----	30	1,010				
850----	30	1,497	16.4	39	234	8.2
800----	30	2,010	13.4	39	241	5.2
750----	30	2,545	9.6	42	235	6.0
700----	30	3,120	5.7	41	247	8.9
650----	30	3,719	1.8	41	258	11.9
600----	30	4,364	- 2.7	36	261	14.0
550----	30	5,041	- 7.4	31	263	16.1
500----	30	5,785	-12.5		266	19.8
450----	30	6,573	-18.3		267	19.0
400----	30	7,453	-24.6		270	20.0
350----	30	8,411	-31.8		271	20.4
300----	30	9,481	-40.2		268	21.6
250----	30	10,701	-48.9		268	23.9
200----	29	12,144	-55.1		280	25.8
175----	28	12,999	-54.9		281	25.0
150----	28	13,984	-55.6		281	24.9
125----	28	15,141	-57.1		282	16.9
100----	28	16,548	-58.5		281	12.8
80-----	28	17,952	-57.6		265	6.0
70-----	28	18,797	-56.9		360	2.7
60-----	28	19,775	-55.3		55	4.9
50-----	28	20,942	-53.5		71	8.5
40-----	27	22,385	-51.1		83	12.0
30-----	26	24,262	-48.8		79	15.3
25-----	26	15,464	-47.0		84	17.7
20-----	25	16,948	-44.5		85	17.7
15-----	21	28,902	-41.1		92	18.5
10-----	7	31,684	-34.0			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	GREEN BAY, WIS. (989 MB.)						GREENSBORO, N. C. (985 MB.)						HILO, HAWAII (1016 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	210	13.6	81	278	2.1	30	273	17.4	93	236	1.9	30	11	20.5	86	243	5.2
1,000	30	113					30	144					30	146	22.1	78	232	2.9
950	30	553	15.8	59	276	8.4	30	583	18.[illegible]	75	257	4.5	30	590	19.3	80	80	3.3
900	30	1,007	14.0	56	285	10.9	30	1,048	16.[illegible]	71	267	6.4	30	1,055	16.2	83	75	6.4
850	30	1,487	11.0	58	295	10.1	30	1,534	13.6	72	255	8.5	30	1,540	13.1	85	77	8.4
800	30	1,990	7.6	58	296	11.5	30	2,043	10.7	69	255	10.7	30	2,048	10.4	77	78	11.5
750	30	2,519	4.5	54	295	14.0	30	2,578	8.1	59	254	13.6	30	2,588	9.6	47	80	13.8
700	30	3,079	1.5	49	302	15.3	30	3,147	4.7	59	250	15.2	30	3,157	7.9	34	81	13.6
650	30	3,670	- 1.7	45	302	18.7	30	3,746	1.2	57	249	16.3	30	3,769	5.6		79	11.7
600	30	4,305	- 5.7	40	297	22.5	30	4,390	- 2.3	52	249	17.7	30	4,417	2.2		84	8.0
550	30	4,975	- 9.8	38	296	22.0	30	5,071	- 6.2	47	247	18.1	30	5,109	- 2.3		77	5.1
500	30	5,712	-14.3		295	21.8	30	5,817	-10.9	44	246	18.7	30	5,866	- 7.3		75	2.5
450	30	6,499	-19.7		296	23.7	30	6,619	-15.9	36	248	20.4	30	6,671	-13.4		212	.6
400	30	7,367	-25.9		297	24.9	30	7,500	-22.0	36	252	21.6	30	7,564	-20.4		232	3.7
350	30	8,320	-33.0		299	26.8	30	8,469	-28.6		253	27.2	30	8,538	-27.8		241	9.1
300	30	9,387	-40.9		298	30.9	30	9,555	-36.7		254	32.1	29	9,629	-36.0		261	11.9
250	30	10,604	-49.3		293	35.6	30	10,792	-46.3		255	34.2	29	10,871	-45.4		264	17.7
200	30	12,047	-54.8		291	36.1	30	12,240	-56.5		263	37.1	29	12,324	-56.0		271	23.1
175	29	12,901	-55.3		295	32.[illegible]	30	13,081	-60.1		263	33.2	29	13,163	-60.9		269	22.3
150	29	13,885	-55.0		293	27.0	30	14,037	-62.0		263	26.4	29	14,112	-64.9		265	17.7
125	29	15,047	-56.4		290	24.9	30	15,164	-62.5		266	19.8	29	15,216	-67.6		256	7.8
100	29	16,460	-57.1		305	18.7	30	16,538	-63.3		281	9.1	29	16,547	-71.2		93	4.5
80	28	17,874	-56.[illegible]		316	11.1	30	17,915	-61.4		8	2.9	29	17,869	-69.8		87	14.6
70	27	18,728	-55.6		340	8.7	30	18,749	-59.7		70	4.9	29	18,668	-67.0		86	21.4
60	27	19,707	-54.0		22	7.4	30	19,714	-57.[illegible]		81	9.1	29	19,606	-63.[illegible]		85	26.0
50	26	20,881	-52.4		61	9.7	29	20,871	-55.5		87	13.2	28	20,739	-59.8		82	27.4
40	25	22,330	-50.6		79	12.4	29	22,301	-53.0		90	17.1	28	22,145	-56.2		86	29.3
30	24	24,215	-48.1		[illegible]	15.9	29	24,168	-49.6		88	19.2	27	23,995	-51.3		82	27.8
25	22	25,416	-46.4		83	17.3	28	25,367	-47.9		88	21.0	25	25,182	-49.0		86	26.6
20	18	26,891	-44.2		86	19.4	28	26,846	-45.6		88	21.6	20	26,656	-46.1		83	23.9
15	11	28,831	-40.0				23	28,775	-42.8		87	25.8	10	28,568	-43.7			
10							6	31,573	-37.4									

Standard pressure surface (mb.)	INTERNAT. FALLS, MINN. (971 MB.)						JACKASS FLATS, NEV. (889 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	360	11.2	82	[illegible]	1.7	30	1,100	20.4	22	40	6.4
1,000	30	112					30	70				
950	30	546	14.3	65	309	4.1	30	514				
900	30	1,001	13.8	57	314	7.2	30	996				
850	30	1,481	11.5	52	317	10.5	30	1,496	24.2	19	90	3.5
800	30	1,985	8.1	54	319	13.0	30	2,022	20.2	22	177	4.5
750	30	2,511	4.7	52	317	14.6	30	2,568	15.7	25	207	4.7
700	30	3,074	1.6	46	317	18.8	30	3,154	11.2	27	205	5.[illegible]
650	30	3,661	- 1.8	42	315	21.0	30	3,761	6.3	30	196	5.6
600	30	4,300	- 5.4	39	315	24.3	30	4,417	.9	31	184	5.6
550	30	4,971	- 9.8	37	316	25.1	30	5,100	- 4.1	30	206	4.7
500	30	5,708	-14.4	33	315	26.0	30	5,853	- 9.6	31	218	7.0
450	30	6,491	-19.9		316	29.1	30	6,651	-14.9		226	11.9
400	30	7,363	-26.3		314	30.9	30	7,539	-21.7		243	12.4
350	30	8,314	-33.5		316	33.6	29	8,505	-29.1		249	15.3
300	30	9,378	-41.5		312	36.3	29	9,589	-37.5		260	17.3
250	30	10,593	-49.4		309	40.8	29	10,824	-46.4		269	17.9
200	30	12,038	-53.7		304	40.8	29	12,281	-54.4		273	17.3
175	30	12,897	-52.9		306	38.3	28	13,129	-57.5		268	16.1
150	30	13,891	-52.8		308	31.5	28	14,094	-60.7		268	14.4
125	30	15,064	-54.1		310	23.[illegible]	28	15,223	-63.3		268	10.9
100	30	16,492	-54.9		315	18.7	28	16,591	-64.6		244	4.3
80	30	17,921	-54.1		329	13.8	28	17,954	-64.[illegible]		115	3.5
70	29	18,780	-52.9		343	8.2	28	18,776	-62.[illegible]		95	7.0
60	29	19,777	-52.0		18	7.4	28	19,732	-59.7		89	11.7
50	29	20,962	-50.6		60	10.1	28	20,878	-57.3		88	14.6
40	28	22,419	-49.1		76	12.0	28	22,297	-54.6		89	16.3
30	26	24,308	-46.8		87	12.6	28	24,150	-51.7		92	18.8
25	25	25,520	-45.4		84	14.4	28	25,337	-49.6		89	21.6
20	17	27,002	-43.3		88	16.9	24	26,802	-47.4		90	21.8
15	13	28,884	-40.3				17	28,728	-44.2		96	18.3
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Standard pressure surface (mb.)	JACKSON, MISS. (1005 MB.)						JACKSONVILLE, FLA. (1017 MB.)						JOHNSTON IS., PACIFIC AREA (1014 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	101	20.0	92	190	0.6	30	6	22.1	92	227	2.5	30	3	26.0	80	86	15.2
1,000	30	136	20.4	88	226	2.1	30	155	22.5	83	232	5.6	30	127	25.0	80	84	16.5
950	30	583	19.[illegible]	78	244	7.4	30	601	21.3	72	241	8.0	30	574	21.5	81	84	19.[illegible]
900	30	1,046	17.5	76	242	6.4	30	1,070	18.7	70	242	7.0	30	1,044	18.2	80	83	21.2
850	30	1,533	14.6	74	242	5.2	30	1,560	15.8	68	237	6.[illegible]	30	1,532	15.2	73	82	20.2
800	30	2,044	11.8	68	256	6.8	30	2,073	12.8	66	233	8.2	30	2,045	12.5	67	82	17.1
750	30	2,582	8.9	62	261	7.8	30	2,608	9.7	63	234	10.3	30	2,582	11.0	42	80	13.8
700	30	3,150	6.0	58	262	9.5	30	3,183	6.4	61	239	12.4	30	3,159	9.0	27	80	11.5
650	30	3,751	2.4	59	265	10.7	30	3,783	3.2	54	240	14.2	30	3,763	6.3		82	10.1
600	30	4,396	- 1.4	58	262	10.3	30	4,434	- .6	48	244	15.3	30	4,422	2.6		74	8.4
550	30	5,080	- 5.5	57	261	12.0	30	5,116	- 4.4	40	248	14.6	30	5,109	- 2.3		78	6.6
500	30	5,827	- 9.7	49	270	14.0	30	5,870	- 9.1	38	255	15.3	30	5,870	- 7.3		89	6.2
450	30	6,629	-15.1	43	273	15.0	30	6,672	-14.3	36	260	17.1	30	6,675	-12.5		89	4.3
400	30	7,513	-21.2	36	280	17.7	30	7,563	-20.2	39	262	19.2	30	7,574	-18.7		160	1.4
350	30	8,486	-28.0		281	21.6	30	8,540	-26.8	35	256	19.0	30	8,556	-25.9		232	2.3
300	30	[illegible],575	-36.1		281	23.5	30	9,633	-35.[illegible]		252	18.3	30	9,656	-34.0		260	12.[illegible]
250	30	10,815	-45.7		286	24.5	30	10,878	-45.1		255	22.2	30	10,908	-43.6		263	25.3
200	30	12,271	-55.0		288	29.1	30	12,331	-56.[illegible]		263	21.4	29	12,373	-55.0		258	33.4
175	30	13,117	-58.8		292	28.0	30	13,169	-61.3		268	21.4	29	13,214	-61.4		264	35.6
150	30	14,076	-62.4		295	25.1	30	14,116	-64.9		282	19.0	29	14,157	-67.2		262	34.8
125	30	15,195	-65.0		302	19.8	29	15,222	-66.8		288	13.4	26	15,244	-71.7		258	22.[illegible]
100	30	16,551	-65.9		326	10.5	29	16,568	-66.8		333	5.1	23	16,556	-71.9		217	3.7
80	30	17,908	-64.5		26	7.2	29	17,925	-64.2		67	8.1	22	17,878	-70.1		[illegible]	14.0
70	30	18,741	-62.4		65	[illegible].9	29	18,743	-61.8		76	13.[illegible]	22	18,675	-67.7		87	21.8
60	30	19,[illegible]46	-59.6		82	13.4	29	19,706	-59.1		84	18.1	21	19,606	-64.1		84	26.4
50	30	20,833	-57.[illegible]		85	17.3	28	20,859	-56.2		89	22.2	21	20,734	-60.3		85	26.2
40	30	22,256	-54.5		90	20.8	28	22,287	-53.1		93	26.0	21	22,138	-56.3		88	26.0
30	30	24,114	-51.2		88	23.1	24	24,157	-49.[illegible]		89	27.8	20	23,987	-51.9		89	24.7
25	30	25,304	-49.3		88	23.5	21	25,358	-47.5		87	27.2	18	25,180	-48.6		84	22.2
20	30	26,775	-46.8		89	27.2	15	26,853	-44.8		89	32.4	14	26,654	-46.2		80	24.1
15	23	28,702	-43.2		92	29.1	5	28,796	-42.6									
10	5	31,509	-37.9															

Standard pressure surface (mb.)	KING SALMON, ALASKA (1012 MB.)						KOTZEBUE, ALASKA (1012 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	15	6.8	90	197	4.3	30	5	4.5	89	283	5.2
1,000	30	110	6.2	90	188	4.9	30	100	4.7	86	258	4.1
950	30	527	5.1	85	197	2.9	30	516	5.[illegible]	74	216	3.3
900	30	971	4.2	83	155	1.7	30	961	3.7	75	210	4.5
850	30	1,434	1.5	81	86	1.7	30	1,423	.9	78	205	6.4
800	30	1,921	- 1.2	81	40	2.1	30	1,908	- 1.8	77	201	7.0
750	30	2,433	- 3.9	74	32	3.9	30	2,416	- 4.5	73	198	8.0
700	30	2,975	- 6.9	68	31	6.0	30	2,960	- 7.3	66	199	8.4
650	30	3,546	-10.4	61	19	7.2	30	3,528	-10.6	61	196	8.9
600	30	4,163	-14.1	57	24	8.7	30	4,146	-14.3	57	197	10.3
550	30	4,812	-18.2	56	20	9.9	30	4,795	-18.6	53	195	11.3
500	30	5,524	-22.9	50	12	10.1	30	5,504	-23.5	51	192	10.3
450	30	6,281	-28.2	49	10	10.7	30	6,259	-29.1	49	197	11.1
400	30	7,125	-34.3	50	3	12.4	30	7,097	-35.3	48	195	11.1
350	30	8,047	-40.7		6	14.4	30	8,013	-42.0		191	13.4
300	30	[illegible],082	-46.5		360	17.3	30	9,042	-47.4		188	13.8
250	30	10,285	-48.8		351	18.5	30	10,246	-46.4		196	11.9
200	30	11,759	-45.8		355	12.8	30	11,742	-43.1		195	5.6
175	30	12,650	-45.4		354	8.4	30	12,641	-43.4		187	4.3
150	30	13,677	-46.1		6	5.2	30	13,675	-45.0		159	2.9
125	30	14,887	-47.1		19	3.7	30	14,891	-45.6		140	5.1
100	29	16,364	-47.9		57	3.9	29	16,374	-46.2		114	4.9
80	28	17,836	-47.8		85	5.2	29	17,857	-46.3		109	[illegible].8
70	26	18,714	-47.9		95	6.0	29	18,749	-46.1		104	6.2
60	27	19,729	-47.8		99	7.0	29	19,773	-45.9		97	8.2
50	25	20,929	-48.0		97	8.9	29	20,986	-45.7		93	9.5
40	25	22,399	-48.0		93	9.5	27	22,478	-45.5		83	11.9
30	23	24,299	-46.9		93	11.5	26	24,395	-45.1		89	11.3
25	20	25,508	-45.7		89	15.2	24	25,610	-44.2		84	13.8
20	16	26,993	-43.9		86	11.9	21	26,643	-43.0		84	14.0
15	6	28,909	-41.1				15	29,110	-39.1		73	15.9
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Standard pressure surface (mb.)	LAKE CHARLES, LA. (1015 MB.)						LANDER, WYO. (831 MB.)						LAS VEGAS, NEV. (934 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	22.0	90	68	2.3	30	1,696	13.1	59	256	3.1	30	660	24.2	22	218	5.2
1,000	30	135	22.8	85	147	3.9	30	109					30	53				
950	30	581	20.9	79	193	8.2	30	550					30	507				
900	30	1,049	18.2	70	188	9.7	30	1,015					30	987	27.4	18	238	6.0
850	30	1,537	15.4	61	200	9.3	30	1,507					30	1,490	24.5	19	289	3.9
800	30	2,050	12.4	57	221	7.[illegible]	30	3,021	15.0	40	284	1.9	30	2,016	20.4	22	259	3.7
750	30	2,588	9.7	50	243	7.4	30	2,558	11.9	40	307	2.1	30	2,561	15.8	24	213	4.1
700	30	3,159	7.2	46	254	6.4	30	3,139	8.0	43	309	3.9	30	3,149	11.1	27	185	5.2
650	30	3,766	3.7	46	270	5.6	30	3,741	3.5	45	293	5.6	30	3,755	6.1	29	172	4.9
600	30	4,412	- .3	50	278	5.4	30	4,390	- 1.3	45	284	9.5	30	4,411	1.2	30	179	6.4
550	30	5,098	- 4.3	47	267	7.2	30	5,069	- 6.4	43	283	11.5	30	5,093	- 3.9	33	201	5.[illegible]
500	30	5,849	- 8.7	43	275	9.5	30	5,816	-11.9	42	268	13.4	30	5,849	- 9.5		224	6.8
450	30	6,659	-13.9	38	289	12.0	30	6,607	-17.5	36	275	14.4	30	6,649	-15.3		241	9.5
400	30	7,544	-20.1	32	291	14.6	30	7,487	-23.9	30	275	16.9	30	7,534	-21.9		251	11.5
350	30	8,521	-26.9		290	15.7	30	8,449	-31.2		274	20.0	30	8,502	-29.3		259	15.0
300	30	9,614	-35.1		291	20.4	30	9,522	-39.7		274	15.9	30	9,585	-37.7		261	17.9
250	30	10,860	-44.5		294	24.5	30	10,744	-48.7		281	22.7	30	10,819	-46.5		262	19.0
200	30	12,322	-54.3		297	30.7	30	12,189	-54.5		283	22.7	30	12,274	-54.4		274	18.5
175	30	13,167	-59.6		300	30.5	30	13,042	-56.0		285	21.8	30	13,123	-57.7		277	16.3
150	30	14,123	-63.4		301	26.6	30	14,019	-58.1		287	18.8	30	14,088	-60.9		275	13.8
125	30	15,234	-66.3		306	18.1	30	15,162	-60.2		289	14.2	30	15,213	-63.9		282	8.4
100	30	16,579	-68.0		341	10.5	30	16,550	-60.7		310	6.6	30	16,576	-65.1		246	3.1
80	29	17,921	-66.6		53	9.9	30	17,939	-60.5		59	3.1	30	17,936	-64.4		94	3.9
70	29	18,743	-63.5		71	14.2	30	18,774	-59.2		67	5.6	30	18,762	-62.0		84	8.7
60	29	19,688	-60.2		79	16.7	30	19,742	-57.1		66	8.5	30	19,714	-59.3		84	13.4
50	29	20,833	-57.3		87	20.4	30	20,900	-55.2		75	10.9	30	20,861	-56.9		88	16.1
40	29	22,253	-54.4		92	23.5	30	22,334	-52.1		79	15.5	30	22,284	-53.7		89	18.3
30	29	24,108	-51.2		[illegible]	26.2	26	24,202	-49.3		84	17.3	30	24,143	-51.0		86	20.0
25	[illegible]	25,300	-49.0		84	25.6	26	25,402	-47.4		84	19.[illegible]	30	25,337	-48.1		89	22.2
20	27	26,776	-45.8		[illegible]	28.0	23	26,892	-44.9		86	20.4	29	26,810	-45.6		87	23.7
15	23	28,705	-42.8		90	28.8	14	28,842	-41.1		93	22.3	23	28,730	-42.1		86	22.9
10	7	31,467	-38.4															

Standard pressure surface (mb.)	LIHUE, HAWAII (1014 MB.)						LITTLE ROCK, ARK. (1007 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	36	23.9	79	46	10.5	30	79	19.0	88	237	2.3
1,000	30	155	22.9	79	55	14.4	30	137	19.5	84	229	3.7
950	30	599	19.3	82	64	16.7	30	578	19.6	71	247	7.4
900	30	1,063	15.7	86	69	17.3	30	1,045	17.1	70	240	7.8
850	30	1,547	12.7	86	73	17.1	30	1,531	14.2	66	248	6.4
800	30	2,055	10.9	69	77	17.9	30	2,041	11.7	62	265	7.0
750	30	2,591	9.5	44	86	17.1	30	2,575	8.6	61	278	7.[illegible]
700	30	3,164	7.7	25	81	12.8	30	3,147	5.4	55	283	7.4
650	30	3,767	4.9		83	11.1	30	3,743	1.8	52	294	8.9
600	30	4,420	1.0		79	8.5	30	4,391	- 2.0	47	296	10.1
550	30	5,103	- 3.3		79	6.8	30	5,068	- 5.7	37	297	10.9
500	30	5,861	- 8.5		75	5.2	30	5,819	-10.4		300	12.4
450	30	6,662	-14.6		80	3.3	30	6,614	-15.7		300	13.8
400	30	7,550	-21.1		27	1.7	30	7,501	-21.8		298	17.7
350	30	8,523	-28.0		349	2.3	30	8,471	-28.8		298	23.5
300	30	9,612	-36.2		300	6.2	30	9,557	-36.7		299	26.0
250	30	10,851	-45.8		302	8.9	30	10,796	-45.7		296	28.4
200	30	12,303	-55.9		298	11.7	30	12,252	-54.7		297	36.7
175	30	13,142	-61.0		288	13.0	30	13,100	-58.1		299	36.7
150	30	14,091	-64.2		277	12.0	30	14,064	-60.9		300	29.1
125	30	15,199	-66.8		266	5.2	30	15,193	-62.8		305	20.2
100	30	16,538	-69.6		142	3.7	30	16,561	-65.3		314	11.1
80	29	17,870	-68.7		95	11.9	30	17,922	-63.2		8	7.4
70	29	18,673	-66.1		89	18.8	29	18,748	-61.4		62	9.1
60	29	19,615	-62.7		86	25.3	28	19,707	-58.8		82	12.2
50	29	20,748	-60.0		88	28.6	28	20,860	-55.9		88	15.0
40	27	22,155	-56.5		90	32.3	28	22,287	-53.8		90	16.7
30	25	24,002	-51.7		88	32.4	27	24,143	-51.2		88	19.4
25	24	25,192	-49.2		90	30.7	27	25,333	-49.2		88	22.0
20	23	26,665	-47.3		92	27.0	25	26,807	-46.4		87	24.7
15	20	28,589	-43.8		87	26.8	21	28,737	-43.0		84	27.2
10							10	31,503	-38.9			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JUNE 1961

McGRATH, ALASKA (1000 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	103	9.5	83	251	1.4
1,000	30	105			219	2.3
950	30	532	8.9	72	268	4.7
900	30	976	6.3	72	248	3.1
850	30	1,443	3.3	74	202	3.7
800	30	1,932	- .2	77	195	3.5
750	30	2,447	- 3.3	77	192	3.3
700	30	2,990	- 6.6	77	193	4.7
650	30	3,563	-10.2	74	196	4.5
600	30	4,178	-14.0	66	177	3.3
550	30	4,831	-18.2	62	169	4.5
500	30	5,539	-23.1	59	164	5.8
450	30	6,300	-28.7	57	152	5.2
400	30	7,136	-34.8	52	153	6.2
350	29	8,057	-41.5		162	5.6
300	29	9,089	-47.3		161	3.3
250	29	10,289	-49.1		49	.8
200	29	11,766	-45.2		81	1.4
175	29	12,659	-45.2		85	2.1
150	29	13,687	-45.8		121	3.5
125	29	14,899	-46.6		102	4.5
100	29	16,379	-47.1		106	5.2
80	29	17,854	-47.4		107	6.4
70	29	18,740	-47.3		101	6.2
60	29	19,756	-47.2		91	7.6
50	28	20,961	-47.1		97	9.9
40	27	22,436	-46.8		96	10.9
30	24	24,349	-45.8		88	12.2
25	24	25,565	-44.8		89	12.8
20	22	27,066	-43.3		86	14.2
15	18	29,035	-40.2		82	16.3
10	6	31,835	-35.3			

MEDFORD, OREG. (969 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	401	12.4	81	306	1.2
1,000	30	135				
950	30	575	15.1	68	290	2.9
900	30	1,030	14.7	64	289	2.1
850	30	1,513	13.5	60	72	.8
800	30	2,022	12.0	52	136	1.7
750	30	2,556	9.3	42	215	5.4
700	30	3,129	6.3	39	217	[illegible]
650	30	3,728	2.6	36	225	11.7
600	30	4,375	- 1.9	35	228	14.8
550	30	5,058	- 6.2	30	238	16.9
500	30	5,800	-11.5		238	18.8
450	30	6,590	-17.2		240	21.0
400	30	7,472	-23.6		242	23.7
350	30	8,435	-30.6		242	25.6
300	30	9,512	-39.0		242	27.6
250	30	10,740	-47.8		243	32.6
200	30	12,191	-54.8		248	37.7
175	29	13,038	-55.9		249	35.0
150	29	14,016	-57.5		253	30.3
125	29	15,164	-59.5		243	22.2
100	29	16,557	-60.7		230	14.8
80	29	17,948	-59.7		201	6.4
70	29	18,784	-58.8		150	5.4
60	29	19,756	-56.7		109	7.0
50	29	20,916	-55.1		96	10.9
40	28	22,345	-53.1		91	14.8
30	27	24,204	-50.4		83	15.5
25	27	25,398	-48.4		84	19.0
20	26	26,876	-45.7		85	21.4
15	19	28,807	-42.1		84	22.9
10	9	31,603	-38.1			

MIAMI, FLA. (1017 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	4	25.3	84	122	2.3
1,000	30	149	24.9	80	132	5.4
950	30	595	22.1	79	142	8.5
900	30	1,068	19.2	73	144	7.4
850	30	1,558	16.1	68	143	5.8
800	30	2,072	13.2	62	151	5.1
750	30	2,611	10.5	55	145	3.7
700	30	3,186	7.3	51	142	2.9
650	30	3,790	3.8	50	165	3.9
600	30	4,440	.0	44	181	2.7
550	30	5,122	- 4.0	41	234	1.4
500	30	5,879	- 8.7	39	296	2.5
450	30	6,685	-13.8	39	284	4.7
400	30	7,575	-19.5	40	259	4.7
350	30	8,553	-26.7	39	257	6.8
300	30	9,647	-35.1	36	245	8.5
250	30	10,892	-45.1		249	8.4
200	30	12,344	-56.8		268	10.9
175	30	13,178	-63.0		278	12.0
150	30	14,116	-68.0		299	9.5
125	30	15,203	-70.3		332	7.8
100	29	16,532	-70.3		46	6.4
80	29	17,866	-67.1		77	12.6
70	29	18,680	-64.3		84	18.3
60	29	19,625	-61.2		85	24.7
50	29	20,764	-57.9		90	29.9
40	28	22,181	-55.0		97	31.3
30	25	24,034	-50.4		95	28.0
25	22	25,225	-47.7		96	23.7
20	14	26,691	-44.8		86	24.1
15						
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MIDLAND, TEX. (915 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	871	19.4	80	133	5.6
1,000	30	104				
950	30	547				
900	30	1,019	19.8	75	154	11.3
850	30	1,512	18.5	68	180	15.0
800	30	2,031	16.8	56	195	6.6
750	30	2,578	13.9	44	109	1.4
700	30	3,157	9.8	42	33	4.1
650	30	3,766	5.5	39	22	5.1
600	30	4,418	.9	39	360	5.4
550	30	5,104	- 3.9	41	346	7.2
500	30	5,858	- 8.9		322	8.5
450	30	6,663	-13.9		310	10.5
400	30	7,552	-20.2		293	11.5
350	30	8,528	-27.3		290	15.5
300	30	9,619	-35.7		289	19.2
250	30	10,862	-45.0		279	26.6
200	30	12,321	-54.7		280	32.4
175	30	13,167	-58.9		280	32.8
150	30	14,125	-63.2		285	27.8
125	30	15,237	-66.4		292	18.5
100	30	16,586	-67.5		324	5.8
80	29	17,926	-67.1		71	9.3
70	29	18,748	-64.2		75	13.4
60	29	19,687	-61.1		83	16.7
50	28	20,828	-57.8		86	18.5
40	26	22,240	-55.3		92	21.4
30	24	24,090	-51.2		87	24.3
25	24	25,283	-48.8		86	24.5
20	24	26,755	-46.7		90	25.1
15	20	28,674	-43.7		85	25.6
10	7	31,441	-37.3			

MONTGOMERY, ALA. (1010 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	61	19.8	95	225	1.6
1,000	30	149	20.0	89	246	2.9
950	30	594	20.1	78	242	6.2
900	30	1,059	17.6	76	241	7.6
850	30	1,545	14.6	74	239	8.9
800	30	2,056	11.5	69	241	9.3
750	30	2,592	8.9	56	244	9.9
700	30	3,163	6.0	56	249	11.5
650	30	3,764	2.5	50	253	11.7
600	30	4,408	- 1.0	48	259	13.6
550	30	5,093	- 5.1	46	257	16.5
500	30	5,842	- 9.7	42	255	19.2
450	30	6,644	-14.9	44	259	20.6
400	30	7,530	-20.7	44	265	21.0
350	30	8,504	-27.8	38	267	24.5
300	30	9,593	-35.9		265	27.4
250	30	10,835	-45.4		262	30.1
200	30	12,289	-55.5		267	31.1
175	30	13,132	-59.6		274	29.7
150	30	14,087	-63.0		283	25.3
125	30	15,204	-65.0		294	17.5
100	30	16,561	-65.6		315	8.4
80	30	17,920	-63.9		31	7.4
70	30	18,748	-61.6		63	9.5
60	30	19,703	-58.9		77	12.8
50	30	20,853	-56.3		82	16.7
40	30	22,278	-53.7		90	20.4
30	29	24,137	-50.7		89	22.3
25	29	25,330	-48.8		86	22.9
20	29	26,802	-46.4		82	25.8
15	14	28,729	-43.5			
10						

NANTUCKET, MASS. (1014 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	14	15.0	87	226	7.2
1,000	30	131	15.2	82	239	10.3
950	30	568	17.5	66	254	15.5
900	30	1,029	15.1	63	256	15.0
850	30	1,511	12.1	62	259	15.5
800	30	2,017	9.4	58	261	16.7
750	30	2,546	6.7	52	260	20.2
700	30	3,115	3.7	50	262	21.2
650	30	3,711	.5	46	255	24.9
600	30	4,352	- 2.8	40	255	28.6
550	30	5,034	- 6.8	41	257	28.6
500	30	5,776	-11.4	39	255	31.1
450	30	6,572	-16.6		256	32.4
400	30	7,453	-22.5	34	256	40.4
350	30	8,419	-29.6		258	40.4
300	30	9,500	-38.1		256	43.1
250	30	10,730	-47.8		257	44.3
200	30	12,170	-57.2		260	47.2
175	30	13,012	-58.9		259	42.0
150	30	13,978	-59.1		260	36.1
125	30	15,122	-58.6		265	25.6
100	30	16,523	-58.6		265	15.0
80	29	17,931	-56.7		254	6.4
70	28	18,780	-55.2		183	1.0
60	28	19,763	-53.9		114	4.5
50	28	20,936	-52.7		107	7.8
40	26	22,383	-50.7		97	11.3
30	25	24,267	-47.9		92	14.4
25	20	25,472	-46.0		86	19.8
20	17	26,965	-43.5		89	21.2
15	[illegible]	28,930	-39.8			
10						

NASHVILLE, TENN. (996 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	177	18.1	87	197	2.3
1,000	30	137				
950	30	579	19.1	72	255	9.1
900	30	1,044	16.2	72	260	8.4
850	30	1,528	12.9	71	260	9.1
800	30	2,036	10.0	63	270	9.3
750	30	2,568	7.1	59	271	9.5
700	30	3,136	4.5	50	269	11.7
650	30	3,728	1.2	47	265	12.6
600	30	4,377	- 2.7	44	265	12.4
550	30	5,052	- 6.7	44	268	12.2
500	30	5,801	-11.3	44	269	13.6
450	30	6,596	-16.7	39	265	16.3
400	30	7,477	-22.7	38	264	16.5
350	30	8,444	-29.8		266	22.2
300	30	9,525	-38.1		269	22.0
250	30	10,757	-46.8		269	28.8
200	30	12,208	-55.5		274	30.7
175	30	13,053	-58.6		280	27.8
150	30	14,016	-60.7		286	24.5
125	30	15,148	-62.0		286	18.1
100	30	16,524	-63.0		305	10.9
80	30	17,899	-62.0		355	5.2
70	30	18,731	-60.4		46	5.2
60	29	19,693	-57.9		73	9.7
50	29	20,848	-55.8		84	14.0
40	29	22,276	-53.3		92	16.1
30	28	24,142	-50.1		85	19.0
25	27	25,335	-48.6		86	20.4
20	24	26,806	-46.7		89	23.3
15	13	28,730	-42.9			
10						

N. Y. INT. AP, IDLEWILD (1015 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	5	18.1	78	272	5.2
1,000	30	133	17.3	72	276	7.8
950	30	571	17.3	67	277	11.7
900	30	1,032	14.8	66	270	12.8
850	30	1,514	11.8	64	262	13.8
800	30	2,019	8.7	61	256	15.2
750	30	2,552	6.1	48	258	18.5
700	30	3,113	3.2	48	257	20.2
650	30	3,712	.2	45	261	23.3
600	30	4,349	- 3.2	42	259	25.8
550	30	5,028	- 7.0		257	28.0
500	30	5,770	-11.7		258	29.7
450	30	6,565	-16.9		258	31.3
400	30	7,444	-22.8	36	259	33.8
350	30	8,410	-29.9		261	35.0
300	30	9,489	-38.3		261	41.0
250	30	10,718	-47.7		262	46.4
200	30	12,158	-56.9		262	49.5
175	30	13,000	-58.9		263	43.3
150	30	13,965	-59.6		261	38.9
125	29	15,110	-59.2		265	31.7
100	29	16,506	-59.6		266	19.2
80	29	17,907	-57.7		278	7.4
70	29	18,762	-56.6		278	1.9
60	29	19,732	-55.1		91	3.5
50	29	20,901	-53.6		91	8.0
40	28	22,344	-51.8		85	11.5
30	26	24,222	-49.2		86	14.4
25	25	25,424	-47.3		84	16.3
20	25	26,907	-45.0		85	18.5
15	19	28,840	-41.9		82	19.8
10						

NOME, ALASKA (1013 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	7	4.5	87	238	1.2
1,000	30	109	4.9	84	233	1.9
950	30	527	4.1	78	220	3.1
900	30	966	2.6	77	209	5.6
850	30	1,427	.6	74	209	8.0
800	30	1,912	- 1.6	69	214	8.5
750	30	2,422	- 4.2	69	209	8.7
700	30	2,966	- 7.1	62	213	8.7
650	30	3,537	-10.4	58	220	9.5
600	30	4,153	-13.9	59	209	8.7
550	30	4,803	-18.2	56	219	9.1
500	30	5,514	-23.1	52	225	10.7
450	30	6,269	-28.6	48	235	11.3
400	30	7,112	-34.5	47	244	11.7
350	30	8,034	-41.1		243	13.8
300	30	9,065	-47.2		254	15.0
250	30	10,270	-46.6		246	12.4
200	30	11,763	-43.4		245	8.0
175	30	12,661	-43.8		242	5.2
150	30	13,695	-44.7		218	1.9
125	30	14,913	-45.4		121	1.2
100	30	16,399	-46.3		98	4.1
80	30	17,881	-46.4		99	6.2
70	30	18,769	-46.0		97	7.2
60	30	19,794	-46.0		96	8.0
50	30	21,007	-46.1		90	9.9
40	29	22,489	-45.7		88	12.2
30	29	24,409	-44.8		89	12.4
25	29	25,631	-43.9		87	12.6
20	28	27,141	-41.8		85	14.4
15	24	29,107	-38.5		85	15.0
10	5	31,887	-34.1			

NORFOLK, VA. (1016 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	9	19.5	83	232	3.9
1,000	30	147	19.4	80	241	5.6
950	30	588	18.4	76	261	8.9
900	30	1,051	16.5	70	274	8.5
850	30	1,536	13.5	66	262	10.1
800	30	2,045	11.0	60	258	13.6
750	30	2,579	8.1	57	254	17.3
700	30	3,149	4.6	54	251	18.5
650	30	3,744	1.4	51	249	20.8
600	30	4,390	- 2.3	50	248	22.9
550	30	5,067	- 6.2	47	247	21.6
500	30	5,815	-10.7	41	246	23.9
450	30	6,614	-15.9	38	245	26.0
400	30	7,497	-21.6	37	245	28.6
350	30	8,468	-28.6	33	244	31.5
300	30	9,553	-37.0		243	35.9
250	30	10,788	-46.8		245	39.6
200	29	12,237	-56.5		250	39.6
175	29	13,076	-60.5		255	37.7
150	28	14,034	-62.2		252	27.8
125	28	15,162	-62.2		258	20.2
100	28	16,539	-62.3		272	10.5
80	28	17,923	-59.9		36	1.9
70	28	18,761	-57.9		80	6.2
60	28	19,736	-56.4		84	10.5
50	28	20,899	-54.2		89	14.8
40	27	22,335	-51.6		86	18.3
30	26	24,215	-48.7		83	21.6
25	22	25,421	-46.4		84	23.7
20	19	26,913	-43.9		86	26.4
15	13	28,849	-40.8			
10						

NORTH PLATTE, NEBR. (917 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	848	14.5	86	77	0.6
1,000	29	107				
950	29	547				
900	29	1,008	16.0	75	134	1.7
850	29	1,495	16.8	57	219	3.7
800	29	2,010	13.9	55	256	3.1
750	29	2,549	10.9	54	295	5.6
700	29	3,125	7.1	53	293	9.5
650	29	3,723	2.7	56	300	11.7
600	29	4,373	- 1.8	55	307	14.2
550	29	5,050	- 6.5	52	313	16.1
500	29	5,799	-11.5	45	317	15.7
450	29	6,596	-17.1	40	314	18.1
400	29	7,474	-23.3	38	309	19.6
350	29	8,437	-30.6		307	21.8
300	29	9,513	-39.0		304	24.5
250	29	10,738	-48.4		295	26.4
200	29	12,182	-55.4		290	25.8
175	29	13,030	-57.3		293	27.2
150	29	14,004	-57.7		299	25.5
125	29	15,149	-59.5		307	22.0
100	29	16,539	-61.2		324	12.0
80	29	17,924	-60.8		7	7.8
70	29	18,757	-59.6		36	7.0
60	29	19,726	-57.5		56	8.5
50	29	20,884	-55.0		78	10.9
40	29	22,317	-52.7		84	13.4
30	29	24,186	-49.9		86	15.7
25	29	25,383	-48.2		85	17.9
20	29	26,859	-46.3		92	19.0
15	16	28,757	-42.6		96	20.8
10						

OAKLAND, CALIF. (1013 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	6	13.9	84	290	4.3
1,000	30	111	13.7	81	277	4.5
950	30	546	16.4	63	264	5.8
900	30	1,009	19.6	37	296	8.9
850	30	1,500	18.4	25	287	7.0
800	30	2,017	16.0		270	5.2
750	30	2,555	12.6	25	254	5.1
700	30	3,138	9.0	29	239	5.2
650	30	3,739	4.5	32	218	6.6
600	30	4,393	- .3	35	223	8.4
550	30	5,071	- 5.0		234	7.8
500	30	5,826	- 9.9		238	10.7
450	30	6,619	-15.5		238	14.6
400	30	7,510	-21.9		243	15.9
350	30	8,479	-29.1		244	18.3
300	30	9,564	-37.3		252	19.2
250	30	10,799	-46.1		260	22.9
200	30	12,256	-54.2		263	26.4
175	30	13,106	-57.5		263	26.0
150	30	14,073	-60.7		261	22.0
125	30	15,202	-62.5		255	15.5
100	30	16,574	-64.2		235	8.2
80	30	17,943	-63.0		154	4.1
70	30	18,771	-61.4		119	7.4
60	30	19,728	-59.3		102	10.1
50	28	20,876	-57.0		93	14.8
40	28	22,296	-54.5		89	15.5
30	26	24,148	-51.4		85	20.6
25	26	25,337	-49.3		89	22.3
20	25	26,809	-46.9		90	24.7
15	23	28,727	-43.7		93	22.3
10	5	31,437	-39.9			

OKLAHOMA CITY, OKLA. (970 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	392	19.0	83	131	3.1
1,000	30	127				
950	30	572	19.6	74	163	6.2
900	30	1,035	18.4	65	222	8.0
850	30	1,524	16.2	60	268	6.4
800	30	2,038	13.6	55	275	6.6
750	30	2,580	10.4	52	281	6.4
700	30	3,151	6.9	48	310	6.0
650	30	3,753	3.1	45	321	4.7
600	30	4,400	- 1.2	41	305	7.4
550	30	5,084	- 5.4	32	319	9.7
500	30	5,832	- 9.6		311	11.1
450	30	6,632	-14.9		307	14.0
400	30	7,519	-21.0		300	15.7
350	29	8,493	-28.3		300	20.8
300	29	9,580	-36.5		291	26.0
250	29	10,819	-45.7		289	[illegible]
200	29	12,273	-55.5		280	33.6
175	29	13,117	-59.5		287	34.2
150	29	14,077	-61.3		300	27.2
125	29	15,203	-63.2		312	18.8
100	29	16,570	-64.5		322	10.3
80	29	17,933	-64.1		23	8.0
70	29	18,766	-61.5		57	10.5
60	28	19,714	-59.1		76	13.4
50	28	20,864	-56.5		84	15.3
40	27	22,286	-53.8		90	19.8
30	27	24,147	-50.7		89	21.0
25	25	25,340	-48.6		85	21.0
20	21	26,813	-46.2		84	23.9
15	10	28,747	-42.9			
10						

OMAHA, NEBR. (967 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	403	16.1	85	179	1.7
1,000	30	116				
950	30	554	17.9	71	199	3.3
900	30	1,019	17.0	61	241	5.6
850	30	1,504	14.2	56	261	6.4
800	30	2,014	11.4	52	273	6.2
750	30	2,548	8.4	50	289	7.8
700	30	3,118	5.1	50	312	10.3
650	30	3,715	1.5	49	310	11.5
600	30	4,360	- 2.6	47	308	12.8
550	30	5,037	- 7.1	43	308	14.2
500	30	5,782	-11.8	40	311	14.8
450	30	6,573	-17.2	39	314	15.9
400	30	7,455	-23.2	37	314	19.0
350	30	8,419	-30.5		309	21.4
300	30	9,495	-39.1		308	23.9
250	30	10,719	-48.4		304	27.2
200	30	12,160	-55.5		297	29.9
175	30	13,007	-57.1		299	29.3
150	30	13,980	-57.7		306	26.2
125	30	15,126	-59.3		309	22.0
100	30	16,516	-60.9		314	14.2
80	30	17,903	-60.2		343	10.5
70	30	18,742	-58.9		13	8.0
60	30	19,707	-57.2		51	9.1
50	30	20,867	-54.8		70	10.5
40	29	22,296	-52.5		86	12.2
30	28	24,164	-50.0		88	15.0
25	27	25,357	-48.7		85	16.9
20	24	26,827	-46.3		87	19.0
15	20	28,740	-43.6		86	17.9
10						

PEORIA, ILL. (992 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	201	15.0	82	144	1.4
1,000	30	130				
950	30	571	17.6	64	242	3.5
900	30	1,030	15.2	62	278	5.6
850	30	1,513	12.2	62	280	6.2
800	30	2,019	9.5	53	290	7.8
750	30	2,551	6.7	49	282	9.5
700	30	3,117	3.7	45	296	10.1
650	30	3,711	.2	43	294	10.9
600	30	4,353	- 3.4	40	283	12.2
550	30	5,030	- 7.6	37	292	13.0
500	30	5,772	-12.4		291	13.6
450	29	6,566	-17.7		286	17.5
400	29	7,442	-23.6		285	18.8
350	29	8,404	-30.7		289	20.2
300	29	9,480	-38.9		287	23.1
250	29	10,706	-47.8		285	27.4
200	29	12,152	-55.1		289	29.0
175	29	13,001	-57.0		288	27.8
150	29	13,975	-57.3		290	26.8
125	29	15,126	-58.4		293	21.4
100	29	16,524	-59.8		302	16.1
80	29	17,917	-59.3		336	8.4
70	29	18,760	-57.7		16	7.2
60	28	19,732	-55.7		54	7.2
50	28	20,897	-53.8		72	10.5
40	28	22,337	-52.0		81	13.8
30	27	24,209	-49.5		84	16.3
25	27	25,408	-47.6		88	18.5
20	27	26,889	-45.5		85	19.0
15	25	28,814	-42.4		83	[illegible]
10	12	31,570	-36.6			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	PITTSBURGH, PA. (976 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	353	13.7	89	219	2.1
1,000	30	143				
950	30	575	15.4	73	243	7.4
900	30	1,035	13.7	70	269	12.2
850	30	1,516	10.7	71	273	12.6
800	30	2,019	8.0	62	278	12.0
750	30	2,548	5.5	54	267	13.6
700	30	3,112	2.5	51	274	15.2
650	30	3,704	- .7	50	279	17.5
600	30	4,344	- 4.1	45	276	18.1
550	30	5,016	- 8.1	40	274	19.6
500	30	5,760	-12.9	37	272	23.1
450	30	6,550	-18.0		266	26.0
400	30	7,427	-24.0		264	26.4
350	30	8,388	-30.9		267	31.3
300	30	9,464	-39.1		264	36.3
250	30	10,690	-48.1		266	40.4
200	30	12,131	-56.3		271	42.0
175	30	12,976	-58.1		268	39.2
150	30	13,945	-58.3		268	31.5
125	30	15,091	-59.3		273	24.5
100	30	16,488	-59.7		281	14.0
80	30	17,885	-58.4		293	5.8
70	30	18,728	-57.2		7	2.3
60	30	19,706	-55.7		76	7.0
50	30	20,871	-53.9		83	10.3
40	30	22,311	-52.0		89	14.2
30	30	24,183	-49.8		90	15.9
25	29	25,377	-47.8		88	18.7
20	29	26,857	-45.3		88	22.5
15	24	28,769	-42.3		90	26.6
10						
7						

Standard pressure surface (mb.)	POINT ARGUELLO, CALIF. (1000 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	113	11.0	95	319	3.3
1,000	30	116			327	4.1
950	30	555	15.6	65	349	8.7
900	30	1,012	20.9	33	360	9.7
850	30	1,504	19.5	31	360	8.0
800	29	2,022	16.4	30	349	7.0
750	29	2,566	13.3	26	333	3.1
700	29	3,144	9.5	26	280	1.9
650	29	3,749	5.3	26	259	2.1
600	29	4,402	.9		252	4.3
550	29	5,089	- 3.8		246	6.8
500	29	5,841	- 8.8		242	7.8
450	29	6,643	-14.7		242	9.5
400	29	7,530	-21.2		243	12.6
350	29	8,501	-28.8		244	14.2
300	29	9,585	-37.3		256	15.3
250	29	10,821	-45.8		267	18.5
200	29	12,276	-54.9		272	21.2
175	29	13,122	-58.8		272	19.6
150	29	14,082	-62.0		266	16.3
125	29	15,204	-64.2		260	12.8
100	29	16,563	-65.9		249	4.9
80	29	17,920	-64.7		101	5.2
70	29	18,750	-62.6		100	10.5
60	29	19,697	-60.1		94	13.2
50	29	20,845	-56.8		94	15.3
40	27	22,266	-54.5		88	17.7
30	26	24,124	-51.3		86	23.8
25	25	25,311	-49.2		86	23.3
20	25	26,785	-46.3		86	26.4
15	25	28,713	-42.5		95	24.5
10	17	31,471	-37.8		88	21.0
7	6	33,896	-33.7			

Standard pressure surface (mb.)	PORTLAND, ME. (1011 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	20	14.9	81	237	3.5
1,000	30	114	15.3	74	247	5.8
950	30	552	15.9	62	261	10.9
900	30	1,008	13.6	63	268	13.0
850	30	1,487	10.7	63	260	17.1
800	30	1,989	7.7	60	259	20.4
750	30	2,517	4.8	52	255	22.5
700	30	3,079	2.2	43	257	24.3
650	30	3,672	- 1.1	39	256	28.6
600	30	4,308	- 4.5	40	256	32.3
550	30	4,985	- 8.5	41	257	35.4
500	30	5,721	-13.1		261	36.5
450	30	6,508	-18.5		257	40.0
400	30	7,384	-24.7		256	42.0
350	30	8,343	-31.6		256	44.1
300	30	9,416	-39.8		258	49.7
250	30	10,639	-48.5		260	53.6
200	29	12,079	-56.1		264	54.8
175	28	12,929	-56.4		263	49.2
150	28	13,908	-56.5		261	41.8
125	27	15,067	-56.9		264	30.5
100	27	16,482	-56.5		266	17.5
80	27	17,905	-54.9		258	5.8
70	27	18,762	-54.1		177	1.7
60	27	19,752	-53.1		112	3.9
50	26	20,925	-51.8		97	5.6
40	26	22,377	-50.1		93	8.7
30	25	24,269	-47.3		89	15.7
25	19	25,473	-45.9		86	18.1
20	11	26,962	-43.3		85	18.8
15	6	28,921	-39.9			
10						
7						

Standard pressure surface (mb.)	RAPID CITY, S. DAK. (905 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	966	14.9	63	319	2.9
1,000	30	108				
950	30	548				
900	30	1,012			324	2.7
850	30	1,500	16.9	49	294	3.1
800	30	2,014	13.9	48	330	3.9
750	30	2,549	10.6	43	328	7.6
700	30	3,125	6.6	45	322	9.1
650	30	3,722	2.6	40	311	10.3
600	30	4,371	- 2.0	40	305	12.6
550	30	5,043	- 6.8	40	309	15.0
500	30	5,794	-12.0	36	307	16.3
450	30	6,584	-17.4	36	303	15.7
400	30	7,464	-23.6	33	301	18.5
350	30	8,426	-30.9		296	21.8
300	30	9,501	-39.3		292	24.9
250	29	10,726	-48.4		294	27.4
200	29	12,167	-55.5		295	27.4
175	29	13,019	-55.6		298	28.2
150	29	13,999	-56.4		302	25.8
125	29	15,151	-58.4		304	20.4
100	29	16,549	-59.8		313	14.2
80	29	17,943	-59.4		333	9.1
70	29	18,782	-58.1		8	8.4
60	29	19,755	-56.4		44	9.9
50	29	20,918	-54.3		69	10.1
40	29	22,356	-52.0		80	14.6
30	28	24,227	-49.4		86	17.9
25	28	25,426	-47.7		85	18.1
20	28	26,900	-45.4		80	19.2
15	21	28,830	-41.9		87	22.9
10	13	31,590	-36.6			
7						

Standard pressure surface (mb.)	ST. CLOUD, MINN. (977 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	316	13.3	85		0.0
1,000	30	115				
950	30	554	16.8	64	295	2.9
900	30	1,012	15.8	53	316	5.2
850	30	1,495	12.9	55	321	5.6
800	30	2,001	9.4	53	322	8.0
750	30	2,532	6.4	48	322	9.5
700	30	3,097	2.8	47	317	12.2
650	30	3,684	- 1.0	45	315	12.8
600	30	4,327	- 4.8	41	312	15.2
550	30	4,996	- 9.0	38	310	17.3
500	30	5,738	-13.7		310	18.1
450	30	6,527	-18.9		313	20.0
400	30	7,398	-25.4		313	21.8
350	30	8,353	-32.5		315	24.1
300	30	9,421	-40.6		315	30.1
250	30	10,640	-49.4		308	35.4
200	30	12,079	-55.4		304	34.2
175	30	12,930	-55.5		305	33.0
150	30	13,913	-55.0		307	27.4
125	30	15,074	-56.6		312	22.5
100	29	16,488	-57.5		315	17.7
80	29	17,899	-57.0		336	11.7
70	29	18,744	-56.3		354	8.9
60	29	19,730	-54.5		27	7.8
50	29	20,904	-52.4		46	9.5
40	29	22,352	-50.8		67	11.9
30	29	24,236	-48.5		79	15.3
25	28	25,436	-47.1		85	16.5
20	28	26,921	-44.8		88	17.7
15	27	28,862	-41.5		90	20.2
10	13	31,671	-36.1			
7						

Standard pressure surface (mb.)	ST. PAUL IS., ALASKA (1015 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	10	4.1	95	228	4.9
1,000	30	133	3.8	90	228	6.8
950	30	546	3.0	84	235	8.9
900	30	987	2.6	80	239	8.9
850	30	1,448	1.2	71	240	8.5
800	30	1,935	- .6	65	241	8.9
750	30	2,444	- 2.9	61	242	7.8
700	30	2,993	- 5.7	55	235	6.6
650	30	3,564	- 8.8	54	242	6.2
600	30	4,187	-12.5	53	254	8.2
550	30	4,839	-16.5	51	265	8.9
500	30	5,558	-20.8	53	269	9.3
450	30	6,318	-26.0	51	272	12.0
400	30	7,172	-32.0	49	284	16.1
350	30	8,102	-38.7		288	18.7
300	30	9,145	-45.7		288	24.1
250	30	10,344	-49.6		293	27.2
200	30	11,809	-48.4		291	22.5
175	30	12,689	-48.2		291	17.7
150	29	13,712	-48.4		292	12.6
125	29	14,910	-49.3		299	11.1
100	29	16,372	-49.6		308	5.6
80	29	17,835	-49.4		39	1.0
70	28	18,712	-49.2		95	3.1
60	27	19,728	-48.9		82	5.2
50	27	20,927	-48.5		83	7.0
40	27	22,398	-48.2		90	9.7
30	26	24,299	-47.0		90	13.0
25	21	25,515	-45.2		92	13.0
20	20	27,013	-43.3		92	14.0
15	13	28,964	-40.5		89	14.0
10						

Standard pressure surface (mb.)	SALEM, OREG. (1010 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	61	11.1	89	220	0.6
1,000	30	142	12.7	81	353	1.0
950	30	574	12.9	70	35	3.7
900	30	1,029	13.0	61		.0
850	30	1,508	11.5	56	231	2.1
800	30	2,013	9.9	40	226	5.1
750	30	2,543	7.1	36	239	8.5
700	30	3,110	3.9	36	235	12.2
650	30	3,702	.3	34	233	15.5
600	30	4,345	- 3.6	30	233	16.9
550	30	5,028	- 8.0	28	234	18.7
500	30	5,762	-12.8		234	22.0
450	30	6,549	-18.2		231	24.7
400	30	7,427	-24.3		236	27.4
350	29	8,383	-31.8		235	30.5
300	29	9,456	-39.8		234	33.4
250	29	10,679	-48.6		239	38.1
200	29	12,124	-54.2		241	37.5
175	29	12,980	-54.5		242	35.8
150	29	13,965	-55.9		243	30.1
125	29	15,121	-57.7		235	22.2
100	29	16,526	-58.5		227	14.6
80	29	17,928	-58.3		198	6.4
70	29	18,777	-57.4		169	5.6
60	29	19,747	-55.8		120	5.8
50	29	20,912	-54.0		96	8.9
40	29	22,349	-52.2		85	11.9
30	28	24,221	-49.4		85	15.3
25	28	25,421	-47.5		80	16.5
20	28	26,902	-45.1		83	19.0
15	25	28,827	-41.9		84	22.9
10	13	31,626	-36.2			

Standard pressure surface (mb.)	SALT LAKE CITY, UTAH (871 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,288	16.4	49	168	5.4
1,000	30	90				
950	30	535				
900	30	1,006				
850	30	1,498	20.8	31	155	5.8
800	30	2,020	18.4	28	173	4.1
750	30	2,564	14.3	30	224	3.1
700	30	3,148	9.6	35	276	5.6
650	30	3,753	4.7	38	277	6.8
600	30	4,405	- .6	41	266	8.4
550	30	5,089	- 5.8	43	265	9.7
500	30	5,835	-11.3	41	261	11.5
450	30	6,633	-16.8	35	264	13.8
400	30	7,512	-23.2		264	16.5
350	30	8,474	-30.8		266	19.2
300	30	9,549	-39.2		268	21.0
250	30	10,779	-47.6		274	21.8
200	30	12,232	-53.6		278	22.3
175	30	13,086	-56.2		280	21.8
150	30	14,060	-58.5		280	16.9
125	30	15,194	-61.0		277	12.2
100	30	16,577	-62.4		275	6.2
80	30	17,954	-61.8		71	2.1
70	30	18,792	-60.1		81	5.1
60	29	19,746	-58.0		84	8.4
50	29	20,900	-56.2		81	9.9
40	27	22,321	-53.7		81	11.7
30	25	24,182	-50.7		85	13.8
25	21	25,373	-48.6		82	17.1
20	18	26,840	-47.0		85	18.7
15	14	28,778	-43.8			
10						

Standard pressure surface (mb.)	SAN ANTONIO, TEX. (987 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	243	22.8	89	102	2.5
1,000	30	124				
950	30	571	21.0	86	170	7.6
900	30	1,039	18.4	82	177	13.2
850	30	1,529	15.8	74	177	10.7
800	30	2,043	13.6	63	174	7.2
750	30	2,580	11.2	52	211	3.3
700	30	3,160	8.2	40	219	2.9
650	30	3,761	5.1	33	334	2.3
600	30	4,418	.9	38	340	4.5
550	30	5,101	- 3.5	39	334	4.9
500	30	5,861	- 7.9		315	7.8
450	30	6,670	-13.3		320	11.1
400	30	7,561	-19.7		300	12.6
350	30	8,539	-26.8		304	15.9
300	30	9,633	-35.0		308	20.2
250	29	10,877	-44.5		297	23.7
200	29	12,342	-54.3		285	30.1
175	29	13,186	-59.5		288	28.8
150	29	14,140	-64.1		291	23.5
125	29	15,248	-67.0		299	18.5
100	29	16,587	-69.2		8	9.5
80	28	17,920	-68.1		60	11.1
70	28	18,733	-64.8		78	15.9
60	28	19,676	-60.9		89	17.7
50	28	20,817	-57.8		87	22.9
40	27	22,230	-55.3		89	25.6
30	27	24,079	-51.4		87	29.7
25	24	25,268	-49.2		87	29.1
20	21	26,748	-45.8		87	30.3
15	16	28,671	-43.7		86	25.8
10						

Standard pressure surface (mb.)	SAN DIEGO, CALIF. (998 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	124	14.5	93	307	1.2
1,000	30	108			324	1.0
950	30	540	15.3	71	323	1.2
900	30	1,006	20.0	40	312	7.0
850	30	1,498	20.1	27	306	10.3
800	30	2,019	17.9	24	297	8.4
750	30	2,563	14.6	22	282	5.2
700	30	3,147	10.8	22	256	3.9
650	30	3,751	6.4		234	5.1
600	30	4,411	1.5		211	5.6
550	30	5,095	- 3.3		211	6.0
500	30	5,853	- 8.6		231	6.8
450	30	6,650	-14.4		245	8.9
400	30	7,545	-20.9		244	11.1
350	30	8,518	-28.4		246	12.6
300	30	9,604	-37.1		256	13.8
250	30	10,841	-46.1		261	16.9
200	30	12,296	-55.3		262	19.4
175	30	13,142	-59.1		273	17.9
150	30	14,100	-62.6		268	15.5
125	30	15,217	-64.7		270	8.2
100	30	16,567	-67.8		79	.6
80	30	17,913	-66.1		88	8.2
70	30	18,736	-63.8		89	12.6
60	30	19,678	-60.7		91	16.5
50	30	20,820	-57.6		90	19.2
40	29	22,238	-54.8		90	20.0
30	28	24,093	-51.0		86	25.5
25	28	25,284	-49.1		87	25.3
20	27	26,759	-46.2		88	26.8
15	19	28,679	-42.9		94	26.6
10	7	31,440	-38.7			

Standard pressure surface (mb.)	SAN JUAN, P. R. (1017 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	6	24.8	85	94	1.6
1,000	29	156	24.6	79	100	10.5
950	29	601	21.6	78	99	19.6
900	29	1,072	18.7	76	102	20.6
850	29	1,561	15.8	75	103	18.7
800	29	2,074	13.2	68	99	16.7
750	29	2,606	10.8	57	100	13.8
700	29	3,187	8.0	43	103	10.7
650	29	3,789	4.8	36	110	8.4
600	29	4,442	.4	35	104	7.2
550	29	5,125	- 2.8	31	96	6.2
500	29	5,885	- 7.1	30	92	2.1
450	29	6,690	-12.6		106	.6
400	29	7,587	-19.1		258	3.3
350	29	8,566	-26.3		262	5.2
300	29	9,661	-35.1		272	10.1
250	29	10,905	-45.2		279	11.7
200	29	12,355	-57.3		275	17.7
175	29	13,188	-62.9		279	21.0
150	29	14,126	-68.0		269	21.6
125	28	15,214	-70.8		271	13.0
100	28	16,531	-72.2		50	1.2
80	27	17,852	-69.6		78	13.6
70	26	18,654	-66.6		81	21.8
60	26	19,594	-62.5		84	27.2
50	26	20,727	-59.2		90	27.6
40	26	22,138	-55.6		93	28.6
30	24	23,991	-50.8		88	24.5
25	22	25,181	-48.1		92	20.8
20	21	26,670	-44.4		89	18.8
15	15	28,618	-40.6			
10						

Standard pressure surface (mb.)	SANTA MONICA, CALIF. (1009 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	38	14.6	91		0.0
1,000	30	111	14.2	89	156	1.0
950	30	548	15.0	77	65	2.5
900	30	1,010	20.4	43	333	4.7
850	30	1,503	20.2	31	313	5.4
800	30	2,023	17.2	27	290	6.0
750	30	2,566	13.9	22	275	5.1
700	30	3,148	10.1	22	251	4.3
650	30	3,755	5.7	23	245	4.1
600	30	4,408	1.4		219	4.9
550	30	5,094	- 3.6		226	6.6
500	30	5,849	- 8.9		231	9.1
450	30	6,650	-14.4		241	9.9
400	30	7,539	-21.0		247	11.7
350	30	8,510	-28.5		253	12.8
300	30	9,596	-36.7		253	14.8
250	30	10,835	-45.5		264	17.3
200	29	12,293	-54.3		269	20.4
175	29	13,140	-58.4		268	18.3
150	29	14,102	-61.5		270	15.7
125	29	15,222	-64.7		267	9.7
100	29	16,576	-66.4		258	4.1
80	29	17,928	-65.5		86	5.2
70	29	18,744	-63.9		89	9.7
60	29	19,694	-60.6		90	13.4
50	28	20,835	-57.6		91	16.7
40	28	22,252	-54.6		89	18.3
30	27	24,105	-51.7		84	21.8
25	25	25,290	-49.6		84	23.7
20	25	26,758	-47.0		87	24.1
15	21	28,662	-43.9		84	23.9
10	9	31,371	-40.3			

Standard pressure surface (mb.)	SAULT STE. MARIE, MICH. (987 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	221	9.4	83	27	1.4
1,000	30	108				
950	30	536	12.1	68	290	5.4
900	30	990	11.4	60	301	9.1
850	30	1,466	8.7	63	300	13.6
800	30	1,966	5.9	61	300	16.5
750	30	2,488	3.3	55	296	20.2
700	30	3,049	.2	53	296	22.3
650	30	3,633	- 3.4	51	287	22.7
600	30	4,268	- 7.0	45	289	25.6
550	30	4,937	-10.8	42	295	27.4
500	30	5,670	-15.4	36	294	28.4
450	30	6,450	-20.7		293	30.3
400	30	7,319	-27.1		292	34.6
350	30	8,268	-34.3		295	35.2
300	30	9,328	-42.4		295	37.9
250	30	10,539	-50.1		292	45.3
200	29	11,985	-53.2		291	43.7
175	29	12,845	-53.1		291	37.9
150	29	13,840	-53.1		294	29.9
125	29	15,013	-54.1		290	24.3
100	29	16,441	-54.9		296	17.1
80	28	17,868	-54.3		306	11.5
70	28	18,724	-53.4		319	7.4
60	28	19,719	-52.5		[illegible]	3.9
50	27	20,898	-51.5		51	5.8
40	26	22,352	-49.9		75	10.1
30	26	24,240	-47.9		79	11.9
25	25	25,448	-46.5		79	13.8
20	25	26,936	-44.3		83	16.7
15	18	28,899	-40.6		76	20.0
10						

Standard pressure surface (mb.)	SEATTLE, WASH. (1003 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	125	12.4	78	176	1.1
1,000	30	146			156	1.4
950	30	579	12.7	70		.0
900	30	1,031	11.8	64	234	1.9
850	30	1,509	10.1	60	216	4.5
800	30	2,011	7.9	50	232	7.0
750	30	2,539	5.4	40	237	9.9
700	30	3,102	2.5	36	237	12.6
650	30	3,695	- 1.1	37	237	16.3
600	30	4,332	- 4.9		235	20.2
550	30	5,007	- 9.2		235	21.0
500	30	5,743	-13.7		237	24.1
450	30	6,531	-19.2		239	27.2
400	30	7,404	-25.5		241	30.9
350	30	8,359	-32.4		238	35.4
300	30	9,430	-40.3		241	37.9
250	30	10,649	-48.7		241	38.9
200	30	12,097	-53.2		245	38.7
175	30	12,958	-52.7		244	36.1
150	30	13,951	-54.0		243	29.1
125	30	15,119	-55.4		237	21.6
100	30	16,539	-56.3		227	14.6
80	30	17,957	-55.9		207	8.0
70	30	18,813	-55.3		168	5.1
60	30	19,793	-54.1		119	6.0
50	29	20,970	-52.7		97	8.5
40	28	22,414	-51.0		90	11.9
30	28	24,295	-48.4		88	15.2
25	26	25,507	-46.6		87	17.3
20	21	27,014	-43.5		87	19.6
15	7	28,912	-40.5			
10						

Standard pressure surface (mb.)	SHEMYA, ALASKA (1009 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	37	4.6	98	194	5.6
1,000	30	110			206	5.4
950	30	528	4.7	89	221	10.9
900	30	969	4.4	82	229	11.1
850	30	1,434	3.7	71	237	10.9
800	30	1,926	2.1	68	241	11.5
750	30	2,441	- .2	64	246	13.2
700	30	2,997	- 2.5	63	249	15.2
650	30	3,576	- 5.4	58	255	17.9
600	30	4,208	- 8.8	57	258	20.4
550	30	4,876	-12.9	53	260	23.5
500	30	5,599	-17.6	46	259	24.9
450	30	6,374	-22.8	45	261	27.0
400	30	7,235	-28.7	44	265	29.9
350	30	8,178	-35.2	44	265	33.2
300	30	9,238	-42.2		263	36.3
250	30	10,453	-49.0		263	43.5
200	30	11,908	-50.6		258	34.6
175	30	12,780	-49.6		258	29.7
150	30	13,788	-50.1		264	24.1
125	29	14,980	-51.7		274	18.3
100	29	16,423	-52.5		270	13.0
80	29	17,866	-52.0		298	3.1
70	28	18,734	-51.6		3	1.4
60	28	19,733	-51.0		91	1.4
50	28	20,921	-50.3		99	5.6
40	27	22,379	-49.5		91	9.5
30	26	24,269	-48.3		92	11.4
25	25	25,171	-46.8		99	13.6
20	20	26,955	-44.4		99	14.2
15	15	28,887	-41.5			
10						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JUNE 1961

Standard pressure surface (mb.)	SHREVEPORT, LA. (1007 MB.)						SPOKANE, WASH. (932 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	76	19.8	92	155	3.3	30	722	12.8	76	168	4.3
1,000	30	142	20.2	88	173	5.2	30	123				
950	30	583	19.4	78	203	9.9	30	560				
900	30	1,050	17.3	73	210	9.9	30	1,018	16.8	50	191	3.3
850	30	1,537	15.0	62	224	7.4	30	1,504	14.5	45	237	5.1
800	30	2,049	12.2	59	235	5.2	30	2,013	10.9	45	243	6.0
750	30	2,585	9.1	59	245	4.3	30	2,545	7.2	48	246	8.5
700	30	3,157	5.9	56	268	4.3	30	3,112	3.9	42	245	11.3
650	30	3,756	2.5	51	280	4.9	30	3,707	.5	39	242	14.2
600	30	4,404	-1.3	48	285	5.8	30	4,348	-3.5	37	244	16.9
550	30	5,087	-5.5	40	294	8.2	30	5,022	-7.9	36	247	20.0
500	30	5,835	-9.9	34	301	10.7	30	5,764	-12.6	31	241	20.6
450	30	6,635	-15.0		295	12.6	30	6,553	-18.3		240	24.5
400	30	7,523	-21.0		297	15.7	30	7,429	-24.5	31	244	26.2
350	30	8,495	-28.0		297	19.0	30	8,387	-31.9		242	28.4
300	30	9,585	-36.1		297	23.1	30	9,457	-40.1		242	31.7
250	30	10,826	-45.1		299	27.4	30	10,678	-48.5		247	33.8
200	30	12,283	-54.6		296	33.0	30	12,125	-53.6		253	32.6
175	30	13,130	-58.6		301	32.4	29	12,985	-53.6		255	31.1
150	30	14,089	-62.9		302	27.6	29	13,976	-54.3		254	22.3
125	30	15,209	-64.5		303	18.5	29	15,139	-55.9		250	17.7
100	30	16,566	-66.5		331	10.3	29	16,555	-57.4		245	10.7
80	30	17,917	-65.6		33	7.6	29	17,965	-56.8		261	2.9
70	30	18,741	-62.9		68	10.9	29	18,820	-55.7		86	1.4
60	30	19,690	-59.9		80	13.2	29	19,798	-54.2		87	3.9
50	30	20,836	-57.1		85	15.7	28	20,970	-52.5		84	8.9
40	30	22,257	-54.2		88	18.8	27	22,412	-50.7		84	12.6
30	28	24,109	-51.1		87	24.1	26	24,298	-47.9		81	16.7
25	27	25,297	-49.2		87	24.5	24	25,501	-46.3		82	18.8
20	18	26,748	-46.8		93	24.5	23	26,993	-43.1		84	18.5
15	7	28,657	-42.7				20	28,928	-39.7		88	24.3
10							5	31,700	-35.5			

Standard pressure surface (mb.)	TAMPA, FLA. (1017 MB.)						TATOOSH IS., WASH. (1014 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	8	23.2	86	99	3.3	30	31	11.8	86	196	4.5
1,000	30	155	23.5	84	127	3.5	30	148	12.1	81	211	3.9
950	30	600	21.9	75	193	3.9	30	575	11.7	68	235	4.3
900	30	1,073	19.2	72	220	3.3	30	1,029	10.2	59	235	5.1
850	30	1,563	16.2	69	203	3.3	30	1,503	8.2	60	228	7.6
800	30	2,077	13.3	64	198	4.9	30	2,002	6.0	52	224	10.9
750	30	2,612	10.2	61	199	5.8	30	2,524	3.4	48	219	12.8
700	30	3,190	7.2	50	211	6.2	30	3,085	.5	46	224	16.1
650	30	3,792	4.0	44	221	6.6	30	3,670	-2.7	42	226	18.7
600	30	4,444	.4	40	233	7.8	30	4,306	-6.5	39	225	23.5
550	30	5,129	-3.7	40	240	7.6	30	4,972	-10.8	34	230	26.4
500	30	5,884	-8.3	41	259	8.2	30	5,708	-15.5	36	229	29.3
450	30	6,690	-13.7	41	270	9.3	30	6,488	-20.9	37	229	33.4
400	30	7,581	-19.7	45	267	11.3	30	7,357	-26.7		233	37.3
350	30	8,559	-26.6	41	262	12.4	30	8,308	-33.3		233	42.7
300	30	9,654	-34.9		260	13.8	30	9,373	-41.1		232	46.2
250	30	10,901	-44.9		260	15.3	30	10,589	-49.0		235	45.5
200	30	12,355	-56.4		270	16.9	30	12,038	-52.3		235	42.0
175	30	13,193	-61.7		276	17.9	30	12,903	-51.7		238	35.9
150	30	14,138	-66.1		285	15.3	30	13,899	-52.8		237	29.1
125	30	15,236	-68.4		306	10.9	30	15,070	-54.5		232	22.9
100	30	16,572	-69.2		11	4.7	30	16,494	-55.1		223	14.0
80	30	17,913	-65.6		72	10.5	30	17,918	-55.2		192	6.6
70	30	18,734	-62.6		79	15.3	30	18,771	-54.5		165	5.1
60	30	19,686	-60.0		84	20.8	30	19,760	-53.4		122	6.6
50	30	20,831	-57.2		89	24.7	29	20,937	-52.0		97	9.5
40	30	22,253	-53.9		93	28.4	27	22,387	-50.4		85	13.4
30	28	24,115	-50.3		90	27.8	26	24,272	-47.8		85	15.7
25	23	25,313	-47.8		89	28.6	26	25,479	-45.9		83	17.7
20	17	26,797	-44.6		86	27.8	26	26,971	-43.5		84	19.4
15							13	28,924	-39.9			
10												

Standard pressure surface (mb.)	TOPEKA, KANS. (983 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	269	17.2	90	203	1.2
1,000	30	123				
950	30	564	18.6	67	209	5.4
900	30	1,027	16.8	57	247	7.2
850	30	1,512	13.9	56	274	8.2
800	30	2,021	11.5	49	285	6.8
750	30	2,557	8.1	50	318	8.5
700	30	3,123	4.8	49	303	9.7
650	30	3,722	1.1	45	303	10.3
600	30	4,364	-2.7	41	306	11.9
550	30	5,043	-6.7	38	311	14.4
500	30	5,787	-11.4		310	16.5
450	30	6,583	-16.7		302	16.7
400	30	7,462	-23.0		301	19.0
350	30	8,426	-30.3		302	22.5
300	30	9,505	-38.6		299	26.4
250	30	10,733	-47.9		298	30.5
200	30	12,179	-55.4		286	35.8
175	30	13,025	-58.2		290	35.8
150	30	13,995	-58.7		300	29.9
125	30	15,135	-60.8		304	20.2
100	30	16,519	-62.0		316	13.0
80	30	17,898	-61.7		357	8.7
70	30	18,733	-59.8		37	9.3
60	30	19,697	-57.8		67	10.1
50	30	20,854	-55.5		82	12.8
40	30	22,283	-53.5		87	15.3
30	29	24,148	-50.4		89	17.5
25	26	25,343	-48.9		88	19.6
20	23	26,814	-46.5		87	20.0
15	11	28,709	-44.1			
10						

Standard pressure surface (mb.)	TUCSON, ARIZ. (922 MB.)						WASHINGTON, D. C. (1006 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	781	22.1	34	152	6.6	30	84	16.2	92	321	0.6
1,000	30	71					30	138	16.8	84	338	1.9
950	30	519					30	579	17.5	66	295	6.4
900	30	999	25.8	29	176	4.1	30	1,039	15.1	65	284	7.8
850	30	1,500	23.6	27	274	2.1	30	1,521	12.0	66	277	9.1
800	30	2,026	20.1	28	318	2.5	30	2,026	9.2	61	271	11.5
750	30	2,573	16.0	31	318	1.9	30	2,561	6.6	57	263	15.0
700	30	3,159	11.7	33	250	1.4	30	3,123	3.6	56	261	16.9
650	30	3,768	7.0	36	221	2.7	30	3,718	.4	54	259	19.8
600	30	4,427	1.9	41	194	2.3	30	4,360	-3.4	52	255	22.3
550	30	5,116	-3.4	42	205	3.5	30	5,038	-7.1	42	253	22.5
500	30	5,869	-8.7	40	221	4.3	30	5,782	-11.5	38	254	25.5
450	30	6,670	-13.9		274	4.7	30	6,575	-16.7	38	256	26.8
400	30	7,564	-20.0		283	7.2	30	7,459	-22.7	39	254	29.1
350	30	8,539	-27.4		267	9.3	30	8,424	-29.8	37	252	31.7
300	30	9,630	-35.9		260	13.8	30	9,505	-38.0		250	32.4
250	30	10,871	-45.5		258	19.6	30	10,735	-47.5		251	39.1
200	30	12,326	-54.8		259	27.6	30	12,178	-56.2		258	41.8
175	30	13,172	-59.0		263	28.0	30	13,020	-59.1		259	37.9
150	30	14,129	-62.8		269	22.0	30	13,982	-60.1		258	32.3
125	30	15,245	-65.3		266	13.0	29	15,120	-60.3		266	25.8
100	30	16,596	-67.1		258	2.9	28	16,509	-60.8		270	14.2
80	30	17,941	-66.5		69	9.3	28	17,902	-59.1		287	4.9
70	30	18,766	-63.5		76	15.5	28	18,747	-57.7		90	1.4
60	29	19,706	-60.4		82	19.4	28	19,719	-55.7		86	6.2
50	29	20,851	-57.0		88	20.6	28	20,884	-54.1		86	11.1
40	28	22,275	-53.8		89	22.7	26	22,326	-51.9		89	15.3
30	28	24,137	-50.4		87	25.3	23	24,210	-49.0		89	17.3
25	27	25,332	-48.3		87	25.5	21	25,420	-47.1		81	19.8
20	25	26,811	-46.3		88	26.4	20	26,902	-44.7		86	23.3
15	14	28,731	-42.0		89	23.3	16	28,845	-41.6		84	27.2
10							9	31,637	-36.8			

Standard pressure surface (mb.)	WINNEMUCCA, NEV. (870 MB.)						YAKUTAT, ALASKA (1013 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,310	13.5	47	53	1.0	30	12	8.3	93	106	3.7
1,000	30	108					30	122	8.7	88	116	5.8
950	30	549					30	547	7.2	80	131	9.1
900	30	1,015					30	989	5.0	77	133	10.9
850	30	1,506	18.3	35	10	1.6	30	1,453	1.8	79	124	11.1
800	30	2,024	16.4	32	328	2.7	30	1,940	-1.2	80	121	11.3
750	30	2,562	12.5	34	305	3.1	30	2,452	-4.2	79	126	12.0
700	30	3,143	8.3	35	267	5.4	30	2,993	-7.3	75	128	13.8
650	30	3,745	3.8	38	244	8.2	30	3,564	-10.7	69	130	14.0
600	30	4,394	-1.1	40	226	10.9	30	4,179	-14.3	67	132	14.6
550	30	5,072	-6.3	41	232	12.8	30	4,828	-18.4	64	137	16.1
500	30	5,819	-11.6	42	238	13.8	30	5,539	-22.8	59	143	18.5
450	30	6,609	-17.1		249	14.6	30	6,298	-28.1	55	142	21.6
400	30	7,490	-23.5		249	14.4	30	7,140	-34.1	51	146	24.5
350	30	8,452	-30.7		256	18.7	30	8,061	-40.8		149	28.6
300	30	9,527	-39.2		258	19.6	30	9,096	-46.9		149	28.0
250	30	10,751	-48.0		267	21.8	30	10,298	-48.3		148	25.8
200	30	12,196	-54.8		267	23.3	30	11,782	-44.0		155	17.7
175	30	13,044	-56.9		262	26.0	30	12,678	-44.1		158	15.0
150	30	14,014	-59.2		260	22.5	30	13,709	-45.4		155	13.4
125	29	15,146	-61.5		258	15.9	30	14,923	-46.6		157	11.1
100	29	16,525	-62.1		247	8.9	29	16,399	-47.7		147	11.3
80	29	17,904	-61.2		124	4.1	29	17,871	-48.0		134	8.0
70	29	18,745	-59.5		97	5.8	29	18,754	-47.8		124	6.4
60	28	19,708	-57.9		93	9.1	29	19,768	-48.0		108	7.2
50	28	20,862	-55.8		89	12.4	29	20,970	-47.8		101	7.2
40	28	22,291	-53.1		86	22.2	29	22,443	-47.4		97	8.0
30	28	24,158	-49.8		86	17.9	28	24,350	-46.4		90	10.7
25	25	25,362	-47.5		87	20.2	26	25,559	-45.2		95	10.3
20	24	26,842	-45.0		84	20.6	20	27,057	-43.4		83	10.9
15	15	28,776	-41.5		89	21.8	7	29,020	-39.3			
10												

Note. All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots. The resultant wind speed is biased toward a lower value as the number of observations on which the resultant is based lessens. The amount of bias increases with the number of observations that are terminated due to low angle limitations.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

JUNE 196

ALBUQUERQUE, N. MEX.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
June									
1	0.96	1.02	1.14	1.28	1.39	----	----	----	----
2	.93	.95	1.09	----	----	1.24	1.07	0.93	0.85
3	.77	.87	.99	1.16	1.45	1.19	1.04	.91	.81
4	.85	.94	1.07	1.23	1.43	----	----	----	----
5	.79	.88	1.03	1.21	1.42	----	----	----	----
7	.70	.80	.92	----	1.30	----	----	----	----
8	.59	.68	.87	1.02	1.24	1.04	.88	.72	----
9	----	----	----	1.06	1.27	1.06	.88	.73	.65
10	.67	.74	.89	1.06	1.28	1.08	----	.79	.67
11	----	----	----	----	1.19	----	----	----	----
12	.53	.62	.79	1.02	1.30	----	----	----	----
13	.66	.74	.92	1.11	1.32	----	----	----	----
14	.64	.73	.86	1.04	1.28	----	----	----	----
15	----	----	----	1.01	----	----	----	----	----
16	----	----	----	----	----	1.15	1.00	.89	.83
17	.71	.77	.93	1.09	1.29	.99	.83	(.69)	(.62)
18	.62	.71	----	1.06	1.28	----	----	----	----
19	.73	.81	.94	1.09	1.31	----	----	----	----
20	----	----	----	.99	1.24	1.03	.88	.73	.66
21	----	----	(.91)	1.04	1.30	1.08	.90	.74	.64
22	.69	.77	.90	1.09	1.28	(.99)	(.85)	(.68)	(.57)
23	H (.50)	H(.59)	H (.75)	H (.92)	H(1.21)	----	----	----	----
24	.63	.70	.85	1.03	(1.22)	----	----	(.67)	(.53)
25	.67	.77	.89	1.06	1.27	1.09	.91	.76	.69
26	.62	.71	.86	1.04	(1.27)	(1.06)	(.89)	(.75)	----
27	.62	.68	.83	.99	1.25	----	----	----	----
28	.65	.72	.85	.95	1.23	----	----	----	----
29	H (.55)	H(.62)	H (.74)	H (.77)	H(1.21)	----	----	----	----
30	----	----	----	1.04	1.25	----	----	----	----
Averages	0.70	0.78	0.93	1.07	1.30	1.10	0.93	0.80	0.73

BLUE HILL OBS., MASS.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
June									
4	0.82	0.90	1.04	1.15	1.35	1.10	0.93	0.79	0.67
5	.62	.67	.72	.98	1.29	.94	.75	.61	.49
7	----	----	----	.94	1.25	.90	.70	.54	.44
10	----	----	----	----	----	1.01	.76	.60	.49
13	.33	.43	.55	.82	----	.79	.41	----	----
15	.70	.82	.91	1.10	1.33	----	----	.84	.75
16	.75	.86	.99	1.17	1.37	1.11	.91	.81	.69
17	.57	.71	.84	1.03	1.23	.91	.66	.53	.43
18	.48	.61	.74	94	1.21	.84	.61	.48	.37
19	.47	.55	.66	.84	----	----	----	----	----
20	----	----	----	----	----	.70	.50	.36	.26
25	.21	.29	.33	.45	----	.89	.69	.53	.42
26	.52	.61	.72	.94	----	----	----	----	----
28	.19	.25	.70	----	----	----	----	.43	.30
29	.35	.48	.62	----	----	----	----	----	.25
30	.23	.31	.44	.69	----	----	----	----	----
Averages	0.48	0.58	0.71	0.92	1.29	0.92	0.69	0.59	0.46

OMAHA, NEBR.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
June									
10	----	----	----	----	0.98	0.72	0.52	0.30	----
17	----	----	----	H 0.60	----	----	----	----	----
18	H 0.26	H0.35	H 0.48	H .71	----	----	----	----	----
20	S .31	S .45	S .65	----	S 1.10	----	----	----	----
21	----	----	----	----	M 1.03	.68	----	----	----
22	----	I .18	I .40	M .82	----	----	----	.31	----
23	----	----	----	----	----	S .77	S .57	S .39	----
27	----	----	----	M .80	----	----	----	----	----
28	----	----	----	----	----	----	M .47	M .29	I 0.16
29	----	----	----	----	I .91	M .57	M .37	M .20	I .11
30	H .19	H .33	M .49	M .73	M 1.00	M .58	M .41	M .28	H .13
Averages	0.25	0.33	0.51	0.73	1.00	0.66	0.47	0.30	0.13

H Haze
S Slight haze - indeterminable
M Moderate haze - indeterminable
I Intense haze - indeterminable
( ) Clouds present
* Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February [illegible] this publication.

MAUNA LOA OBS., HAWAII

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
June									
1	1.20	1.28	1.37	1.48	1.55	1.43	1.29	1.20	1.12
2	1.15	1.23	1.32	1.44	1.55	1.40	----	----	----
4	1.11	1.19	1.28	1.40	1.56	1.40	1.29	1.20	1.13
5	1.13	1.21	1.31	1.41	----	1.39	1.27	1.18	1.11
6	1.08	1.17	1.26	1.39	1.53	1.40	1.28	1.21	1.12
7	1.13	1.21	1.31	1.42	1.56	1.40	1.30	1.23	1.14
8	1.13	1.21	1.30	1.41	1.54	1.39	1.29	----	----
9	1.18	1.26	1.34	1.45	1.56	----	1.29	1.20	1.12
10	1.18	1.26	1.34	1.44	1.54	----	----	----	----
12	----	----	----	1.42	----	----	----	----	----
14	----	----	----	----	----	1.49	1.31	1.22	1.15
15	----	----	----	1.38	1.55	----	----	----	----
16	1.17	1.24	1.33	1.44	1.58	1.44	1.33	1.24	1.17
17	----	----	----	----	----	1.43	1.32	1.23	1.16
18	----	----	----	----	----	1.41	1.29	1.18	1.10
19	1.15	1.23	1.32	1.43	1.58	1.38	----	----	----
20	1.13	1.25	1.33	1.44	----	1.37	1.25	1.16	1.07
21	1.17	1.25	1.33	1.44	----	----	----	----	----
22	----	----	----	----	----	1.43	1.31	1.21	1.13
23	1.19	1.26	1.34	1.47	1.57	1.41	1.31	1.23	1.15
24	1.21	1.29	1.37	1.47	1.57	1.45	1.33	1.23	1.15
25	1.20	1.28	1.37	1.48	----	1.44	1.35	1.26	1.18
26	1.19	1.27	1.36	1.47	----	----	----	----	----
27	1.21	1.29	1.35	1.48	----	----	----	----	----
28	1.19	1.28	1.36	1.47	1.59	1.45	1.34	1.25	1.17
29	1.17	1.25	1.33	1.47	1.58	1.44	1.35	1.26	1.18
30	1.15	1.24	1.32	1.42	----	1.43	1.33	1.25	1.17
Averages	1.16	1.25	1.33	1.44	1.56	1.42	1.31	1.22	1.14

TUCSON, ARIZ.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
June									
1	0.90	0.99	1.10	----	1.42	----	----	----	----
2	.91	1.00	1.12	----	----	----	1.06	0.94	0.84
3	.82	.94	1.07	----	----	----	----	.95	.85
4	.81	.90	1.04	1.20	----	----	----	----	----
5	.81	.91	1.03	1.18	----	----	----	----	----
7	.85	----	----	----	----	----	----	----	----
8	.87	.98	1.10	----	----	----	----	----	.85
9	----	----	----	----	----	----	----	.85	.75
10	----	----	----	----	----	----	.86	.72	.63
12	.62	.73	.87	----	----	----	----	----	----
13	.65	.73	.87	----	----	----	----	----	----
14	.68	.77	.90	----	----	1.16	1.07	90	77
16	----	----	----	----	1.22	----	----	----	----
19	.50	.68	.76	----	----	----	----	----	----
20	.58	.70	.84	1.02	1.26	----	----	----	.53
21	.47	.57	.73	----	----	----	----	----	----
Averages	0.73	0.83	0.95	1.13	1.30	1.16	1.00	0.87	0.75

MADISON, WIS.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
June									
2	----	----	----	S 1.15	----	----	----	----	----
3	S 0.90	S 1.01	S 1.12	S 1.26	S 1.37	----	----	----	----
4	----	M .91	M 1.02	S 1.19	----	1.19	S 1.02	----	----
10	----	----	----	M 1.07	----	----	----	----	----
17	----	----	----	S 1.15	S 1.37	S 1.10	S .94	S 0.80	S 0.67
18	M .59	M .70	M .87	M .96	I 1.25	S .88	----	----	----
20	M .67	M .79	M .93	S 1.21	----	----	----	----	----
21	M .59	M .70	M .85	M 1.05	S 1.26	----	----	----	----
27	----	----	----	----	----	----	M .68	M .57	M .51
28	----	----	----	M .98	----	S .92	S .75	S .60	----
Averages	0.69	0.82	0.96	1.11	1.31	1.02	0.85	0.66	0.59

GUAM, M. I.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
Air mass	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92

No observations during June

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JUNE 1961

1961	Albuquerque, N.Mex.	Ames, Iowa	Annette, Alaska	Apalachacola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill Obs.,Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Cape Hatteras, N. C.	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Corvallis, Oreg.	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Flaming Gorge, Utah	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.
June 4------	842	641	146	764	371	519	---	722	753	704	763	686	546	584	610	511	654	844	706	662	766	*	760	834	338	596	463	566	618	600	740	643	577	687
June 5------	827	385	131	748	295	575	---	592	718	664	734	717	529	556	778	234	469	766	704	476	772	*	---	803	699	555	511	(535)	631	668	724	546	479	677
June 6------	761	---	553	735	429	342	---	168	676	543	497	586	537	583	668	652	684	695	473	322	730	*	---	756	708	372	707	580	(618)	570	710	---	436	522
June 7------	798	342	437	714	572	613	---	283	716	668	688	730	649	273	657	803	658	402	420	738	780	*	346	809	820	608	534	549	629	639	578	657	659	775
June 8------	823	538	338	757	281	657	493	287	561	410	672	458	546	456	745	165	589	184	434	447	677	*	251	815	782	596	---	687	638	623	722	756	613	728
June 9------	800	675	677	747	265	505	---	515	684	280	773	235	516	229	778	776	655	123	554	410	748	*	539	788	771	515	634	674	625	812	542	693	593	595
June 10------	826	633	296	700	338	437	---	498	739	219	755	255	602	253	409	277	431	632	731	503	736	*	707	784	812	---	699	727	614	850	727	730	579	549
Average--------	811	536	368	738	364	521	---	438	692	498	698	524	561	419	664	488	591	521	575	508	744	*	521	799	704	540	592	617	(625)	680	678	671	562	647
June 11------	574	568	374	712	457	450	---	643	656	605	466	639	647	532	174	809	660	591	741	240	548	*	594	742	767	460	711	539	558	653	575	345	497	684
June 12------	749	510	639	712	713	600	---	398	201	418	763	449	531	570	556	751	610	593	678	715	774	*	643	751	814	207	516	575	635	678	632	635	566	585
June 13------	813	---	189	651	770	482	821	723	259	660	797	671	543	552	657	425	381	510	347	---	768	704	370	553	816	677	793	547	614	495	524	420	659	536
June 14------	788	---	512	573	761	616	672	224	566	136	782	95	505	390	755	795	---	266	181	---	771	675	671	776	834	626	585	381	615	520	537	701	684	689
June 15------	629	---	750	266	760	440	464	131	726	590	779	534	429	418	175	625	569	440	646	---	761	190	771	559	826	671	650	295	603	610	713	(712)	157	383
June 16------	615	719	861	---	722	95	400	241	767	731	768	684	481	537	400	---	135	700	597	---	732	242	759	423	829	527	794	124	595	704	722	(718)	529	105
June 17------	812	731	820	478	723	136	385	135	738	712	655	707	508	555	552	499	171	682	772	665	792	629	768	778	657	669	697	89	600	569	690	732	680	164
Average--------	711	632	592	565	701	403	548	356	559	550	716	540	520	508	467	651	421	540	566	---	735	488	654	655	792	548	678	364	603	604	628	(609)	539	449
June 18------	662	715	466	344	548	561	358	605	500	680	728	723	252	565	674	727	366	607	761	704	808	504	755	767	593	463	684	302	625	450	395	647	766	695
June 19------	722	272	514	408	712	612	330	524	719	586	761	628	364	541	791	542	578	606	684	670	784	738	413	768	800	487	724	510	604	492	---	659	711	621
June 20------	786	743	457	177	668	97	498	658	647	661	766	668	635	558	823	503	313	107	663	706	743	783	586	737	821	469	775	703	593	548	681	746	606	121
June 21------	807	658	637	390	773	251	629	443	680	357	802	367	623	553	339	376	164	169	751	798	742	---	773	771	676	418	732	745	586	594	740	745	171	202
June 22------	769	467	439	713	774	697	401	660	448	120	681	149	667	576	703	168	669	659	650	756	737	791	331	779	580	461	602	736	(527)	680	698	740	428	752
June 23------	730	699	119	749	756	600	332	---	732	431	667	498	601	566	755	367	624	199	737	768	739	736	77	770	702	230	499	667	632	800	(718)	715	674	709
June 24------	791	565	248	744	759	573	438	234	688	400	759	433	695	567	690	413	645	537	728	749	728	608	590	726	620	431	574	323	625	842	679	699	652	731
Average--------	753	588	411	504	713	484	426	521	630	462	738	495	548	561	682	442	480	412	711	736	754	693	503	760	685	423	656	570	(599)	629	(652)	707	573	547
June 25------	818	687	552	749	---	336	714	294	718	650	751	654	585	533	418	647	623	340	733	769	506	573	432	720	725	560	776	363	521	760	607	742	522	445
June 26------	741	662	668	534	621	160	---	231	724	595	576	561	614	497	702	345	549	723	677	566	736	748	620	705	498	585	546	588	623	812	715	711	128	296
June 27------	758	662	500	636	603	342	531	165	709	335	758	324	552	571	248	756	197	590	359	680	782	758	707	697	773	---	359	689	658	595	729	741	287	429
June 28------	783	701	362	762	559	490	783	251	461	526	497	537	516	(501)	235	609	325	624	746	537	798	742	761	639	817	694	737	725	684	870	645	496	468	716
June 29------	783	552	682	752	709	674	774	281	634	565	726	611	613	553	192	662	448	552	565	620	776	---	634	772	(828)	557	486	690	698	825	586	226	687	718
June 30------	---	655	510	736	712	601	414	182	442	465	806	447	465	568	782	626	495	599	257	770	784	762	598	739	734	566	306	671	666	737	750	773	698	718
July 1------	637	513	821	687	496	597	---	120	705	684	794	716	514	484	750	822	692	603	335	752	770	557	673	754	791	435	795	662	655	771	749	770	621	653
Average--------	753	633	585	694	617	457	643	218	628	546	701	550	551	(530)	475	638	476	576	525	671	736	690	632	718	(738)	566	572	627	644	767	683	637	487	568

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

* Recorder inoperative.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JUNE 1961

1961	Hilo, Hawaii	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Laramie, Wyo.	Las Vegas, Nev.	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif.	Los Angeles, Calif. (Urban)	Madison, Wis.	Manhattan, Kans.	Matanuska, Alaska	Mauna Loa Obs., Hawaii	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	New York, N. Y.	North Omaha, Nebr.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Page, Ariz.	Phoenix, Ariz.	Portland, Me.	Prosser, Wash.	Rapid City, S. Dak.	Riverside, Calif.	St. Cloud, Minn.	Salt Lake City, Utah	San Antonio, Tex.
June 4------	680	711	887	658	661	727	269	750	814	457	394	495	804	309	---	769	697	711	669	467	711	577	*	583	99	593	738	733	---	669	609	761	---	566
June 5------	659	582	892	709	584	518	314	797	---	710	300	237	747	631	---	775	524	705	618	463	721	643	*	293	---	727	739	680	---	750	426	651	---	549
June 6------	380	435	868	686	639	672	422	793	549	674	430	460	513	621	611	765	264	586	646	379	601	542	*	482	405	705	699	603	---	660	593	615	789	540
June 7------	613	354	886	714	604	684	583	807	574	601	570	565	426	583	528	772	732	506	451	473	690	555	*	538	644	756	742	816	---	758	686	316	743	472
June 8------	647	275	896	159	---	565	661	803	---	437	283	289	594	469	685	769	617	183	630	471	291	335	*	461	579	755	736	338	---	701	476	535	827	405
June 9------	651	171	912	216	528	688	566	---	---	559	594	530	641	680	459	704	743	143	673	420	302	173	*	360	714	---	743	260	807	575	576	686	767	626
June 10------	(648)	654	883	378	162	669	555	803	651	508	507	530	720	699	649	803	650	269	683	432	272	343	*	602	761	---	716	177	745	676	696	533	795	633
Average--------	(611)	455	889	503	530	646	481	792	647	564	440	443	635	570	586	765	604	443	624	443	513	452	*	474	534	707	730	515	---	684	580	585	784	542
June 11------	395	667	---	330	222	427	416	773	770	744	523	555	669	697	199	---	165	308	687	475	476	659	*	550	740	781	734	623	232	423	618	397	806	584
June 12------	432	603	897	673	336	688	621	795	659	539	500	541	742	633	187	696	740	491	674	488	589	521	*	486	707	766	678	636	816	574	658	256	785	580
June 13------	363	532	910	487	550	695	648	798	500	607	529	669	392	410	717	627	758	555	548	375	656	518	*	471	530	757	728	665	807	441	686	563	823	384
June 14------	501	184	919	45	561	574	493	822	540	516	562	714	771	195	594	763	753	669	394	455	264	349	*	304	---	777	730	129	810	166	688	729	830	597
June 15------	570	488	909	676	474	790	600	817	348	397	704	717	841	448	325	774	747	545	81	212	---	507	*	258	---	771	707	563	791	733	713	761	812	225
June 16------	690	619	898	767	372	772	743	798	793	398	616	670	844	644	343	783	628	555	99	295	745	647	*	235	261	749	709	789	769	759	695	760	771	363
June 17------	552	695	847	686	321	700	728	750	770	585	623	695	814	578	674	775	734	513	133	442	724	673	*	514	318	673	656	770	663	770	693	638	783	175
Average--------	500	541	897	523	405	664	607	793	626	541	580	652	725	515	434	736	647	519	374	391	576	554	*	403	511	754	706	596	698	552	679	586	801	415
June 18------	695	676	889	698	113	619	734	752	657	695	585	685	786	573	690	780	767	633	537	516	708	552	*	498	406	556	668	742	742	719	712	601	786	143
June 19------	553	651	876	562	79	643	576	776	816	378	705	705	344	648	547	746	757	525	689	639	682	573	*	643	559	738	689	723	799	584	694	751	787	629
June 20------	600	238	905	560	449	785	750	783	457	547	562	649	806	725	128	703	767	660	456	143	696	562	*	190	527	751	692	703	797	739	693	714	806	628
June 21------	667	721	832	92	590	788	711	768	481	735	539	551	792	712	213	765	753	628	689	420	504	---	*	283	756	756	699	466	799	761	659	320	867	682
June 22------	697	667	859	688	622	789	745	761	663	633	629	694	417	642	---	774	743	617	693	640	172	---	*	592	723	690	698	101	(753)	786	695	542	884	665
June 23------	543	633	865	547	668	533	641	762	767	650	628	716	824	640	429	769	760	654	701	559	529	486	*	193	528	669	677	500	780	769	669	635	732	666
June 24------	354	616	861	578	637	719	600	669	710	642	655	722	657	407	483	776	729	533	666	622	422	373	*	434	522	711	563	200	780	726	685	690	768	655
Average--------	587	600	870	532	451	697	680	753	650	611	614	675	661	621	415	759	754	607	633	506	531	509	*	405	574	696	670	491	(779)	726	687	608	804	581
June 25------	622	702	831	458	281	758	710	553	773	436	655	730	722	495	728	773	742	603	698	598	638	436	*	652	429	641	650	674	775	722	745	648	800	454
June 26------	421	593	865	433	404	668	681	759	559	601	669	707	746	651	714	770	767	(633)	658	464	625	499	*	237	522	---	680	705	796	719	708	575	747	552
June 27------	607	642	882	730	682	638	468	789	---	653	678	724	763	439	666	---	707	459	710	684	270	252	*	676	678	683	714	616	794	610	726	715	663	601
June 28------	595	658	908	692	615	736	599	792	813	621	726	729	755	545	621	---	503	124	648	662	618	409	*	555	631	714	632	749	793	732	724	550	802	646
June 29------	615	679	926	598	656	695	662	805	---	686	765	777	704	645	---	(780)	778	578	653	693	599	473	*	629	706	500	559	686	760	705	742	584	746	649
June 30------	607	685	913	505	---	730	498	802	811	629	738	744	686	686	---	509	780	647	624	658	557	543	*	598	696	616	725	538	787	619	751	570	800	610
July 1------	531	667	906	640	597	782	712	574	774	699	729	773	522	670	192	261	771	522	656	564	728	687	*	494	644	---	682	768	764	598	694	434	826	668
Average--------	571	661	890	579	539	715	619	725	746	618	709	741	700	590	584	(619)	721	(509)	664	617	577	471	*	549	615	631	663	677	782	672	727	582	769	597

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

* Recorder inoperative.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

1961	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Scott, Miss.	Seattle, Wash.	Seattle-Tacoma, Wash.	Shreveport, La.	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Tampa, Fla.	Tucson, Ariz.	Wake Island Pacific Area	Washington, D. C. (Obs & Test Dev Ctr)
June 4------	374	628	691	429	761	646	612	708	768	142	665	(810)	684	777
June 5------	472	759	732	539	417	380	588	693	755	330	507	807	658	689
June 6------	768	718	612	564	120	180	561	594	645	511	695	712	540	511
June 7------	675	691	655	530	634	716	468	704	574	---	546	816	579	537
June 8------	760	340	257	522	436	457	459	685	352	---	639	819	684	490
June 9------	781	222	262	429	417	461	441	629	210	664	541	798	703	---
June 10------	767	748	333	514	514	560	596	686	475	725	626	774	695	500
Average--------	657	587	506	504	471	486	532	671	540	475	603	(791)	649	584
June 11------	771	696	381	539	456	(455)	598	290	718	693	704	783	689	646
June 12------	792	419	457	446	602	717	369	284	706	687	589	715	629	666
June 13------	767	434	565	514	750	766	530	761	611	483	531	779	537	488
June 14------	782	724	334	472	739	762	501	760	225	361	714	788	674	566
June 15------	778	826	513	530	735	763	499	755	548	270	471	782	---	232
June 16------	775	753	733	210	724	751	21	769	813	648	405	747	711	780
June 17------	752	737	712	160	684	718	108	668	759	345	612	626	657	643
Average--------	774	656	528	410	670	(705)	375	612	626	498	575	746	649	574
June 18------	730	517	686	295	724	679	100	730	703	565	608	754	688	756
June 19------	763	758	665	126	563	601	203	771	723	687	534	(772)	469	660
June 20------	794	820	677	362	299	425	500	---	510	---	432	771	650	645
June 21------	746	538	202	530	720	792	564	796	159	---	417	756	569	102
June 22------	677	70	128	615	757	773	640	728	513	620	494	751	440	481
June 23------	764	63	633	429	711	763	626	762	477	695	583	754	577	550
June 24------	762	178	439	524	741	775	24	752	590	489	375	754	492	708
Average--------	748	420	490	412	645	687	379	756	525	611	492	(759)	555	557
June 25------	750	424	580	236	238	392	119	772	588	548	580	637	669	593
June 26------	751	791	574	581	325	319	579	778	484	647	598	760	677	291
June 27------	674	232	187	539	612	695	661	796	677	672	202	744	698	480
June 28------	781	724	567	472	612	700	654	778	743	552	711	727	652	552
June 29------	753	596	597	463	509	511	613	394	646	700	649	683	460	654
June 30------	787	781	542	505	615	761	618	791	601	714	674	733	620	635
July 1------	764	254	735	---	---	514	454	757	621	705	626	679	386	661
Average--------	752	543	540	466	485	556	528	724	623	648	577	709	594	552

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

TOTAL OZONE DATA

Total amount of ozone in the atmosphere, expressed in terms of integrated depth, in units of 10^{-3} centimeter. These data are given as daily averages obtained from measurements with a Dobson Ozone Spectrophotometer using the sun or zenith cloud (see explanation below) as a light source.

JUNE 1961

Station	Day of month																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Bismarck, N. Dak.	341	356	326	321	339	350	349	315	325	326	317	---	---	---	333	322	295	---	---	---	---	374	341	332	324	307	292	---	---	---	
Caribou, Maine	363	---	---	---	---	375	374	---	345	---	359	346	---	337	379	388	371	354	356	348	327	---	---	---	327	---	349	338	318	384	
Fort Worth, Texas +	264	269	---	---	294	286	270	272	265	283	264	236	246	262	---	---	---	---	270	264	266	267	257	---	282	290	280	270	266	278	
Green Bay, Wis.	310	329	305	348	387	421	---	301	333	276	---	298	---	284	346	323	308	309	274	380	303	---	336	364	333	333	297	285	252	273	
Mauna Loa, Hawaii	294	291	281	284	288	296	297	299	295	288	---	287	---	293	291	291	291	282	280	279	278	279	291	287	282	280	275	284	291	300	
Sterling, Va.	336	330	---	354	349	356	---	338	*307	*274	340	329	307	332	---	299	367	357	329	324	---	---	324	358	352	319	---	326	356	303	

+ Beginning with June 1961, there is a tentative calibration correction for Fort Worth, which makes the ozone values lower than they would be without the correction.

The spectrophotometer measures the total amount of ozone in the atmosphere, i. e., the amount contained in a vertical column of air extending from the ground to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column of air is expressed in terms of thickness it would occupy if it were compressed to standard pressure and temperature.

The standard method of observation is that using A (3055 Å and 3254 Å) and D (3176 Å and 3398 Å) wave length pairs. On cloudy days when no observations can be obtained directly upon the sun, observations are taken by using light from the zenith cloud These observations are not quite as reliable as the sunlight observations, therefore, average values based upon zenith cloud observations are denoted with an asterisk A detailed description of the spectrophotometer and observational procedures may be found in the "Observer's Handbook of the Ozone Spectrophotometer," Annals of the International Geophysical Year, Volume V, Pergamon Press, 1957

CONDENSED CLIMATOLOGICAL SUMMARY

DELAYED DATA

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
November 1960										
Alaska	Annex Creek	54	3	3 Stations	-48	30+	Baranof	21.61	Barrow WB AP	0.02
December 1960										
Alaska	Petersburg	58	9	Allakaket	-48	4	Whittier	43.75	Barter Island	T
Hawaii	Kahului FAA AP	90	16	2 Stations	25	30+	Manoa Tunnel 2	26.54	Halemaumau	.80
January 1961										
Alaska	Annette WB AP	61	19	Trims Camp	-52	11	Whittier	29.84	4 Stations	T
Hawaii	Pahala	92	27	Haleakala Summit	14	2	Kahana	15.51	Hualalai	.07
February 1961										
Alaska	Wrangell	53	5	Eagle	-52	21	Little Port Walter	24.27	5 Stations	T
Hawaii	Pahala	90	18	Mauna Loa Slope Obs.	29	28+	Pepeekeo AF	43.00	Niu Ridge	.00
March 1961										
Alaska	Annette WB AP	58	26	Allakaket	-55	15	Baronof	20.15	Stana	.00
Hawaii	2 Stations	89	30+	Mauna Loa Slope Obs.	27	28+	Piihonua	18.40	7 Stations	.00
April 1961										
Alaska	Skagway	68	27	Barter Island WB AP	-33	3	Little Port Walter	13.89	Wainwright	.05
Hawaii	Upolu Point USCG	92	11	Mauna Loa Slope Obs.	30	4	Honokaa Town	32.31	Launiupoko Village	.04
May 1961										
Hawaii	Ewa Plantation	90	22+	Mauna Loa Slope Obs.	30	25+	Kahana	14.94	5 Stations	.00

See reference notes with current data.

CLIMATOLOGICAL DATA

State and station	Elevation (ground)	Pressure		Temperature												Precipitation							Wind					No. of days (sunrise to sunset)			Sky cover, tenths (sunrise to sunset)	Possible sunshine
		Station	Sea level	Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90° F. or above	No. of days: Min. 32° F. or below	Average dew point	Average relative humidity	Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Max. depth on ground	Average hourly speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	Clear	Partly cloudy	Cloudy		
	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M. p. h.		M. p. h.			0–3	4–7	8–10	0–10	%
December 1960																																
PACIFIC AREA																																
Majuro	10	1009.1	1009.4	86	78	81.7	---	88	17+	74	27	0	0	75	81	6.54	----	1.26	27	2	0.0	0	---	---	30	E	4	0	5	26	9.2	--

See reference notes with current data.

RAWINSONDE DATA

Average monthly values

DELAYED DATA

Standard pressure surface (mb.)	1/ CAMAGUEY, CUBA (1001 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	2/ MERIDA, MEXICO (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	2/ SWAN ISLAND, W. I. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	13	122	22.6			0.0	31	11	17.0	92	60	4.3	29	10	25.3	75	35	8.9
1,000--	13	127	22.6		59	.8	31	168	20.2	80	64	9.5	29	140	24.3	75	44	12.8
950----	13	572	22.7		94	9.3	31	608	18.3	73	76	11.7	29	582	20.9	78	56	15.5
900----	13	1,048	20.3		95	7.6	31	1,073	15.3	73	68	9.5	29	1,054	17.6	78	60	13.0
850----	12	1,538	17.3		86	5.6	31	1,556	12.6	72	55	6.0	29	1,541	14.6	76	53	9.3
800----	12	2,054	14.1		88	3.5	31	2,064	10.1	70	13	2.5	29	2,052	12.4	69	43	7.0
750----	12	2,587	11.0		112	2.5	31	2,599	8.4	55	297	1.4	29	2,589	10.5	59	59	7.0
700----	12	3,171	8.1		130	2.7	31	3,169	6.6	41	249	3.9	29	3,165	8.1	43	75	4.5
650----	12	3,773	4.8		202	2.7	31	3,772	4.3		275	6.0	29	3,768	5.7	34	68	4.5
600----	12	4,429	.9		229	3.3	31	4,423	.6		268	8.5	28	4,424	1.9		38	3.3
550----	12	5,114	- 3.1		255	3.3	31	5,112	- 3.7		263	12.2	28	5,113	- 2.1		72	.8
500----	12	5,875	- 7.6		250	2.9	31	5,864	- 8.5		257	16.[illegible]	28	5,872	- 6.8		267	2.1
450----	12	6,676	-12.9		315	2.7	31	6,669	-13.9		257	20.0	28	6,679	-12.2		266	5.2
400----	12	7,577	-19.1		331	7.2	31	7,559	-20.3		255	22.3	28	7,577	-18.7		246	8.9
350----	12	8,558	-25.9		330	11.9	31	8,533	-27.7		261	25.1	27	8,558	-26.1		251	10.3
300----	12	9,656	-34.0		333	14.8	31	9,622	-36.4		261	27.4	27	9,656	-34.2		255	15.9
250----	12	10,907	-44.0		342	15.9	30	10,858	-46.4		261	29.7	27	10,905	-44.3		246	19.8
200----	11	12,364	-55.9		334	18.3	30	12,302	-57.4		262	36.7	26	12,360	-55.9		244	26.6
175----	10	13,203	-61.8				28	13,143	-62.1		260	34.8	26	13,200	-61.1		242	29.9
150----	10	14,147	-67.0				27	14,085	-66.1		257	35.2	26	14,148	-65.8		251	28.6
125----	9	15,234	-72.8				25	15,180	-69.7		260	30.5	26	15,241	-70.7		255	24.9
100----	9	16,541	-73.5				23	16,492	-74.2		253	17.3	26	16,547	-75.8		260	18.1
80-----	8	17,863	-69.0				22	17,788	-75.0		243	10.5	25	17,822	-77.9		247	[illegible].0
70-----																		
60-----	7	19,620	-61.3				21	19,484	-68.0		161	2.1	25	19,485	-71.0		109	4.9
50-----	7	20,757	-58.6				21	20,594	-62.8		267	2.3	25	20,581	-65.1		90	5.2
40-----							21	21,980	-59.2		284	4.3	23	21,955	-60.5		90	8.9
30-----							20	23,796	-55.5		77	2.7	21	23,762	-56.0		80	11.9
25-----							19	24,961	-52.7		341	2.3	19	24,933	-54.2		84	10.1
20-----							18	26,409	-49.8		263	6.0	18	26,371	-51.5		85	5.4
15-----							16	28,304	-46.1		276	22.0	18	28,249	-48.4		280	5.8
10-----							6	30,972	-42.7				10	30,928	-45.1			
7------																		

Standard pressure surface (mb.)	2/ YUMA, ARIZ. (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	3/ MERIDA, MEXICO (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	105	7.1	51	20	2.9	31	11	17.4	94	58	4.7
1,000--	30	160			20	3.9	31	161	20.3	83	61	8.2
950----	30	589	12.7	34	353	8.9	31	601	18.0	80	66	8.9
900----	30	1,042	10.5	33	16	8.4	31	1,066	15.7	72	65	4.7
850----	30	1,515	7.6	34	14	4.7	31	1,551	13.5	67	132	6
800----	30	2,011	4.6	35	348	7.0	31	2,060	11.0	69	238	3.5
750----	30	2,530	1.8	34	335	6.6	31	2,596	8.6	60	241	4.1
700----	30	3,088	- 1.2	32	314	7.8	31	3,166	6.3	50	247	8.0
650----	30	3,670	- 4.7	35	302	8.[illegible]	31	3,768	3.0	45	245	9.3
600----	30	4,300	- 8.8	35	290	11.1	31	4,416	- .6	33	252	11.7
550----	30	4,960	-13.6		285	13.8	31	5,100	- 4.2		249	15.9
500----	30	5,685	-19.0		283	15.9	31	5,853	- 8.9		251	21.0
450----	30	6,452	-24.5		278	16.1	31	6,657	-14.4		247	26.4
400----	30	7,309	-30.3		292	21.6	31	7,545	-20.7		251	32.6
350----	30	8,245	-36.9		288	25.1	31	8,518	-28.1		253	30.9
300----	30	9,297	-43.4		289	27.4	31	9,605	-36.6		259	32.4
250----	30	10,506	-49.9		282	35.2	31	10,842	-46.3		263	40.2
200----	29	11,943	-54.7		276	44.9	31	12,291	-56.1		253	45.7
175----	29	12,792	-57.1		279	44.1	30	13,134	-60.5		249	46.6
150----	29	13,763	-59.4		276	41.0	30	14,086	-63.8		257	45.7
125----	28	14,895	-62.6		275	38.3	29	15,194	-69.1		255	44.5
100----	24	16,270	-65.2		281	29.9	29	16,507	-75.7		260	32.8
80-----	22	17,627	-66.7		289	22.5	29	17,788	-77.9		272	16.9
70-----							29	18,558	-76.8		274	8.2
60-----	19	19,375	-65.4		302	14.0	28	19,446	-71.6		299	3.1
50-----	18	20,489	-64.1		303	10.9	28	20,541	-65.3		260	3.1
40-----	18	21,860	-62.7		289	4.1	28	21,912	-62.0		283	8.9
30-----	18	23,638	-61.1		324	3.9	27	23,700	-59.2		297	5.4
25-----	16	24,772	-59.6		309	6.2	27	24,849	-56.2		286	5.2
20-----	12	26,166	-56.9				27	26,282	-51.7		277	11.9
15-----							21	28,168	-47.1		270	23.5
10-----							9	30,896	-40.6			
7------							7	33,365	-36.[illegible]			

Standard pressure surface (mb.)	3/ YUMA, ARIZ. (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	4/ MERIDA, MEXICO (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	4/ YUMA, ARIZ. (1002 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	105	9.3	44	41	1.4	28	11	18.6	95	74	4.9	28	105	10.7	37	341	3.7
1,000--	29	157	10.3	41	54	2.1	28	144	20.4	88	92	8.7	28	147			339	4.7
950----	29	585	14.6	32	10	7.2	28	586	18.7	83	116	14.4	28	580	14.7	29	348	9.7
900----	29	1,044	12.3	31	45	6.2	28	1,052	16.6	73	122	12.0	28	1,035	11.8	29	354	10.5
850----	29	1,520	9.5	31	44	6.0	28	1,538	14.3	68	145	8.9	28	1,511	9.2	28	349	6.2
800----	29	2,020	6.9	34	27	4.5	28	2,049	12.4	60	164	8.5	28	2,010	6.0	31	344	8.5
750----	29	2,544	4.1	32	5	3.9	28	2,589	9.5	55	184	7.4	28	2,531	3.0	31	339	8.2
700----	29	3,105	1.1		307	5.4	28	3,158	5.9	49	209	6.4	28	3,091	.2	27	332	12.8
650----	29	3,691	- 2.7	33	301	9.1	28	3,759	2.6	43	217	8.0	28	3,676	- 3.4		326	16.9
600----	29	4,326	- 6.8		292	8.0	28	4,406	- .5		233	10.7	28	4,308	- 7.9		319	18.8
550----	29	4,991	-11.5		286	7.2	28	5,094	- 4.1		238	12.6	28	4,973	-12.6		318	23.1
500----	29	5,723	-16.9		285	9.9	28	5,844	- 8.5		233	15.7	28	5,699	-18.0		316	25.6
450----	29	6,495	-22.7		284	11.5	28	6,650	-14.2		237	21.0	28	6,467	-23.9		318	28.4
400----	29	7,358	-29.6		271	14.4	28	7,538	-20.5		243	27.8	28	7,324	-30.9		321	33.0
350----	29	8,296	-36.9		265	20.4	28	8,513	-27.5		239	30.7	28	8,257	-38.6		325	35.9
300----	29	9,345	-44.8		263	25.5	28	9,602	-36.2		249	31.1	28	9,297	-47.2		320	41.6
250----	29	10,542	-52.8		260	33.8	28	10,840	-46.1		252	36.7	28	10,482	-55.3		323	43.7
200----	28	11,965	-56.3		268	41.8	28	12,289	-56.2		258	43.7	28	11,890	-58.9		302	42.6
175----	26	12,816	-56.2		270	48.4	28	13,129	-60.8		259	40.6	26	12,722	-57.4		290	49.5
150----	24	13,792	-58.5		268	44.7	28	14,077	-65.6		257	38.3	26	13,697	-58.1		287	45.3
125----	23	14,927	-62.5		270	36.5	26	15,174	-69.9		255	33.8	26	14,838	-60.8		284	49.5
100----	19	16,287	-66.6		272	34.4	25	16,490	-74.9		254	23.7	23	16,219	-64.3		289	42.6
80-----	15	17,633	-67.5		277	21.0	25	17,774	-77.4		246	8.4	23	17,581	-65.1		285	30.1
70-----	15	18,433	-66.9		285	12.8	25	18,550	-75.5		233	4.5	23	18,397	-64.5		282	23.7
60-----	14	19,366	-66.0		290	10.9	25	19,446	-69.7		162	1.9	23	19,340	-63.4		278	15.5
50-----	14	20,476	-64.2		351	4.9	25	20,548	-64.4		260	2.7	21	20,462	-62.1		277	10.1
40-----	14	21,847	-62.5		48	3.9	23	21,924	-60.7		320	3.3	21	21,846	-60.5		273	5.2
30-----	14	23,630	-60.3		55	7.8	22	23,735	-57.0		27	4.5	20	23,651	-58.2		332	3.1
25-----	13	24,771	-58.5		48	8.2	22	24,896	-54.6		53	5.[illegible]	19	24,812	-55.9		306	1.0
20-----	10	26,164	-56.6				21	26,336	-50.5		356	3.7	18	26,235	-54.2		339	5.8
15-----	5	27,976	-53.8				12	28,213	-45.7				9	28,108	-49.7			
10-----							7	30,908	-40.3									

Standard pressure surface (mb.)	5/ MERIDA, MEXICO (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	5/ YUMA, ARIZ. (996 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	11	21.0	92	102	7.0	31	105	11.6	46	2	1.0
1,000--	31	116	21.6	88	107	10.9	31	100				
950----	31	559	20.6	82	135	20.4	31	529	15.0	37	277	5.8
900----	31	1,030	19.5	65	136	16.7	31	989	12.7	36	282	8.9
850----	31	1,521	17.0	58	142	11.3	31	1,466	9.7	38	282	10.5
800----	31	2,037	15.0	44	148	4.9	31	1,966	6.6	37	281	11.7
750----	31	2,576	11.8	40	190	3.1	31	2,478	3.6	32	276	12.6
700----	31	3,155	8.2	31	236	4.3	31	3,049	.2	32	282	15.3
650----	31	3,759	4.5	29	257	4.5	31	3,634	- 3.3	28	284	19.2
600----	31	4,411	.7	30	281	7.6	31	4,267	- 7.7	27	279	24.1
550----	31	5,100	- 3.1		269	10.7	31	4,933	-12.5	27	285	27.4
500----	31	5,854	- 7.7		262	14.4	31	5,659	-17.7	29	290	30.7
450----	31	6,661	-13.3		259	21.0	31	6,430	-23.6	30	290	36.3
400----	31	7,553	-19.9		263	29.[illegible]	30	7,285	-30.1		291	41.8
350----	31	8,529	-27.4		257	38.3	30	8,221	-37.8		290	50.5
300----	31	9,619	-35.9		250	42.7	30	9,266	-45.9		288	52.8
250----	31	10,858	-46.0		251	48.4	30	10,458	-53.5		284	53.8
200----	31	12,307	-56.7		250	54.2	30	11,878	-56.9		282	49.4
175----	31	13,145	-61.0		252	52.8	30	12,722	-57.5		278	48.4
150----	31	14,094	-64.4		247	47.8	30	13,695	-58.3		280	44.7
125----	28	15,204	-69.0		247	37.1	30	14,836	-60.6		276	35.8
100----	28	16,521	-74.5		236	26.6	28	16,225	-63.0		276	29.7
80-----	25	17,811	-76.9		198	11.3	28	17,594	-63.8		265	16.3
70-----	25	18,585	-75.5		149	6.6	28	18,414	-63.6		270	10.7
60-----	25	19,483	-70.3		113	5.8	25	19,359	-62.5		275	7.0
50-----	25	20,582	-64.8		64	5.1	24	20,487	-61.5		271	2.1
40-----	22	21,956	-62.0		335	2.9	24	21,874	-60.1		70	2.9
30-----	18	23,759	-57.5		301	4.3	22	23,680	-58.2		78	7.4
25-----	16	24,919	-54.7		321	5.4	20	24,824	-57.1		84	9.1
20-----	10	26,359	-51.0				16	26,254	-55.[illegible]		86	8.5
15-----							5	28,095	-51.3			
10-----												

Standard pressure surface (mb.)	6/ MERIDA, MEXICO (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	6/ YUMA, ARIZ. (995 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	7/ MERIDA, MEXICO (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	11	21.2	93	99	4.1	30	105	15.0	32	334	1.9	31	11	22.7	92	90	4.5
1,000--	30	117	22.2	86	106	9.1	30	88					31	124	23.0	87	104	9.9
950----	30	562	20.7	82	129	15.9	30	526	19.7	26	298	7.6	31	569	21.7	82	132	18.3
900----	30	1,032	19.7	69	139	11.9	30	990	16.8	27	298	7.8	31	1,042	20.1	66	135	15.9
850----	30	1,524	17.5	65	140	5.6	30	1,474	13.9	28	305	6.2	31	1,534	17.8	58	130	9.9
800----	30	2,040	14.9	56	199	1.7	30	1,981	10.3	27	290	5.6	31	2,050	14.6	56	131	5.6
750----	30	2,584	12.4	44	257	1.4	30	2,511	6.6	26	278	6.2	31	2,591	11.4	46	142	4.1
700----	30	3,160	9.4	39	243	2.9	30	3,077	3.0	24	275	10.9	31	3,168	8.9	36	136	2.7
650----	30	3,766	5.8	32	271	3.5	30	3,668	- .2	23	273	14.8	31	3,773	5.6		148	.8
600----	30	4,422	1.7		286	6.4	30	4,309	- 4.2		281	17.3	31	[illegible],429	2.0		346	3.9
550----	30	5,112	- 2.3		290	8.9	30	4,981	- 8.7		276	22.7	31	5,119	- 2.1		353	6.6
500----	30	5,870	- 6.7		278	11.1	30	5,721	-13.8		272	23.3	31	5,878	- 6.9		340	8.0
450----	30	6,682	-11.9		273	14.4	30	6,502	-19.6		273	29.9	31	6,686	-12.2		335	9.7
400----	30	7,578	-18.0		273	22.9	30	7,375	-26.5		272	36.3	31	7,585	-18.4		318	11.9
350----	30	8,562	-24.8		277	28.6	30	8,326	-34.0		268	39.1	31	8,567	-25.4		303	14.6
300----	20	9,664	-33.3		277	32.1	30	9,387	-42.4		264	46.0	31	9,667	-33.8		291	19.2
250----	30	10,918	-43.3		281	35.9	30	10,594	-51.5		267	55.0	31	10,918	-43.9		286	23.9
200----	30	12,383	-54.5		276	41.4	30	12,017	-58.9		262	65.5	31	12,379	-55.2		285	28.4
175----	30	13,227	-59.9		274	33.6	30	12,853	-59.6		262	64.1	31	13,220	-60.9		278	32.3
150----	30	14,179	-65.0		272	32.8	29	13,813	-60.3		258	62.8	31	14,166	-66.0		283	30.5
125----	30	15,274	-71.3		272	34.4	27	14,944	-62.5		260	59.5	31	15,261	-69.8		292	18.7
100----	30	16,574	-77.0		267	22.2	24	16,315	-64.7		259	46.2	31	16,577	-73.9		337	7.4
80-----	30	17,849	-78.5		267	7.2	22	17,672	-66.3		260	32.1	31	17,878	-73.1		58	10.1
70-----	30	18,619	-75.7		246	3.9	20	18,484	-65.8		261	23.7	31	18,666	-70.2		79	14.6
60-----	30	19,520	-68.3		149	1.9	19	19,429	-64.7		263	15.3	31	19,590	-65.2		87	16.5
50-----	29	20,626	-63.7		77	7.0	19	20,553	-61.1		259	6.6	30	20,717	-60.7		84	19.6
40-----	29	22,005	-60.7		86	8.5	18	21,946	-58.[illegible]		292	3.5	27	22,117	-56.8		83	22.3
30-----	26	23,818	-54.7		70	6.4	16	23,762	-55.5		330	3.9	26	23,963	-51.9		85	22.7
25-----	23	24,987	-52.4		78	7.6	16	24,929	-53.7		285	3.7	20	25,148	-48.2		92	19.4
20-----	17	26,428	-48.9		62	1.9	11	26,385	-50.4				17	26,627	-44.6		93	17.3
15-----	6	28,331	-43.9										6	28,580	-41.2			
10-----																		

Standard pressure surface (mb.)	7/ SWAN ISLAND, W. I. (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	7/ YUMA, ARIZ. (994 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	26.6	79	96	9.3	30	105	18.1	34	237	0.8
1,000--	31	118	25.7	80	94	11.1	30	77				
950----	31	574	22.5	82	104	15.0	30	517	20.4	29	272	9.3
900----	31	1,040	19.8	76	110	15.0	30	984	18.8	26	271	10.5
850----	31	1,532	16.9	70	110	13.8	30	1,472	16.2	25	241	9.5
800----	31	2,047	14.2	61	110	12.0	30	1,983	13.0	24	221	10.7
750----	31	2,588	11.9	50	111	10.1	30	2,520	9.4		234	13.[illegible]
700----	31	3,166	9.2	43	111	7.6	30	3,090	6.0		240	15.9
650----	31	3,773	5.9	38	121	5.8	30	3,689	2.3		242	20.4
600----	31	4,429	2.4	31	124	5.1	30	4,333	- 2.2		245	24.3
550----	31	5,115	- 1.6		146	2.5	30	5,011	- 7.2		246	27.2
500----	31	5,880	- 6.0		191	1.2	30	5,754	-12.4		248	32.6
450----	31	6,692	-11.3		304	2.9	30	6,541	-18.1		251	39.2
400----	31	7,592	-17.3		305	5.4	30	7,419	-24.9		251	43.7
350----	31	8,580	-24.2		284	9.9	30	8,376	-32.5		253	53.8
300----	31	9,687	-32.3		275	15.0	30	9,443	-40.8		254	57.9
250----	31	10,946	-42.1		270	21.2	30	10,659	-50.1		254	63.3
200----	31	12,420	-53.6		275	30.3	28	12,092	-58.3		254	64.7
175----	31	13,266	-60.2		272	32.3	28	12,930	-59.2		252	61.4
150----	31	14,213	-66.5		272	29.0	27	13,897	-58.7		250	49.7
125----	31	15,303	-71.2		277	19.8	20	15,030	-60.4		252	39.8
100----	31	16,609	-75.3		311	7.0	12	16,408	-63.2		249	29.1
80-----	31	17,899	-75.4		71	8.2	9	17,761	-65.3			
70-----	31	18,682	-72.3		81	13.8	8	18,589	-63.9			
60-----	31	19,598	-66.3		83	18.5						
50-----	30	20,715	-61.7		85	22.3						
40-----	30	22,112	-57.3		87	24.1						
30-----	30	23,952	-52.1		89	22.2						
25-----	30	25,141	-48.9		95	20.0						
20-----	29	26,619	-44.9		98	12.4						
15-----	21	28,561	-41.5		81	13.8						
10-----	6	31,343	-38.9									

1/ October 1960
2/ December 1960
3/ January 1961
4/ February 1961
5/ March 1961
6/ April 1961
7/ May 1961

Also see reference notes with current data.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

DELAYED DATA

BLUE HILL OBS., MASS.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Mar. 1960									
1---- --	0.94	1.05	1.16	1.30	1.41	1.33	1.20	1.05	0.98
2------	.96	1.06	1.18	1.34	1.46	1.36	1.23	1.11	1.00
9------	.93	1.01	1.14	1.29	1.42	1.34	----	----	----
11-----	1.00	1.07	1.20	1.32	1.44	1.34	1.18	1.07	.96
12-----	.99	1.08	1.19	1.33	1.40	1.28	----	----	----
16-----	.81	.91	1.02	----	----	----	----	----	----
25-----	----	----	----	----	----	1.35	1.16	1.06	.95
Averages	0.94	1.03	1.15	1.32	1.43	1.33	1.19	1.07	0.97

BLUE HILL OBS., MASS.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Nov. 1960									
2------	----	----	0.99	1.26	1.30	1.40	1.11	1.04	0.99
3------	----	----	.91	1.13	----	----	1.13	1.04	.99
4------	----	----	1.00	1.21	1.28	1.35	1 25	1.16	1.13
5------	----	----	1.21	----	----	----	----	----	----
6------	----	----	1.09	1.35	1.40	1.35	1.14	1.04	.91
7------	----	----	1.21	----	----	----	1.16	1.06	.94
8------	1.06	1.13	1.26	1.35	1.40	1.37	1.23	1.06	.94
11-----	1.05	1.15	1.22	1.36	1.35	1.34	1.15	1.04	.91
12-----	.95	1.06	1.13	1.35	1.35	1.34	.99	.82	.71
13-----	.71	.86	.99	----	1.21	----	.87	.67	.57
14-----	.66	.77	.90	----	----	----	----	.57	.48
17-----	----	----	----	----	1.35	----	1.21	1.07	1.01
18-----	1.03	1.12	1.22	----	1.36	----	1.18	1.04	.93
19-----	----	----	----	----	----	----	.94	.83	.72
20-----	.98	1.07	1.18	----	1.29	----	.91	.60	.53
21-----	.90	1.01	1.11	----	----	----	----	----	----
22-----	----	----	----	----	1.29	----	1.16	1.01	.87
25-----	----	----	----	----	----	----	1.12	.91	.81
26-----	.94	1.07	1.15	----	1.25	----	1.08	.90	.79
30-----	----	----	----	----	1.35	----	1.28	1.13	.96
Averages	0.92	1.03	1.10	1.29	1.32	1.36	1.11	0.94	0.84

MAUNA LOA OBS., HAWAII ‡

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Feb. 1961									
1------	1.24	1.33	1.42	1.55	1.62	----	----	----	----
3------	1.25	1.34	1.43	1.51	1.63	----	----	----	----
4------	1.25	1.34	1.44	1.55	1.63	----	1.37	1.28	1.19
5------	1.25	1.34	1.43	1.55	1.65	1.48	1.37	1.29	1.24
6------	1.29	1.37	1.46	1.57	1.67	1.55	1.44	1.35	1.27
7------	1.25	1.33	1.43	1.54	1.64	----	1.35	1.28	1.19
8------	1.24	1.32	1.41	1.53	1.63	----	----	----	----
9------	1.25	1.32	1.42	1.53	----	----	----	----	----
16-----	1.22	1.31	1.39	1.53	----	----	----	----	----
17-----	1.23	1.31	1.41	1.52	----	----	----	----	----
19-----	----	----	----	1.50	----	----	----	----	----
22-----	----	----	----	1.53	----	----	----	----	----
23-----	1.22	1.31	1.40	1.52	1.63	----	----	----	----
24-----	1.13	1.24	1.34	1.47	----	----	----	----	----
25-----	1.19	1 27	1.37	1.49	----	----	----	----	----
Averages	1.23	1.32	1.41	1.53	1.64	1.52	1.38	1.30	1.22

TUCSON, ARIZ.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
May 1961									
1------	0.87	0.99	1.10	----	----	----	----	----	----
2------	.85	.96	1.08	1.21	----	----	----	----	----
3------	.89	1.01	----	----	----	----	----	----	----
5------	.81	.91	.97	1.20	----	----	----	----	0.78
6------	.84	.94	1.06	1.24	----	----	----	0.89	.80
7------	.89	1.00	1.11	1.26	----	----	----	----	----
8------	.86	.96	1.08	----	1.43	----	----	.95	.86
9------	.93	1.03	1.15	1.29	----	----	----	----	----
12-----	.92	----	1.12	----	----	----	----	----	----
14-----	.76	.87	1.02	1.19	1.39	----	----	.92	.82
15-----	.84	.93	1.06	----	----	----	----	----	----
19-----	.87	.96	----	----	----	----	----	----	----
20-----	.91	1.00	1.13	1.26	----	1.22	1.06	.94	.85
21-----	.90	.99	1.10	1.24	----	----	----	----	----
22-----	.78	.89	1.03	1.20	----	----	----	----	----
23-----	.80	.89	1.03	1.20	----	----	1.05	.93	.83
24-----	.77	.88	----	----	----	----	1.04	.92	.80
26-----	.78	.88	1.02	----	----	----	----	.91	.79
27-----	.78	.88	----	----	----	----	1.05	.92	.82
30-----	75	.85	.99	1.16	----	----	----	----	----
31-----	----	----	----	----	----	1.22	1.06	.95	.83
Averages	0.84	0.94	1.07	1.22	1.41	1.22	1.05	0.93	0.82

BLUE HILL OBS., MASS.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Oct. 1960									
1-----	----	----	----	----	1.44	1.31	1.15	1.03	0.92
2-----	0.94	1.05	1.14	1.30	----	----	----	----	----
5-----	.87	.98	1.12	1.27	1.33	----	----	----	----
8-----	----	----	----	1.30	1.39	----	----	----	----
9-----	----	----	----	----	1.27	1.13	.94	.81	.70
10----	.78	.88	1.06	1.20	----	1.25	1.08	.98	.86
12----	----	----	----	----	1.43	1.34	1.18	1.07	.96
13----	.94	1.05	1.14	1.32	----	----	----	----	----
18----	.88	1.00	1.16	1.33	----	----	1.16	1.00	.89
22----	----	----	----	----	1.33	1.25	1.13	.96	.89
23----	.41	.50	.79	1.01	----	----	----	----	----
26----	.77	.82	----	1.30	1.35	----	----	----	----
Averages	0.80	0.90	1.07	1.25	1.36	1.26	1.11	0.98	0.87

BLUE HILL OBS., MASS. †

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Dec. 1960									
2-----	1.10	1.18	1.28	----	1.40	----	1.26	1.16	1.01
3-----	.90	.96	1.08	----	1.17	----	1.07	.91	.84
4-----	.86	.96	1.11	----	1.24	----	1.10	.96	.86
5-----	.79	.89	1.05	----	1.17	----	1.05	.93	.84
9-----	1.11	1.20	1.32	----	1.39	----	1.29	1.17	1.08
13----	----	----	----	----	1.35	----	1.27	1.11	----
14----	.98	1.18	1.28	----	1.33	----	1.20	1.06	.89
15----	.91	.99	1.12	----	1.22	----	----	----	----
17----	1.06	1.16	1.28	----	1.34	----	1.22	1.10	.79
18----	1.07	1.16	1.28	----	1.35	----	1.25	1.06	.94
20----	1.10	1.16	1.28	----	1.37	----	1.25	1.12	1.03
22----	1.07	1.17	1.33	----	1.40	----	1.25	1.10	.99
23----	1.05	1.12	1.27	----	1.34	----	1.20	1.00	.88
Averages	1.00	1.09	1.22	----	1.31	----	1.20	1.06	0.85

MAUNA LOA OBS., HAWAII

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Apr. 1961									
1-----	1.22	1.30	1.40	1.51	----	----	----	----	----
4-----	1.22	1.30	1.39	1.51	1.61	1.46	1.35	1.26	1.19
5-----	1.18	1.26	1.35	1.47	1.61	----	1.36	1.27	1.19
6-----	1.22	1.31	1.40	1.50	1.61	----	----	----	----
10----	----	----	----	----	----	1.44	1.33	1.23	1.14
13----	----	----	----	----	----	----	1.28	1.19	1.11
14----	1.19	1.27	1.36	----	----	----	----	----	----
15----	1.18	1.25	1.35	1.45	1.56	----	----	----	----
18----	----	----	----	----	----	1.44	1.31	1.26	1.13
21----	----	----	----	----	1.63	1.42	1.36	1.26	1.19
22----	1.22	1.29	1.39	1.49	----	----	----	----	----
23----	1.23	1.30	1.39	1.49	----	----	----	----	----
24----	1.21	1.30	1.38	1.46	----	----	----	----	----
25----	----	----	1.33	1.47	----	1.47	----	----	----
28----	1.16	1.23	1.34	1.45	----	----	----	----	----
Averages	1.20	1.28	1.37	1.48	1.60	1.45	1.33	1.24	1.16

MAUNA LOA OBS., HAWAII

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
May 1961									
3-----	----	----	1.30	1.41	1.56	----	----	H 1.16	H 1.09
4-----	H 1.12	H 1.21	H 1.30	H 1.41	----	----	----	----	----
5-----	1.14	1.21	1.30	1.41	----	1.41	1.31	1.22	1.14
6-----	1.16	1.24	----	1.46	1.61	----	----	----	----
8-----	----	----	----	----	1.59	----	----	----	----
9-----	1.20	1.28	1.37	1.48	1.61	1.49	1.37	1.30	1.21
15----	1.18	1.26	1.35	1.45	----	----	----	----	----
17----	H 1.13	H 1.22	H 1.31	H 1.43	----	----	----	----	----
18----	H 1.13	H 1.25	H 1.31	H 1.44	H 1.58	H 1.37	H 1.23	H 1.14	H 1.07
19----	----	----	----	----	----	H 1.35	H 1.22	H 1.11	H 1.00
20----	H .91	H 1.02	H 1.13	H 1.31	----	----	----	----	----
21----	H .93	H 1.03	H 1.14	----	----	----	----	----	----
22----	H .97	H 1.07	H 1.19	H 1.34	----	----	----	----	----
23----	H 1.00	H 1.09	H 1.24	H 1.29	----	----	----	----	----
27----	1.18	1.25	1.34	1.44	----	----	----	----	----
30----	H 1.10	H 1.18	----	1.40	----	----	----	----	----
31----	1.16	1.24	1.33	1.46	1.59	1.42	1.31	1.23	1.15
Averages	1.09	1.18	1.28	1.41	1.59	1.41	1.29	1.19	1.11

‡ Corrected data.
† Instrument failure December 24-31, 1960.
Also see reference notes with current data.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

DELAYED DATA

	Swan Island, W. I.		Swan Island, W. I.		Swan Island, W. I.		Swan Island, W. I.		Fairbanks, Alaska	Lemont, Ill.	Swan Island, W. I.		Lemont, Ill.	Pullman, Wash.	Seattle, Wash.	Swan Island, W. I.		Corvallis, Oreg.	Mauna Loa, Hawaii	Swan Island, W. I.		Lemont, Ill.	Swan Island, W. I.		Corvallis, Oreg.	Gainesville, Fla.	Hilo, Hawaii	Lemont, Ill. +	Mauna Loa, Hawaii	Pullman, Wash.	Swan Island, W. I.		Pullman, Wash.
		1960										1961																					
1959		Sep.		Oct.		Nov.		Dec.				Jan.					Feb.				Mar.			Apr.								May	
June 4-----	689	3	495	1	454	5	436	3	4	146	319	1	84	53	66	380	5	99	576	486	5	74	408	2	413	---	266	616	228	302	472	7	527
June 5-----	---	4	582	2	545	6	317	4	20	65	404	2	144	89	136	371	6	177	584	496	6	108	476	3	428	---	422	567	(553)	393	577	8	321
June 6-----	---	5	537	3	568	7	372	5	10	108	321	3	168	179	113	411	7	114	574	498	7	250	441	4	582	678	340	533	741	616	544	9	272
June 7-----	---	6	614	4	455	8	375	6	5	151	326	4	205	160	40	373	8	92	574	492	8	15	524	5	575	693	491	143	696	482	471	10	571
June 8-----	743	7	596	5	579	9	304	7	2	238	255	5	227	80	11	382	9	35	577	494	9	437	542	6	580	450	---	108	(650)	562	548	11	624
June 9-----	712	8	420	6	545	10	367	8	4	220	401	6	231	42	39	392	10	30	518	378	10	409	479	7	563	565	(470)	251	(448)	581	596	12	667
June 10-----	730	9	582	7	513	11	392	9	4	240	276	7	126	106	87	412	11	123	553	82	11	306	535	8	229	755	557	225	432	---	616	13	632
Average-------	719		547		523		366		7	167	329		169	101	70	389		96	565	418		229	487		481	628	(424)	349	(535)	489	546		516
June 11-----	722	10	551	8	479	12	423	10	2	135	252	8	270	58	40	420	12	99	416	190	12	131	481	9	408	292	507	46	352	---	603	14	406
June 12-----	675	11	---	9	540	13	474	11	2	106	386	9	216	84	89	419	13	72	350	140	13	416	543	10	554	720	406	310	692	---	572	15	701
June 13-----	517	12	618	10	488	14	423	12	5	255	296	10	190	79	14	316	14	129	242	455	14	257	530	11	438	630	452	180	599	354	590	16	448
June 14-----	499	13	605	11	201	15	437	13	1	178	219	11	210	143	27	352	15	216	231	465	15	199	236	12	433	544	263	101	704	210	613	17	534
June 15-----	313	14	606	12	507	16	445	14	2	204	126	12	164	167	83	427	16	197	322	451	16	516	513	13	314	719	383	599	655	346	528	18	783
June 16-----	432	15	559	13	547	17	331	15	3	25	401	13	149	99	31	---	17	178	352	449	17	465	536	14	468	759	503	144	714	556	582	19	814
June 17-----	692	16	513	14	524	18	311	16	14	224	378	14	59	49	37	370	18	137	509	511	18	39	560	15	565	394	481	116	625	384	580	20	775
Average-------	550		575		469		406		4	161	294		180	97	46	384		147	346	380		289	486		454	580	428	214	620	370	581		637
June 18-----	622	17	452	15	538	19	418	17	3	228	408	15	46	100	22	248	19	127	585	485	19	217	540	16	327	758	509	162	---	556	590	21	444
June 19-----	696	18	602	16	524	20	444	18	3	200	396	16	69	88	85	356	20	121	431	455	20	357	510	17	357	777	396	312	---	606	508	22	779
June 20-----	651	19	509	17	451	21	---	19	3	157	304	17	203	118	80	383	21	88	454	---	21	26	507	18	172	752	428	557	---	282	595	23	660
June 21-----	675	20	565	18	541	22	365	20	2	92	345	18	87	201	171	395	22	200	418	---	22	69	368	19	294	777	378	546	---	450	565	24	798
June 22-----	622	21	583	19	557	23	145	21	2	256	283	19	159	207	181	455	23	191	---	---	23	134	500	20	283	721	370	289	---	414	582	25	757
June 23-----	745	22	564	20	456	24	334	22	4	203	---	20	175	216	---	435	24	104	---	---	24	109	334	21	190	723	658	585	772	611	593	26	402
June 24-----	745	23	550	21	529	25	189	23	4	177	100	21	305	198	166	200	25	222	---	510	25	476	370	22	258	735	(344)	436	647	352	518	27	600
Average-------	679		546		514		316		3	188	306		149	161	117	353		150	472	---		198	447		269	749	(440)	413	---	467	564		634
June 25-----	---	24	587	22	394	26	382	24	2	179	293	22	291	114	95	386	26	269	---	410	26	440	521	23	161	723	(330)	267	---	228	471	28	528
June 26-----	722	25	551	23	488	27	264	25	12	228	344	23	226	87	38	390	27	253	---	493	27	223	561	24	436	717	621	220	---	260	599	29	---
June 27-----	493	26	547	24	445	28	360	26	1	112	89	24	280	53	142	427	28	179	---	493	28	136	502	25	521	740	558	95	735	680	599	30	---
June 28-----	637	27	---	25	513	29	395	27	4	176	397	25	227	68	187	368	Mar.1	118	---	513	29	475	563	26	483	620	395	655	---	426	544	31	---
June 29-----	687	28	360	26	431	30	387	28	1	172	394	26	181	267	209	313	2	219	---	465	30	548	558	27	565	542	469	259	---	650	606	June1	---
June 30-----	---	29	375	27	435	Dec.1	407	29	1	126	406	27	306	241	193	419	3	161	---	521	31	166	567	28	369	684	546	369	540	572	594	2	---
July 1-----	727	30	387	28	447	2	220	30	2	217	360	28	255	88	9	461	4	159	(498)	506	Apr.1	274	350	29	239	758	324	625	---	340	592	3	708
								31	16	123	394																						
Average-------	653		468		450		345						252	131	125	395		194	---	486		323	517		396	683	(463)	356	---	451	572		---
								Avg.	5	167	335																						
				29	498							29	---	90	35	235								30	378	590	205	520	314	540	584		
				30	504							30	143	53	53	294								May 1	399	202	367	653	263	358	547		
				31	490							31	164	60	156	349								2	448	650	231	671	317	599	564		
				Nov.1	330							Feb.1	177	120	32	434								3	480	557	562	557	702	226	469		
				2	496							2	169	132	201	445								4	461	670	---	626	713	290	567		
				3	338							3	113	85	81	453								5	234	670	403	166	475	305	576		
				4	487							4	123	63	65	473								6	360	712	---	248	774	580	554		
				Avg.	449								148	86	89	383									394	579	353	492	508	414	551		

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

+ Corrected data.

TOTAL OZONE DATA

Total amount of ozone in the atmosphere, expressed in terms of integrated depth, in units of 10^{-3} centimeter. These data are given as daily averages obtained from measurements with a Dobson Ozone Spectrophotometer using the sun or zenith cloud (see explanation below) as a light source.

DELAYED DATA

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
June 1960																															
Fort Collins, Colo.	---	307	308	292	---	---	---	---	309	---	310	335	331	291	307	283	280	277	278	289	292	301	321	301	290	283	284	278	271	280	
July 1960																															
Fort Collins, Colo.	284	281	---	---	---	296	292	293	297	283	281	275	283	280	286	282	293	295	---	---	---	282	274	---	275	274	250	270	282	281	283
August 1960																															
Fort Collins, Colo.	279	282	275	275	289	281	283	---	---	294	300	279	286	---	281	---	---	276	287	280	278	262	277	275	288	275	271	273	---	266	267
September 1960																															
Fort Collins, Colo.	265	266	---	---	---	266	263	---	---	---	---	---	---	272	285	---	---	295	302	284	274	---	283	269	265	---	277	---	287	283	
October 1960																															
Fort Collins, Colo	274	275	269	269	260	263	252	258	251	241	247	270	---	---	---	288	---	---	---	---	---	237	271	---	---	253	---	265	---	288	---
November 1960																															
Fort Collins, Colo.	239	259	---	---	254	248	267	---	---	---	259	248	325	---	302	278	275	---	---	---	---	268	---	---	240	238	---	288	284	293	
December 1960																															
Fort Collins, Colo.	288	---	---	---	---	---	---	---	---	---	279	269	268	---	268	276	---	270	---	303	---	301	268	269	---	---	---	328	322	---	299
March 1961																															
Sterling, Va.	366*	348	302	-	254	238*	272	---	---	---	353	---	---	---	339	---	325	---	---	329	329	---	---	392	348	348	---	---	---	359	---
April 1961																															
Sterling, Va.	---	---	---	---	---	---	381	422	---	---	---	---	---	378	---	---	423	---	---	395	---	357	362	346	328	331	---	409	---	---	
May 1961																															
Sterling, Va.	425*	---	376	410	359	---	---	---	---	375*	---	---	---	---	314	338	356	343	---	---	425*	372	400	360	349	334*	---	---	376	400	380

See reference notes with current data.

CORRECTIONS

Month: February 1960

page 46: Atlanta, Ga. — Precipitation should be 5.27 inches.

Month: March 1960

page 89: Pennsylvania — Least precipitation refers to Erie WB Airport.

page 114 Washington, D. C.(Silver Hill Obs.) — Ozone data on the 9th should be *448, on the 16th *446, on the 30th *430, on the 31st *458.

Month: April 1960

page 165: Washington, D. C.(Silver Hill Obs.) — Ozone data on the 28th should be *383.

Month: May 1960

page 208: Washington, D. C.(Silver Hill Obs.) — Ozone data on the 12th should be *436, on the 27th *369.

Month: June 1960

page 254: Washington, D. C.(Silver Hill Obs.) — Ozone data on the 13th should be *344.

Month: December 1960

page 517: Fort Worth, Texas — Ozone data on the 17th should be 264.

Year: Annual 1960

page 27: Mt. Washington Obs., N. H. — Number of days of minimum temperature of zero and below should be 66.

page 20: Williston, N. D. — Sunshine for December should be 101 hours.

Month: January 1961

page 10: Amarillo, Texas — Total snowfall should be 1.8 inches.

Month: February 1961

page 60: Rockford, Ill. — Total snowfall should be 2.5 inches, 3 inches maximum depth on ground.

Month: April 1961

page 210: Lemont, Ill. — Corrected data are on page 325 of this issue.

Month: May 1961

page 248: Utah — Data should be amended to read one tornado, one day, 3 under damage; 2 property damage under hailstorms; 2 injuries under windstorms.

page 265: San Antonio, Texas — Solar radiation on the 3rd should be 612.

DESCRIPTION of CHARTS

CHART I., A. AVERAGE TEMPERATURE (°F.) AT SURFACE. B. DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL. -The average monthly temperature presented in Chart I-A is computed from the average daily maximum and the average daily minimum which in turn are computed from the daily maximum and minimum temperatures reported by some 870 Weather Bureau and cooperative stations. The departures from normal are presented in Chart I-B. They are based on the 30-year normals (1921) for the first-order Weather Bureau stations.

CHART II. TOTAL PRECIPITATION.

CHART III. PERCENTAGE OF NORMAL PRECIPITATION. - Chart II is based on daily precipitation records at about 870 Weather Bureau and cooperative stations. In Chart III the anomaly in the month's precipitation is shown as a percentage of the normal total. This anomaly shows the deviation from the 30-year normal (1921-50) for about 270 first-order Weather Bureau stations.

CHART IV. TOTAL SNOWFALL.

CHART V. A. PERCENTAGE OF MEAN MONTHLY SNOWFALL. B. DEPTH OF SNOW ON GROUND. - Chart IV gives the total depth in inches of unmelted snowfall as reported during the month by Weather Bureau and cooperative stations. This is converted in Chart V-A into a percentage of the mean monthly total amount computed for each Weather Bureau station having at least 10 years of record. The depth of snow on ground is that reported by both Weather Bureau and cooperative stations as of 7:00 a. m. Eastern Standard Time of the Monday nearest the end of the month. This is reported only for the months December through March. The snowfall charts are presented each month November through April.

CHART VI. A. PERCENTAGE OF POSSIBLE SUNSHINE. B. PERCENTAGE OF MEAN MONTHLY SUNSHINE. -CHART VI-A shows the amount of sunshine received in terms of percentage of the total hours of sunshine possible during the month. In Chart VI-B this is shown as a percentage of the mean number of hours of sunshine received. Means are computed for Weather Bureau stations having at least 10 years of record.

CHART VII. A. AVERAGE DAILY VALUES OF SOLAR RADIATION, LANGLEYS. B. PERCENTAGE OF MEAN DAILY SOLAR RADIATION. -Shown on Chart VII-A are the monthly averages of daily total solar radiation, both direct and diffuse, in langleys (gm. cal. cm.$^{-2}$) for all Weather Bureau stations which record this element. Supplementary data for which limits of accuracy are wider than for those data shown are drawn upon in making the analysis. Chart VII-B shows the percentages of the mean based on the period 1953-57.

CHART VIII. -TRACKS OF CENTERS OF ANTICYCLONES AT SEA LEVEL.

CHART IX. TRACKS OF CENTERS OF CYCLONES AT SEA LEVEL. -Centers which can be identified for 24 hours or more are tracked in these charts. Semi-permanent features such as the Great Basin and Pacific Highs and Colorado and Mexico Lows are not shown. The 7:00 a. m. EST positions are shown by open circles, with the intermediate positions at 6-hour intervals shown by solid dots. The date is given above the circle and the central pressure to whole millibars below. A dashed track indicates a regeneration rather than actual movement to the next position. Solid squares indicate position of stationary center for period shown beside it.

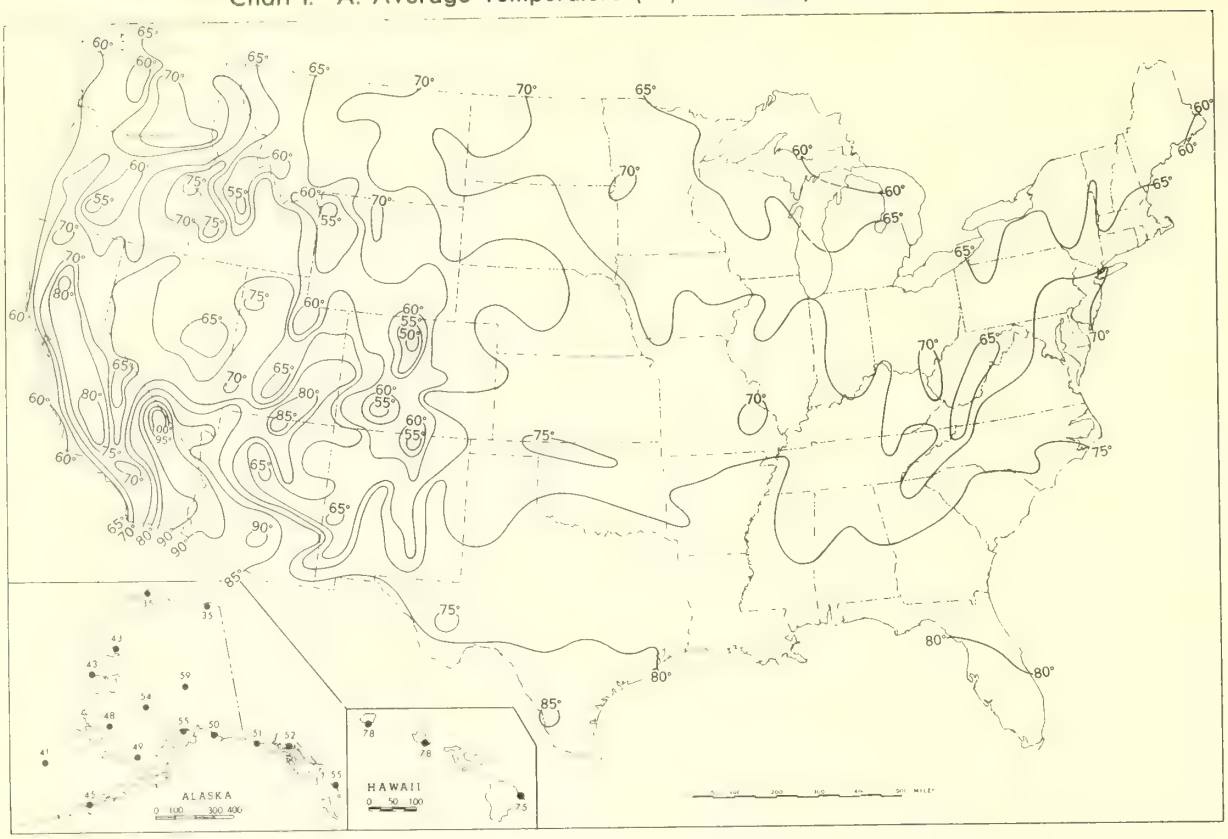
CHART X. AVERAGE SEA LEVEL PRESSURE (mb.) AND SURFACE WINDROSES. -The average monthly sea level pressure is obtained from the averages of the 7:00 a. m. and 7:00 p. m. EST pressures reported at Weather Bureau stations. Windroses are based on the hourly wind directions (to 16 points of the compass) reported by Weather Bureau stations, each circle or arc indicating 5 percent of the time. The inset shows the departure of the average pressure based on 30-year normals for first-order Weather Bureau Stations, other stations having at least 10 years of record, and, for each 10° intersection in a diamond grid over the oceans, from interpolated values read from the Historical Weather Maps for the 20 years of best coverage prior to 1940.

CHARTS XI-XVI. AVERAGE HEIGHT, TEMPERATURE, AND RESULTANT WINDS, 850, 700, 500, 300, 200, and 100 mb. -Height is given in geopotential meters and temperature in degrees Celsius. These are the averages of the 1200 GMT radiosonde reports. Wind speeds are given in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. Directions are shown to 360° of the compass. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

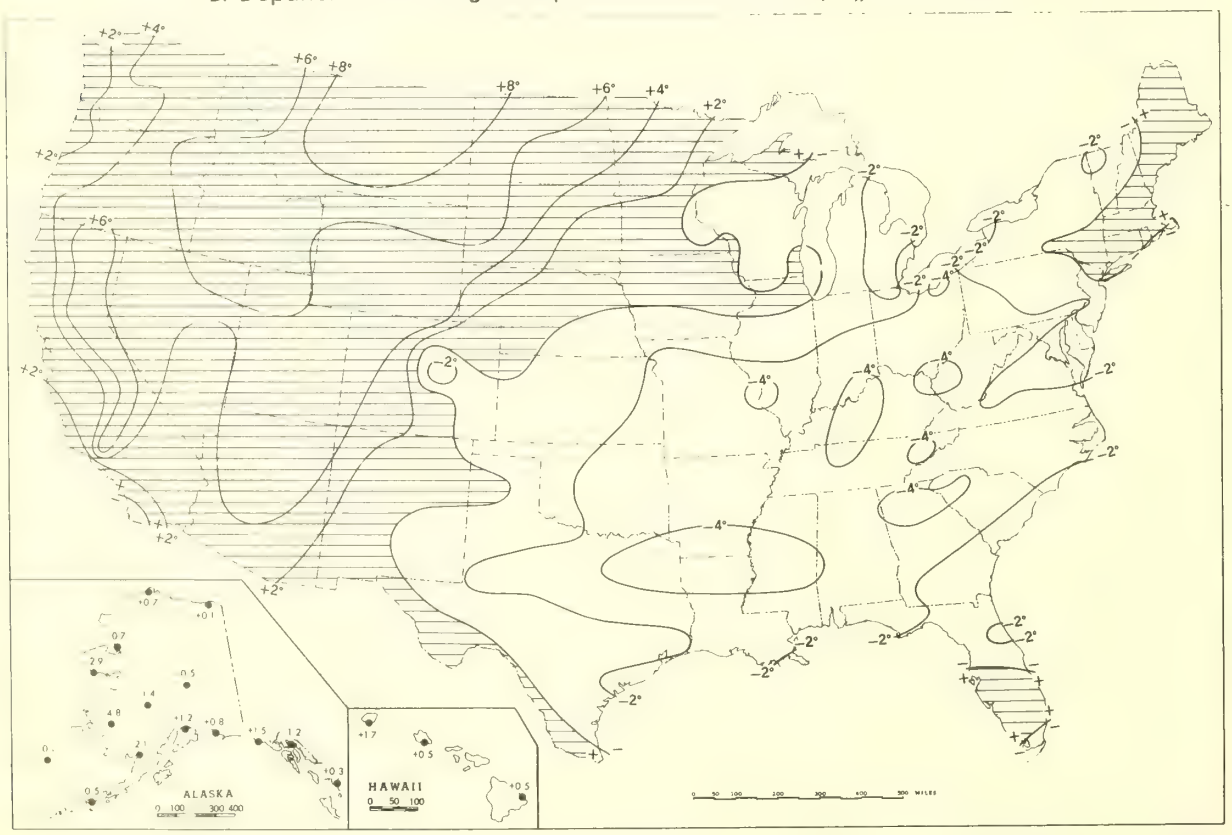
CHART XVII. A. 50-MB. RESULTANT WINDS. B. 30-MB. RESULTANT WINDS. -Wind speed (isotachs) in knots. Arrows show resultant wind direction. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

Exact values of most of these charted elements for Weather Bureau stations are printed each month in tabular form in CLIMATOLOGICAL DATA, NATIONAL SUMMARY. Extreme values of temperature and precipitation for each state are included in the tables, Condensed Climatological Summary. Annual averages are presented in the CDNS Annual Issue each year.

Chart I. A. Average Temperature (°F.) at Surface, June 1961.



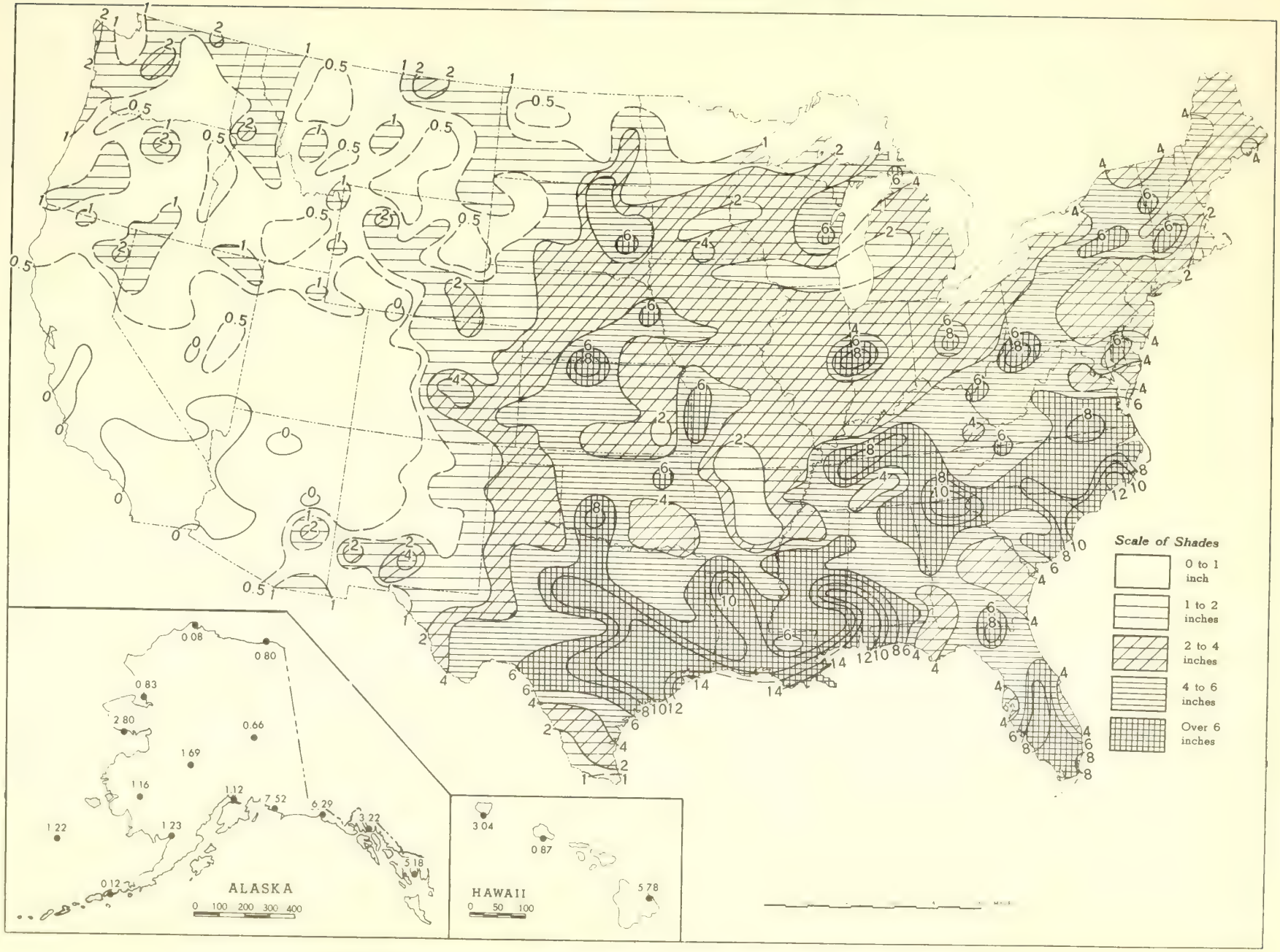
B. Departure of Average Temperature from Normal (°F.), June 1961.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

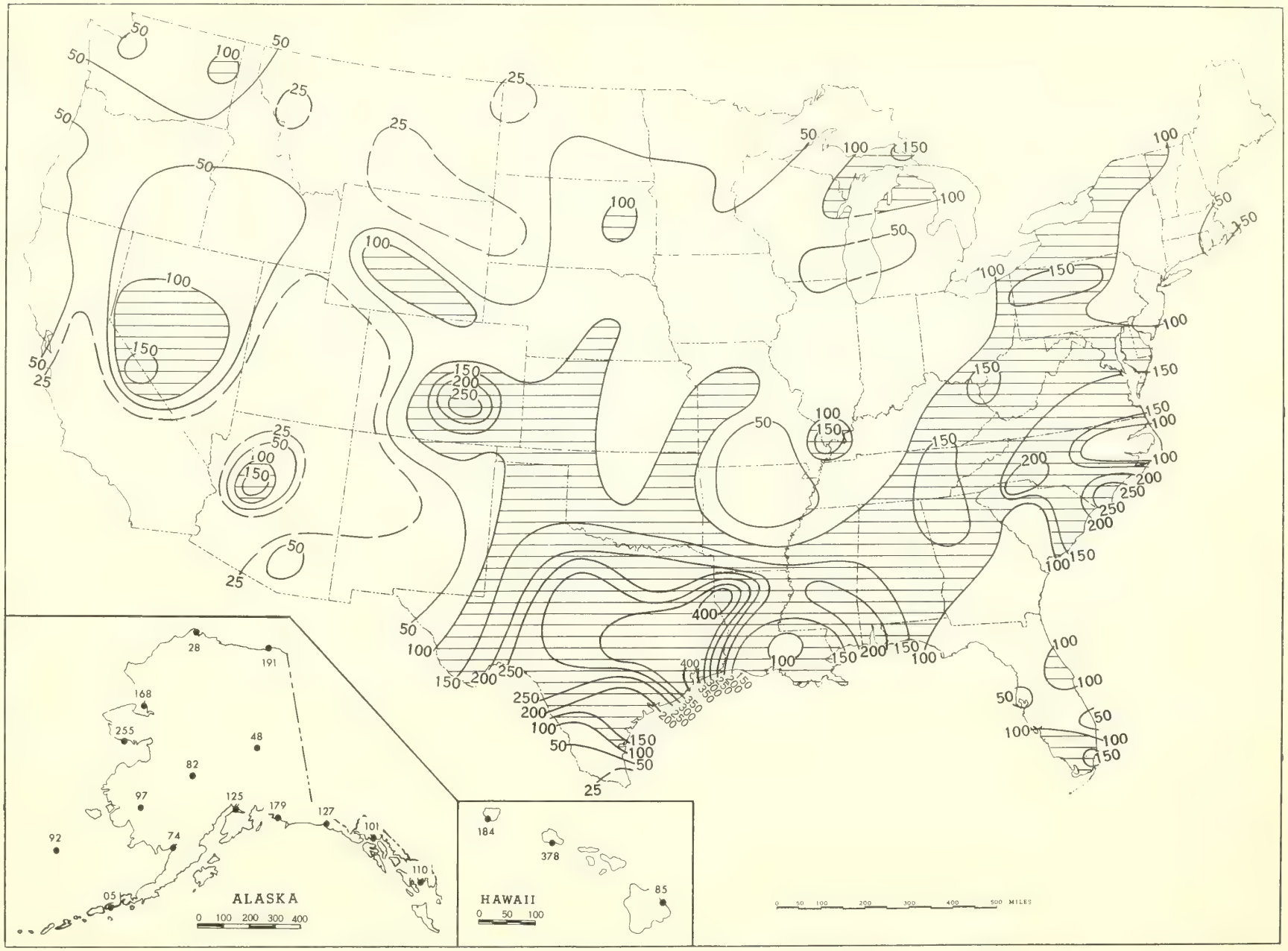
B. Departures from normal are based on the 30-yr. normals (1921-50) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), June 1961.



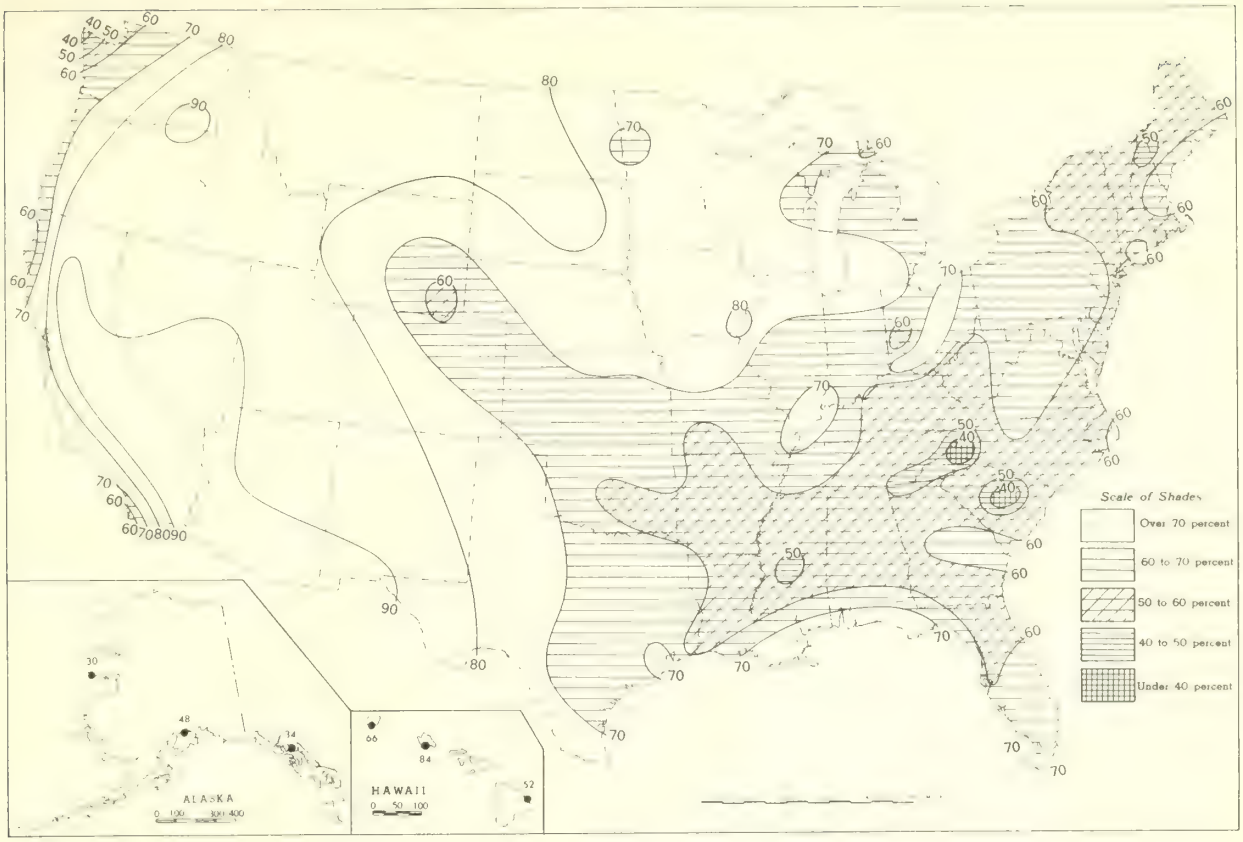
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, June 1961.

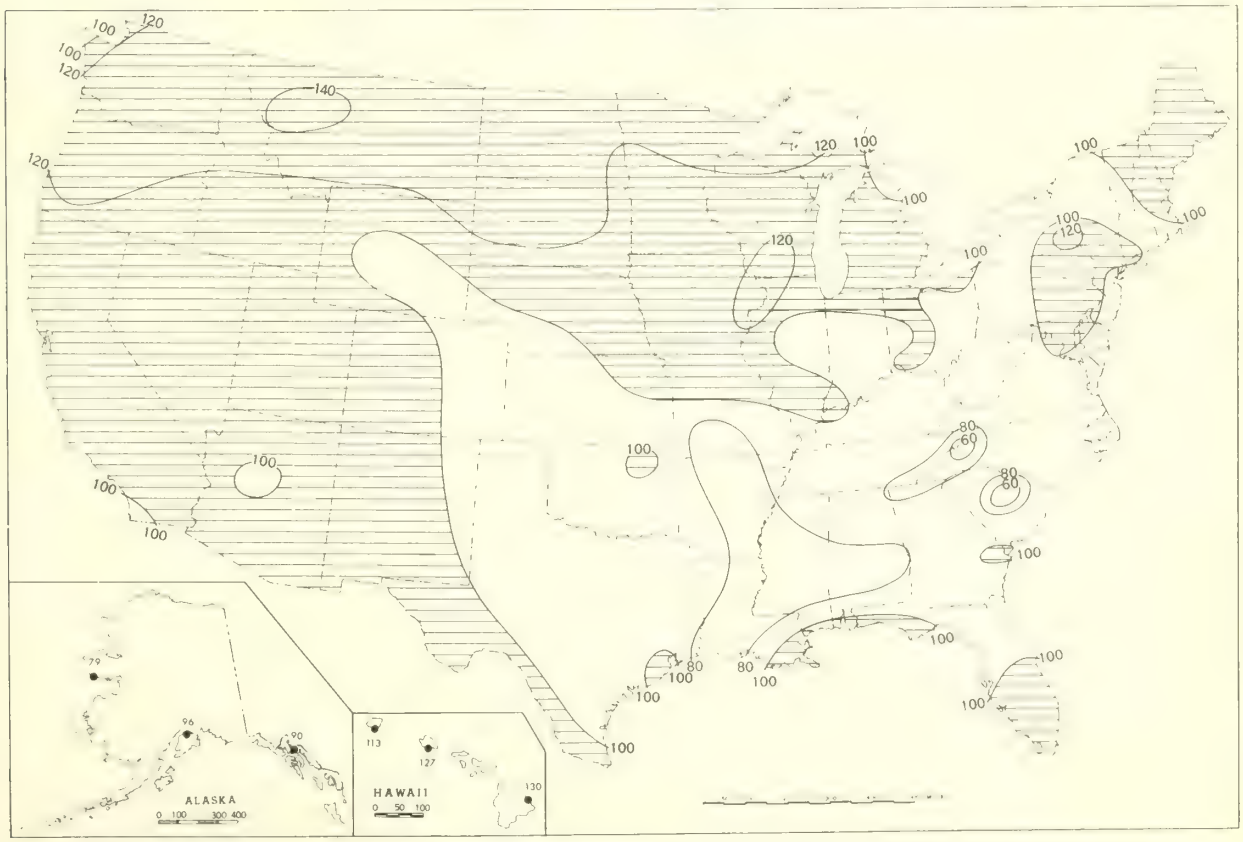


Normal monthly precipitation amounts are computed from the records for 1921-50 for first-order Weather Bureau stations.

Chart VI. A. Percentage of Possible Sunshine, June 1961.

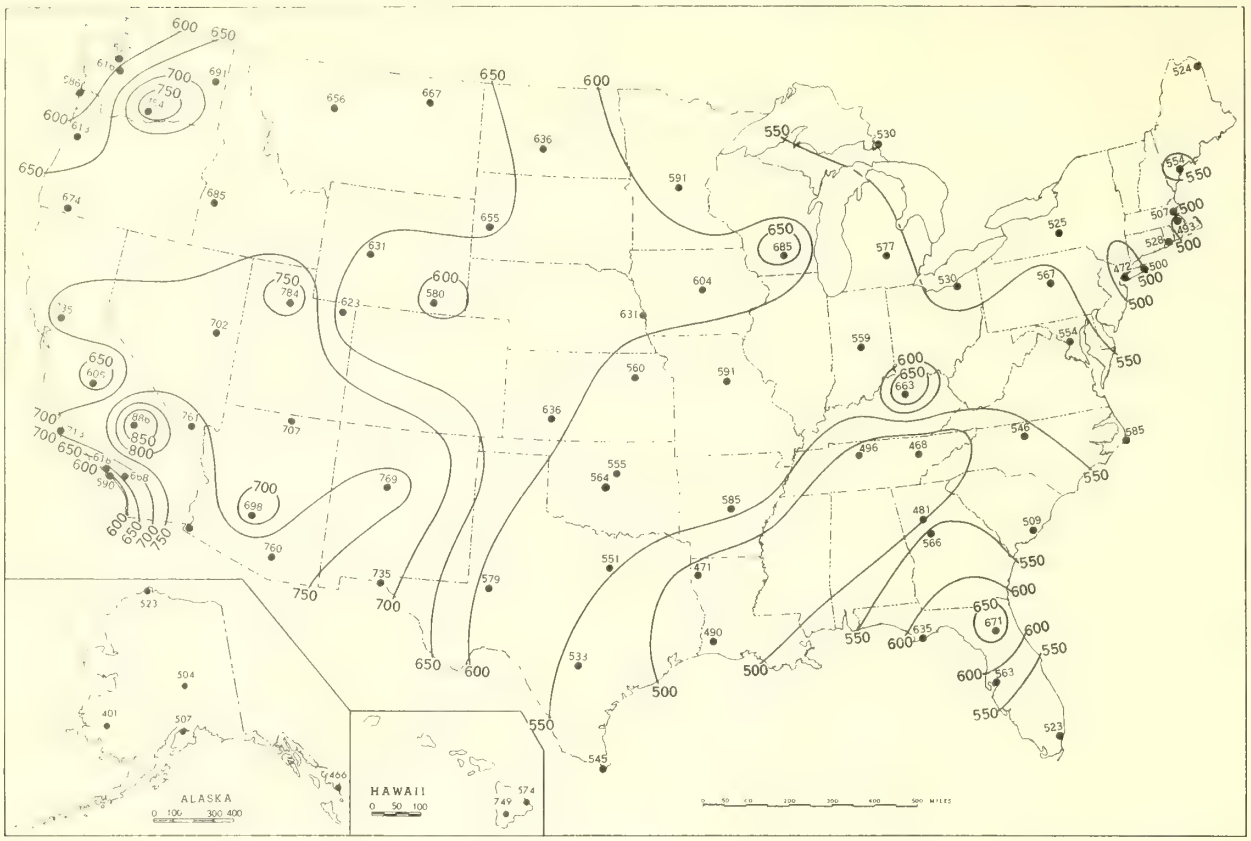


B. Percentage of Mean Monthly Sunshine, June 1961.

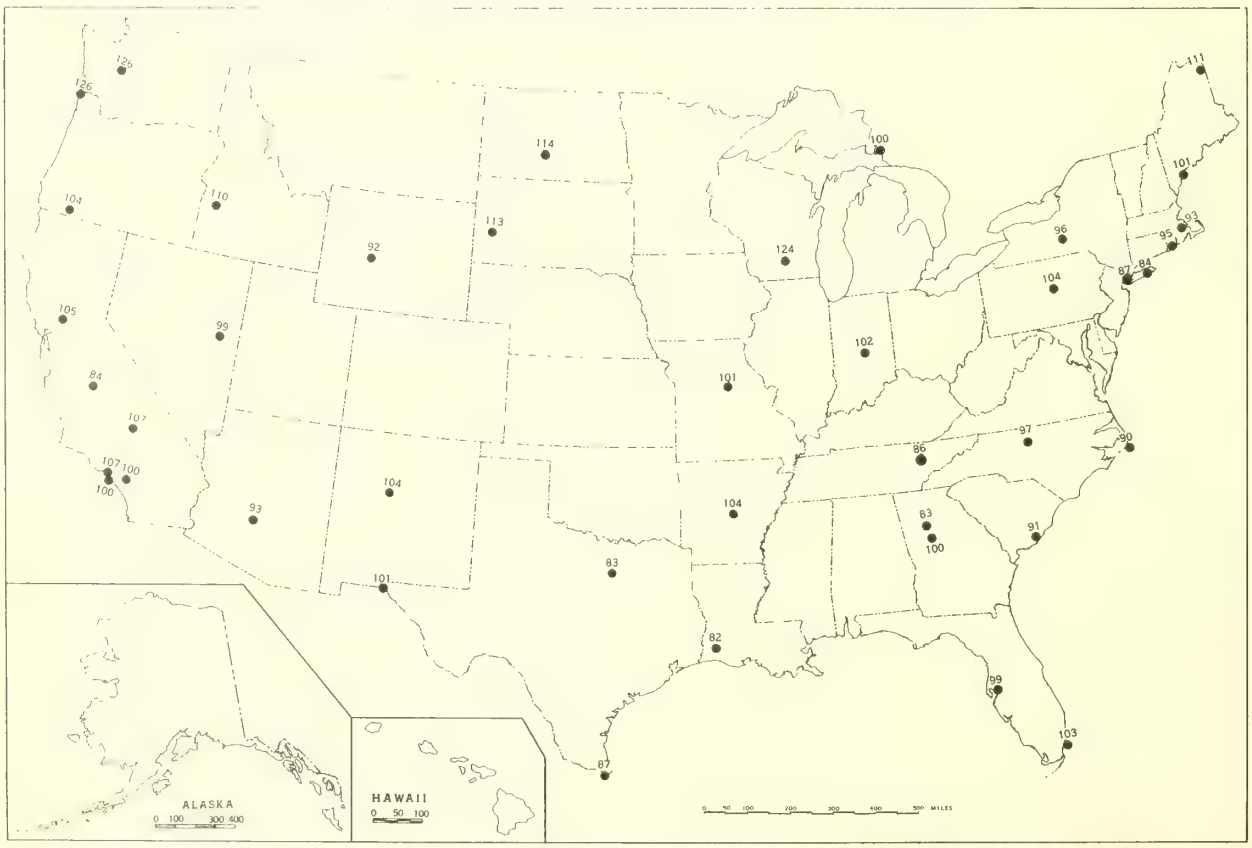


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, June 1961.



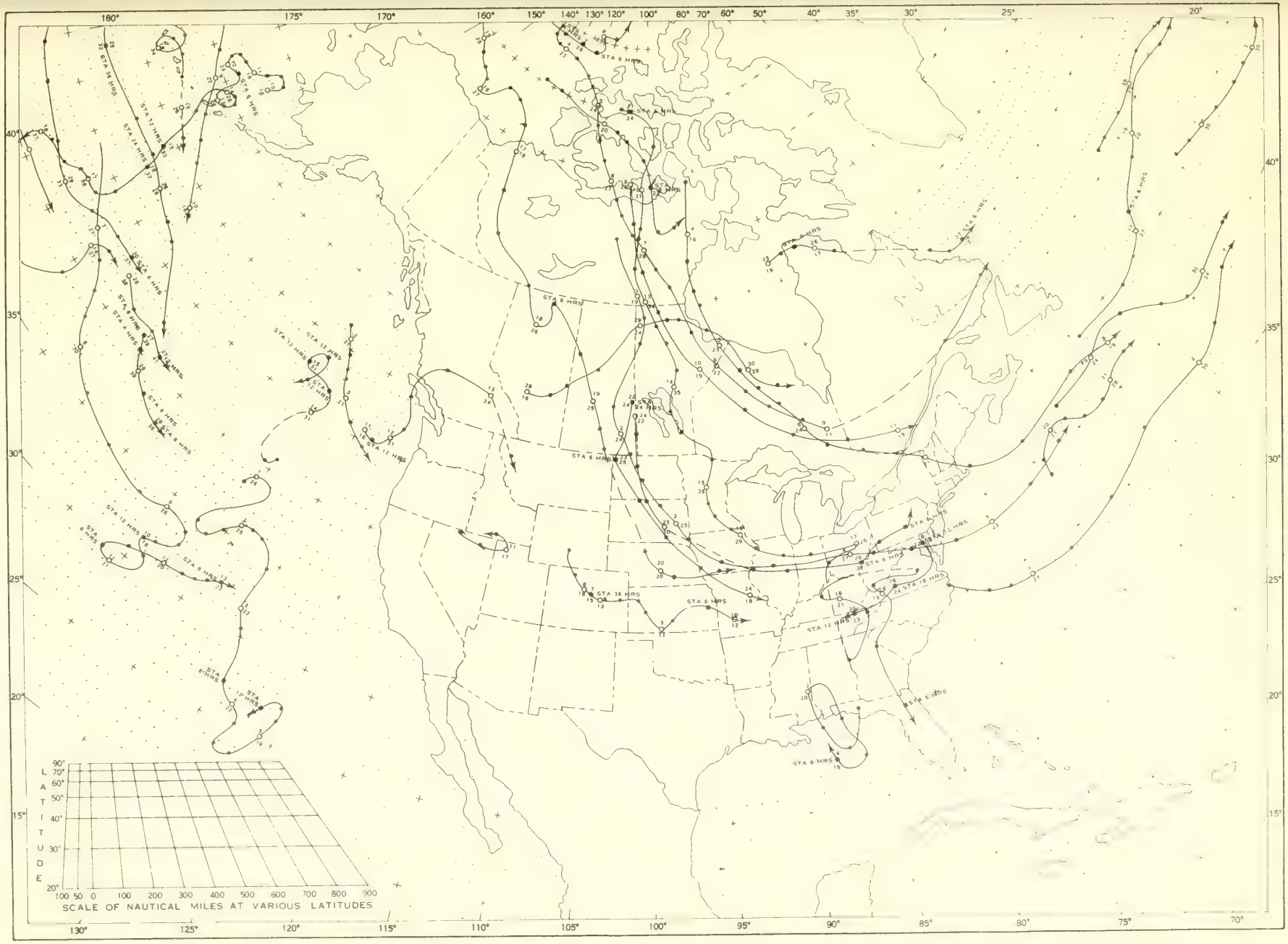
B. Percentage of Mean Daily Solar Radiation, June 1961.



A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956.

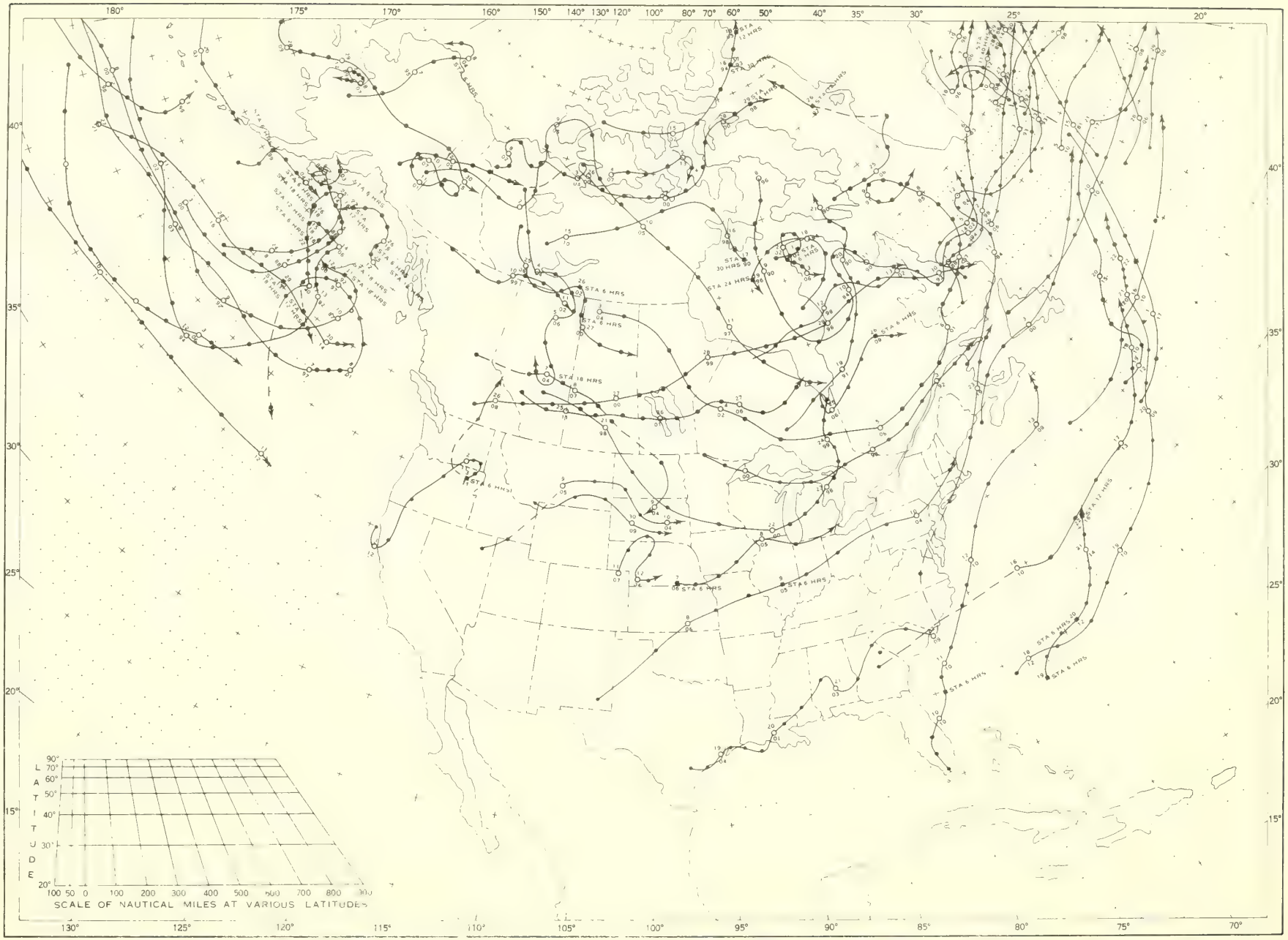
B. Percentage of the mean based on the period 1953-57, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, June 1961.



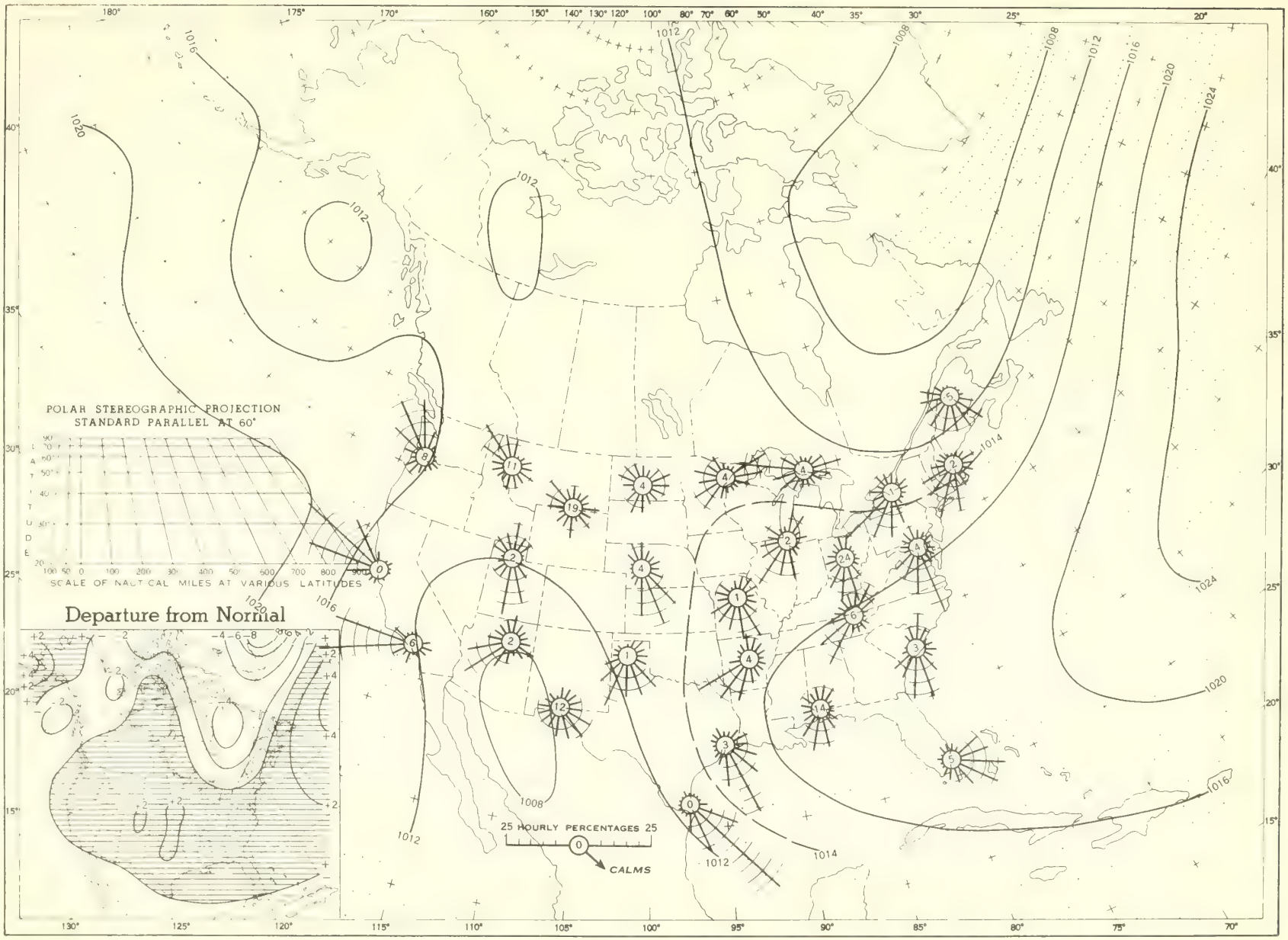
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be iden' fied for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, June 1961.



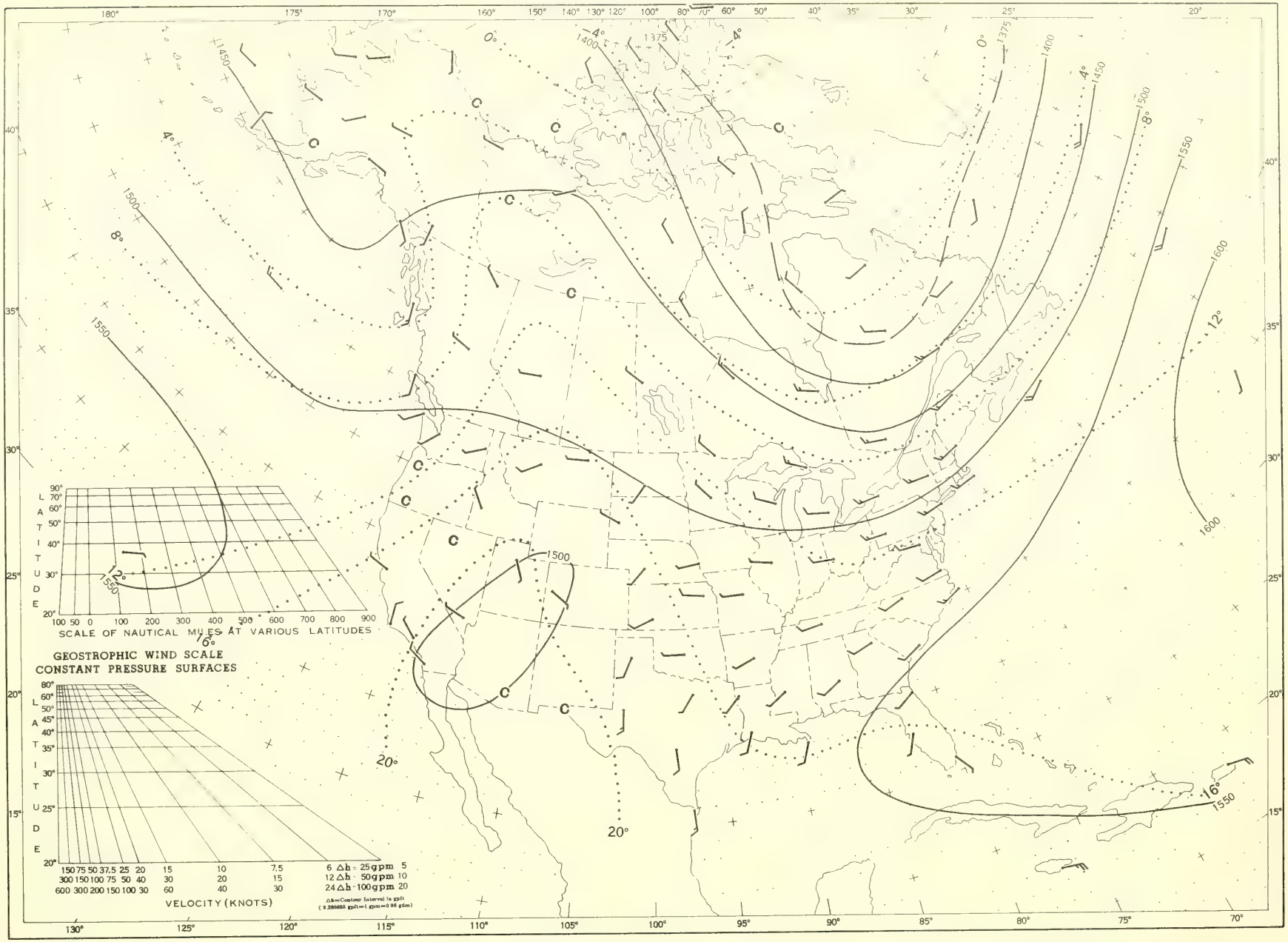
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, June 1961. Inset: Departure of Average Pressure (mb.) from Normal, June 1961.



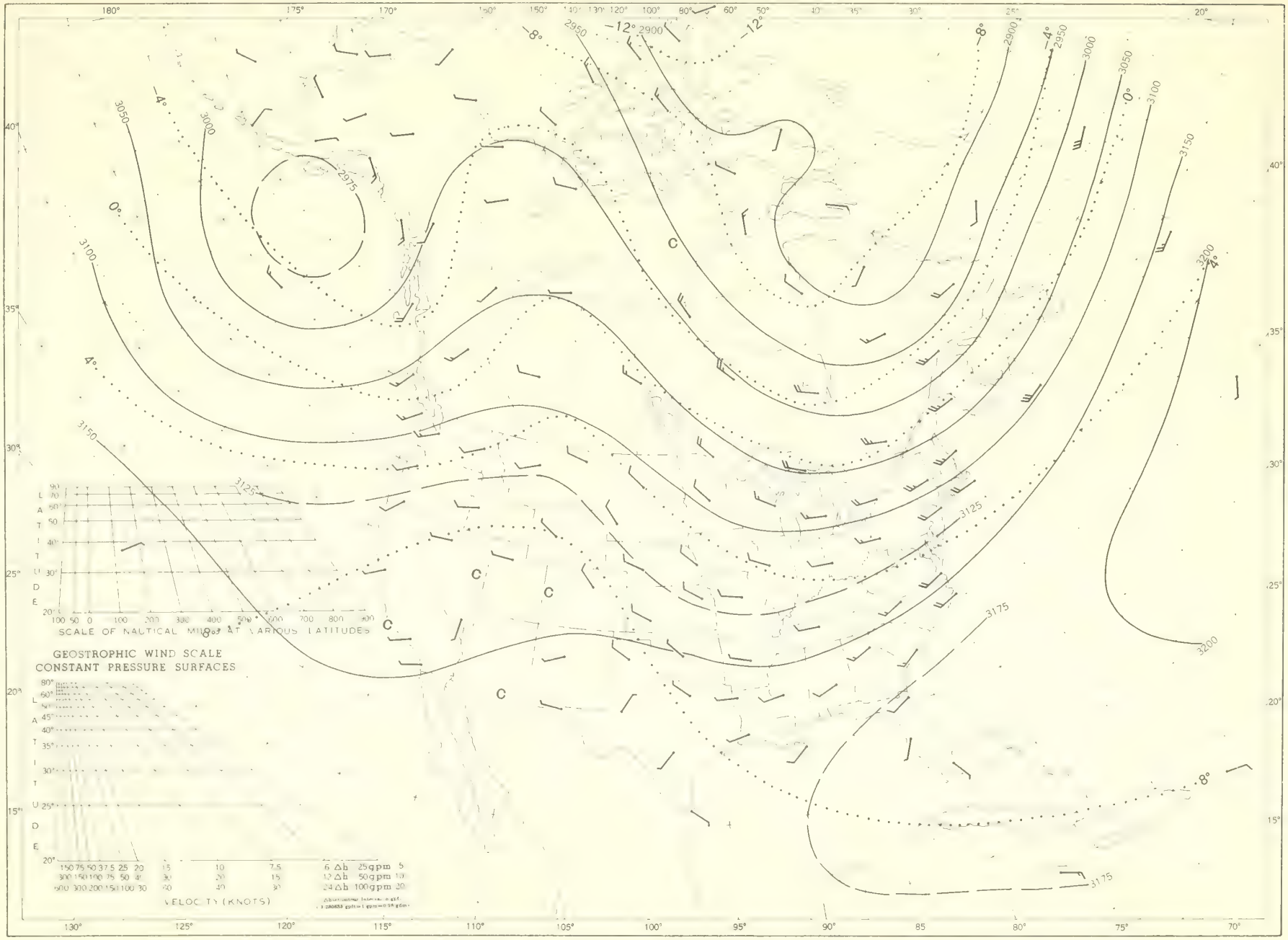
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, June 1961. Average Height and Temperature, and Resultant Winds.



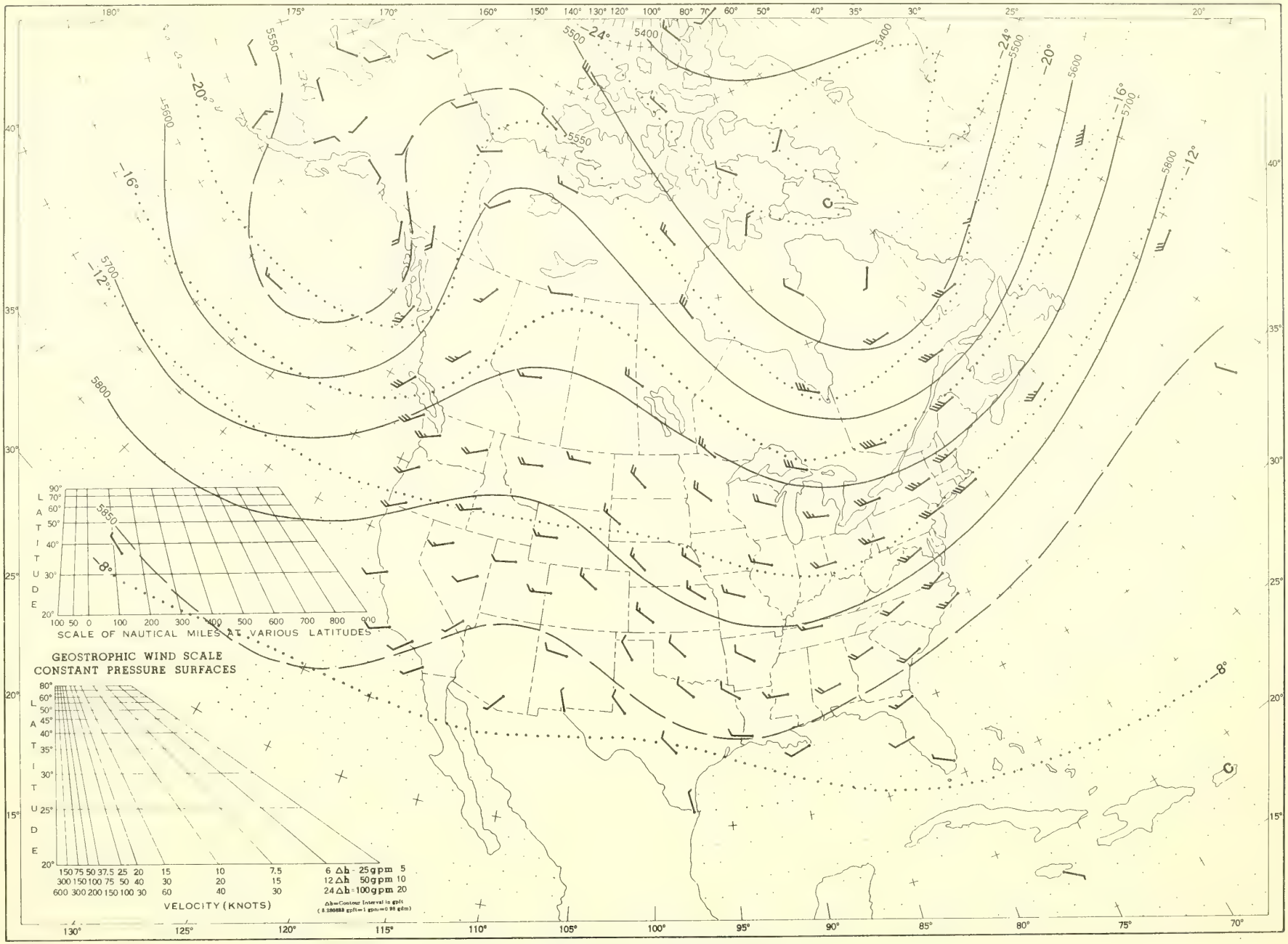
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, June 1961. Average Height and Temperature, and Resultant Winds.



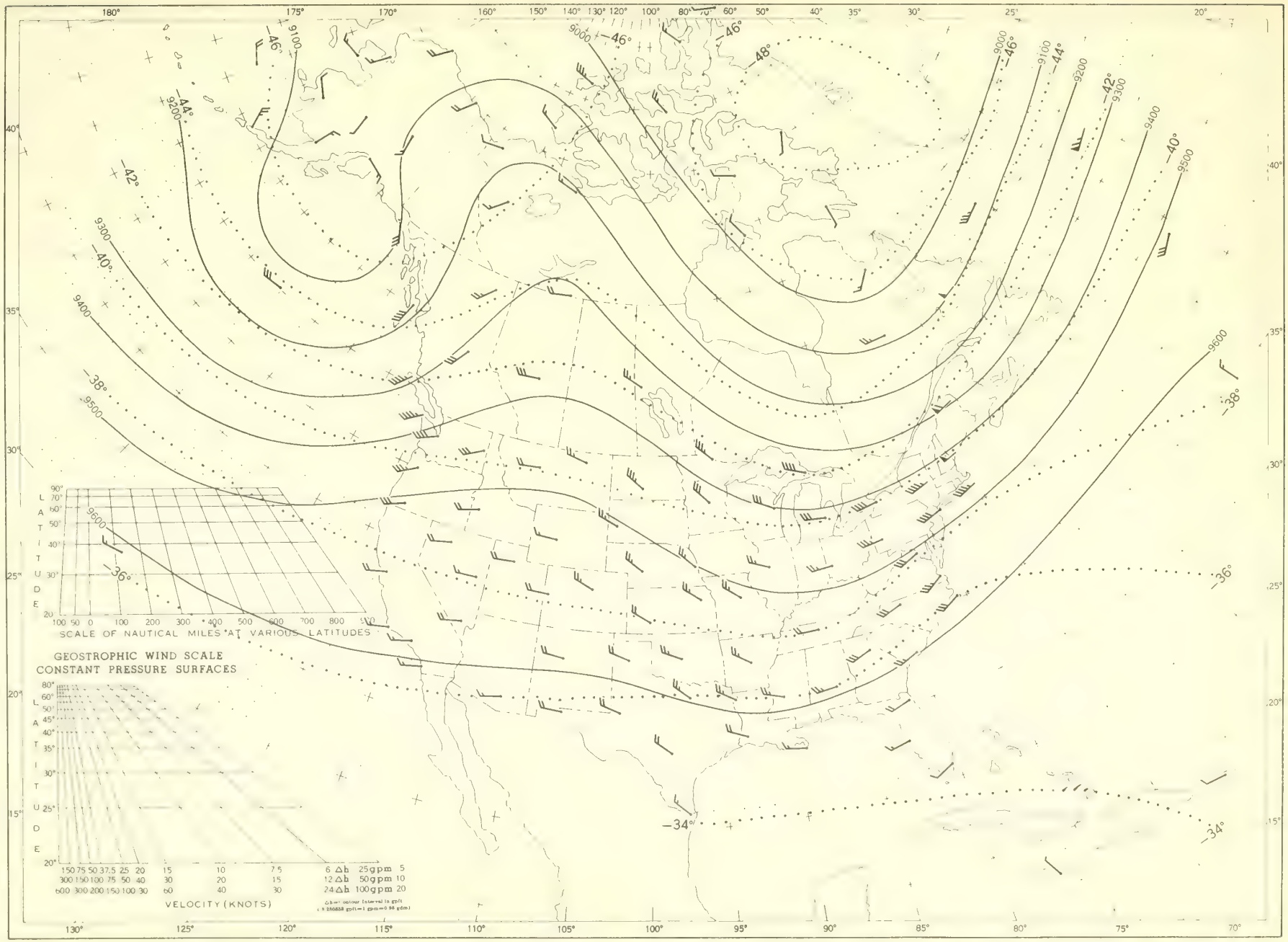
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, June 1961. Average Height and Temperature, and Resultant Winds.



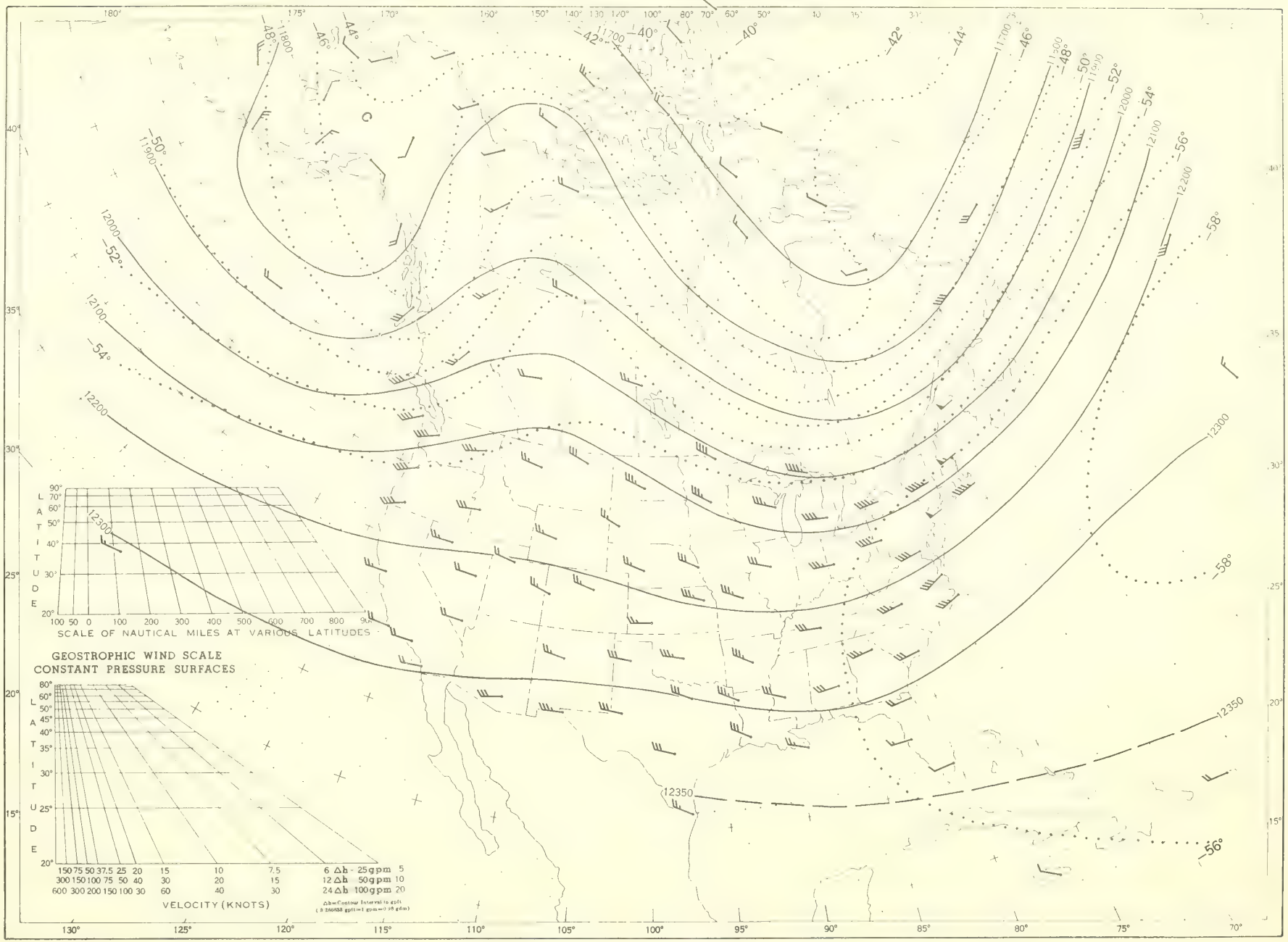
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, June 1961. Average Height and Temperature, and Resultant Winds.



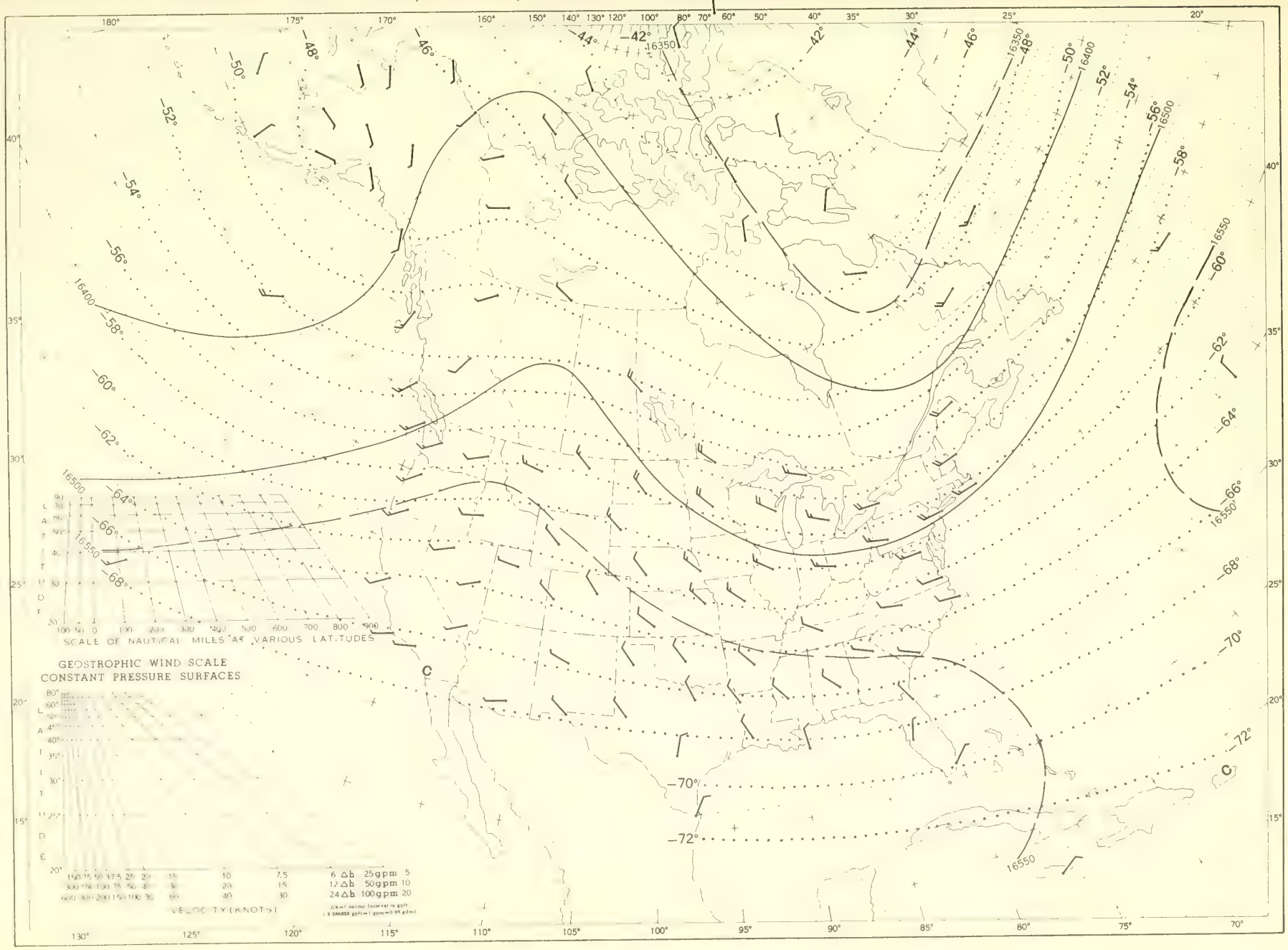
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, June 1961. Average Height and Temperature, and Resultant Winds.



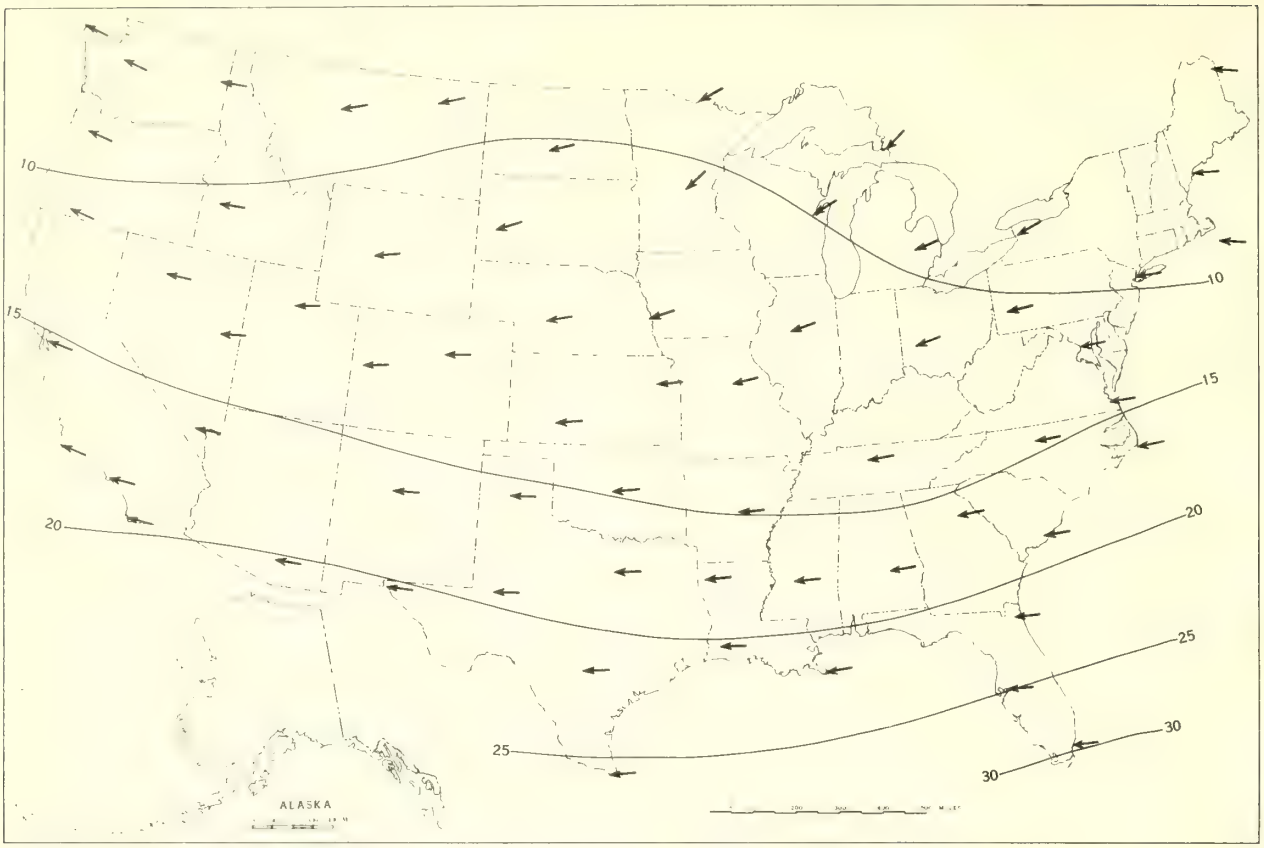
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, June 1961. Average Height and Temperature, and Resultant Winds.

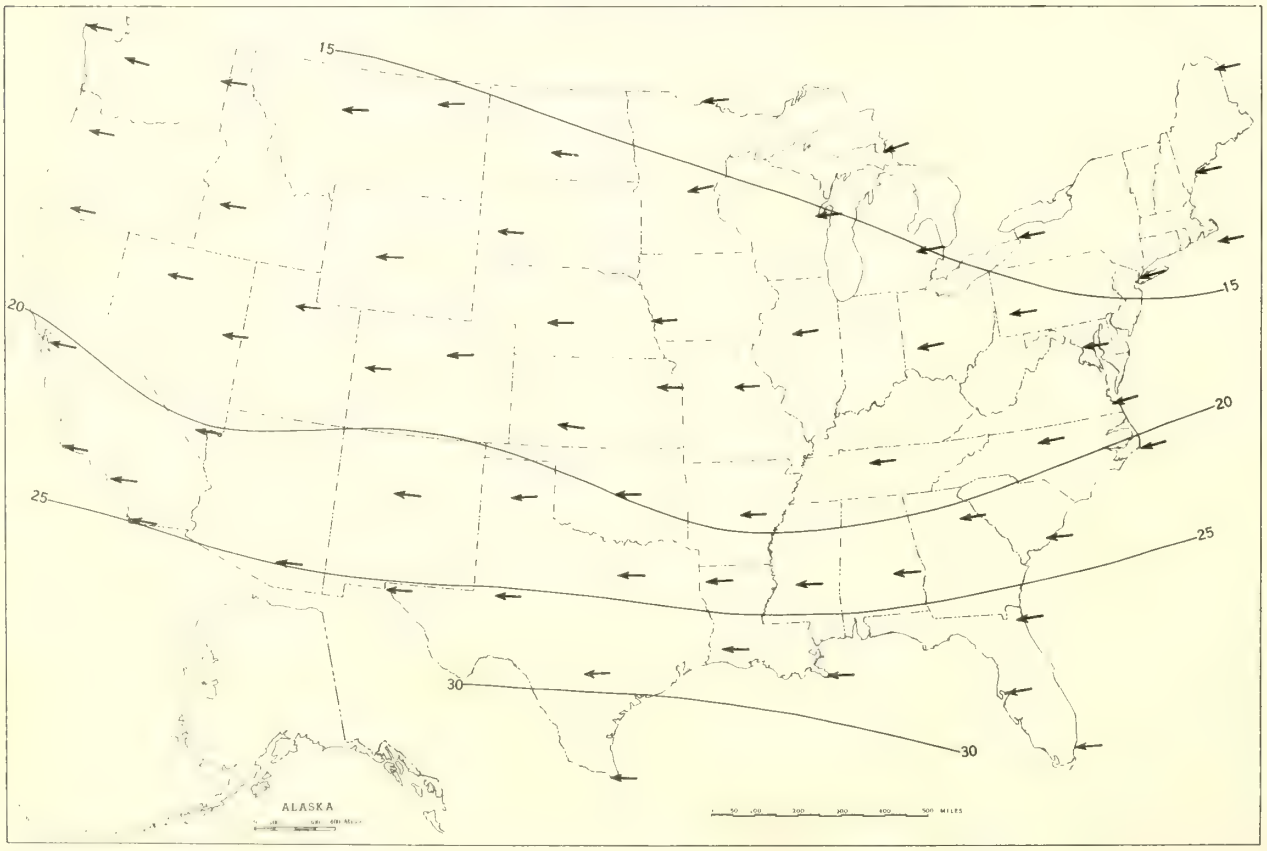


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, June 1961. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, June 1961. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-WB-Asheville - 8.31 61 - 1825

U. S. DEPARTMENT OF COMMERCE
LUTHER H. HODGES, Secretary
WEATHER BUREAU
F. W. REICHELDERFER, Chief

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

CLEMSON COLLEGE LIBRARY
OCT 16 1961
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JULY 1961
Volume 12 No. 7

ASHEVILLE: 1961

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 12 No. 7 JULY 1961

GENERAL SUMMARY OF WEATHER CONDITIONS

Unseasonably cool weather continued in much of the eastern half of the United States for the fourth consecutive month. Temperatures again averaged above normal in the Far West, but the heat was less intense, relative to normal, than in June. Precipitation was unusually heavy from Texas to the Great Lakes, and was sufficient throughout the East and South for rapid crop growth.

TEMPERATURE.--East of the Rockies the first half of the month was cooler than normal and the second half near to locally much warmer than normal. The outstanding cool spell of the month occurred on the 8th, 9th, and 10th when an area of high pressure covered areas east of the Rockies, and temperature fell to the freezing level or below at several points in the extreme north and at some points in the Appalachians as far south as western North Carolina. Temperatures fell to record low levels for July at several stations with long records, including 37° at Duluth, Minn., on the 8th; 43° at Cleveland, Ohio, on the 9th; and 46° at Charleston, W. Va., and 53° at Charlotte, N. C., on the 10th.

This July was the coolest since 1891 in Atlanta, Ga. At Chicago, Ill., the temperature did not rise to 90° or above until the 30th, the latest date for such an occurrence there in July since 1915. Baton Rouge, La., had its coolest July since 1900. Shreveport, La., had its second coolest July, its lowest July maximum on record, 92°, and no daily temperature was above normal. Jackson, Miss., had its lowest July maximum temperature since 1895, 93°. St. Louis, Mo., had its second coolest July, and the coolest May-June-July period on record. Fort Worth, Tex., had its lowest July maximum temperature, 96°. This was the coolest July since 1919 at Austin, Tex., and since 1908 at Abilene, Tex.

Hot, humid weather prevailed in the East the latter part of the month, however, and the last decade was extremely hot and humid in the Atlantic Coastal States.

Hot weather continued for the second consecutive month west of the Continental Divide. At Sacramento, Calif., the heat wave that began on June 13 continued until July 28 for one of the longest and hottest periods there in 85 years of record; during this 46-day period the temperature rose to 90° or above on 38 days and to 105° or above on 11 days. At Salt Lake City, Utah, this was the second warmest July on record.

Extreme temperatures for the month ranged from 125° in Death Valley, Calif., on the 11th to 22° near Bondurant, Wyo., on the 2d. Temperatures dropped below freezing in the course of the month at one or more mountain stations in all the far western states except Arizona, and at points in seven other states along the Canadian Border.

PRECIPITATION.--Precipitation was unusually heavy in parts of a broad belt extending from Texas to the Great Lakes. Monthly totals ranged up to more than a foot at some stations. Dubuque, Iowa, and Tulsa, Okla., measured their greatest totals on record for July, 12.23 and 10.88 inches, respectively. Other large monthly totals in the area included 15.61 inches at Dierks, Ark.; 13.72 at Beardstown, Ill.; 12.50 at Waucoma, Iowa; 12.09 at Leavenworth, Kans.; 13.52 at Ville Platte, La.; 13.19 at Grovespring, Mo.; 13.44 at Tahlequah, Okla.; and 14.61 inches at William Harris Reservoir in Texas. The heavy rains in this area were generally well distributed through the month and furnished a generous supply of moisture for crops. Some flooding occurred in Texas and Louisiana.

Monthly totals generally were above normal in the Mississippi and Ohio Valleys. The rainfall was well distributed through the month, and soil moisture remained sufficient for good crop growth all month.

Rainfall was mostly below normal in New England, southern Alabama, and the Atlantic coastal states from southern New Jersey to Florida. A few stations in Florida including Apalachicola and Lakeland measured their least amount of precipitation on record for July. Wilmington, N. C., measured only 1.65 inches for the driest July since 1940 and the third driest on record.

Above normal rainfall in the upper Mississippi Valley generally relieved droughty conditions that had developed there as a result of deficient rainfall in June. Monthly totals ranged from 0.84 to 11.42 inches in Minnesota and from 0.91 to 7.91 inches in Wisconsin. Soil moisture was greatly improved in both States, and crops were generally good although pastures remained in poor condition in northern Minnesota.

In the northern Great Plains the overall drought situation showed some improvement owing to showery weather which began about the 10th and occurred at intervals during the remainder of the month. Some sections obtained considerable relief, while in others the drought worsened. Monthly rainfall totals ranged from 7.21 inches at Sharon to only 0.36 inch at Bowman in North Dakota, and from 5.76 inches to only 0.24 inch in South Dakota. In the latter State row crops were making rapid growth at the end of the month. In western North Dakota and eastern Montana rains were too late to benefit the winter grain crop.

Precipitation was entirely absent in much of California, and below normal in much of the remainder of the area west of the Continental Divide. Slightly above normal amounts were received in Nevada, but the only benefit was some improvement in the grazing land at high elevations. At Reno, Nev., reservoirs were at lowest levels since 1934, and partial rationing of both domestic and irrigation water supplies was in effect.

A high fire hazard existed most of the month in many areas of the Far West as a result of the continued hot and very dry weather; however, most fires which started were rapidly brought under control.

DESTRUCTIVE STORMS AND OTHER UNUSUAL PHENOMENA.--A very severe thunderstorm with hail and high winds struck Havre, Mont., and vicinity on the 28th, causing over $1 million damage to crops and property.

Tornadoes in Darke, Shelby, and Miami Counties, Ohio,

on the 28th were responsible for 22 injuries and a few hundred thousand dollars damage. Most of the injuries and damage occurred in Sidney.

On July 19 heavy rains in the Charleston, W. Va., area caused devastating flash floods that were responsible for 22 deaths and several million dollars damage. On July 29 and 30 heavy rains in Johnson, Morgan, and Elliott Counties of eastern Kentucky caused flash flooding that damaged crops, washed homes away, and closed highways; one life was lost, and damage was estimated at several million dollars.

During a hailstorm near Tulsa, Okla., on the 16th, stones as large as baseballs were reported.

CONDENSED CLIMATOLOGICAL SUMMARY

JULY 1961

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	Lockhart	98	25	2 Stations	48	10+	Atmore State Farm	10.90	Thorsby Exp Station	1.84
Arizona	2 Stations	119	19+	Fort Valley	35	5	Sasabe 7NW	6.84	Yuma	.00
Arkansas	do	98	19+	Harrison	50	10	Dierks	15.61	Blakely Mountain Dam	2.13
California	Death Valley	125	11+	Portola	24	30+	White Mountain 1	1.40	318 Stations	.00
Colorado	Holly	107	25+	Hermit 7ESE	26	22	Kiowa 5SE	6.32	Grand Junction WB AP	.03
Connecticut	Putnam	95	21	Falls Village	42	7	West Hartford	5.12	Lake Konomoc	1.33
Delaware	2 Stations	97	23+	3 Stations	54	11+	Bridgeville 1NW	7.99	Milford 3WNW	1.26
Florida	do	103	31	do	62	2+	Milton Exp Station	11.96	Dania 4WNW	.12
Georgia	Alma FAA AP	101	30	Blairsville Exp Station	46	10	Brunswick FAA AP	10.86	Waynesboro 2NE	.27
Idaho	Slate Creek RS	109	23+	Obsidian 3SSE	23	1	McCammon	1.83	2 Stations	.00
Illinois	Harrisburg	102	30	3 Stations	47	9+	Beardstown	13.72	Danville Sewage Pl	1.79
Indiana	Henryville St For	97	31	Greensburg 3SW	43	10	Leavenworth Dam 44	9.98	Bloomington 5SW	1.96
Iowa	2 Stations	100	4+	Cherokee 3N	44	9	Waucoma	12.50	Cumberland 3NW	1.21
Kansas	Healy	110	18	Florence	49	10	Leavenworth	12.09	Tribune 1W	.99
Kentucky	Louisville	97	30	Benham	43	10	Blaine 1E	12.20	Hickman 1E	1.39
Louisiana	3 Stations	98	30+	Bonita 4SSW	59	4	Ville Platte 2SW	13.52	Burrwood WB	2.26
Maine	Woodland	93	24	Squa Pan Dam	32	2	Bingham Wyman Dam	9.33	Eastport	1.39
Maryland	Easton Airport	100	23	Oakland 1SE	36	10	U S Soldiers Home D C	6.44	Easton Airport	1.38
Massachusetts	Brockton	95	23	West Cummington	35	5	Nantucket WB AP	6.16	Provincetown 1N	.89
Michigan	Monroe Sewage Plant	95	1	Watersmeet Fish Hatch	32	4	Coldwater St School	7.30	Scottville 1NE	.91
Minnesota	Tracy Power Plant	98	1	Cook 18W	31	4	Buffalo	11.42	Madison	.84
Mississippi	8 Stations	96	31+	3 Stations	51	4	Macon 2NE	11.75	Belmont	1.59
Missouri	Sikeston SE Mo. Resch	103	28	2 Stations	45	10	Grovespring	13.19	Parma	2.28
Montana	Lame Deer	109	4	Ovando 7WNW	26	1	Nobly 3WNW	3.10	Bridger	.12
Nebraska	Niobrara	106	1	Gordon	40	14	Oshkosh	7.89	Atlanta 2NW	.58
Nevada	Mesquite	120	13	Mountain City RS	31	31+	Smokey Valley	2.37	Midas 4SE	.02
New Hampshire	Northwood	93	24	Peterboro 2S	36	5	Conway 1N	6.80	Lebanon FAA AP	1.35
New Jersey	Flemington 1NE	98	23	3 Stations	46	11+	Princeton Water Works	10.72	Bass River St Forest	2.07
New Mexico	2 Stations	105	21+	Red River	30	22	Cloudcroft RS	6.44	Fruitland	T
New York	do	97	22+	3 Stations	35	6+	N Y Westerleigh Stat Is	10.89	Watertown FAA AP	1.12
North Carolina	5 Stations	98	31+	Celo 2S	32	10	Rosman	11.09	Ocracoke	1.40
North Dakota	Mott	102	17	Edmore 1N	37	3	Sharon	7.21	Bowman 13SE	.36
Ohio	Toledo Blade	97	1	2 Stations	39	10+	Proctorville Dam 27	10.64	Toledo Sewage	2.51
Oklahoma	Alva	106	17	Anadarko	50	10	Tahlequah	13.44	Duncan	.51
Oregon	2 Stations	109	13	2 Stations	27	6+	Dufur	1.02	13 Stations	.00
Pennsylvania	Philadelphia Pt Breeze	98	23	do	32	10	Neshaminy Falls	10.83	South Mountain	1.80
Puerto Rico	Juan Diaz Camp	95	20+	Guineo Reservoir	61	29	Rio Blanco Upper	13.98	Culebra Island	1.48
Rhode Island	2 Stations	90	26	Kingston	48	11	Greenville	4.04	Newport	1.04
South Carolina	Little Mountain	101	31	3 Stations	50	11+	Yemassee 4W	12.85	Charleston WB City	1.95
South Dakota	Usta 9WNW	108	3	Deerfield 5NW	28	14	Longvalley	5.76	Ludlow 2NW	.24
Tennessee	Savannah	98	31	Mountain City 2	36	10	Selmer	8.87	Newport	1.88
Texas	2 Stations	107	21+	Mount Locke	50	26+	William Harris Resvr	14.61	Salt Flat 10ENE	.00
Utah	St George PH	110	16+	Hardware Ranch 2	30	2	Tropic	3.04	Wendover WB AP	.03
Vermont	Middlesex	93	25	Somerset	32	5	Reading Hill	7.59	Newfane	2.06
Virginia	3 Stations	99	31+	Burkes Garden	35	10	Grundy 3NW	8.72	Cheriton	.80
Washington	2 Stations	109	13	Laurier	30	1	Snoqualmie Pass	2.08	2 Stations	.00
West Virginia	Harpers Ferry Nat Monmt	96	23	Birch River 6SSW	33	10	Charleston 1	14.22	Franklin 2N	2.46
Wisconsin	Fairchild Ranger Sta	97	30	3 Stations	32	8+	Fontana	7.91	Hatfield Dam	.91
Wyoming	Spencer 1NE	106	29+	Bondurant 3NW	22	2+	Torrington Exp Farm	4.37	Sage 4NNW	.02

\+ And also on an earlier date or dates.

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No of days: Max. 90 F or above	Temperature: No of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: .01 inch or more	Precipitation: No of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	993.5	1018.7	89	68	78.4	- 1.2	93	31+	59	5	16	0	70	80	10.17	5.06	3.35	17	14	0.0	0	6.1	SSW	33	SW	22+	7	10	14	6.3	66
HUNTSVILLE	605	995.2	1018.3	89	67	78.2		96	30	57	4	18	0	67	73	2.16		0.85	14	7	0.0	0	5.4	SE	17*	SSE	20	6	12	13	6.2	
MOBILE	211	1010.7	1018.8	90	71	80.6	- 0.1	94	26	68	4+	20	0	71	79	4.80	-4.17	0.85	17	22	0.0	0	6.7	S	34*	NW	3	2	16	13	6.8	
MONTGOMERY	195	1010.5	1018.5	91	71	80.5	- 0.7	94	26	65	5	24	0	72	80	3.78	-1.98	1.03	11	14	0.0	0	6.4	SW	29	W	17	2	20	9	6.1	68
ALASKA																																
ANCHORAGE	90	1011.9	1016.6	64	51	57.7	0.4	71	14	44	7	B 3	0	47	70	2.22	0.67	0.80	13	0	0.0	0	6.1	SSE	20*	SSE	2	1	5	25	8.4	35
ANNETTE	110	1016.3	1020.3	70	54	61.8	5.0	85	27	47	5+	18	0	52	73	2.88	-2.71	1.59	8	0	0.0	0	7.4	NNW	20*	SSE	18	13	6	12	5.0	
BARROW	22	1010.2	1010.8	44	32	38.2	- 1.5	69	10	27	9	0	17	35	89	1.80	0.97	0.78	11	0	1.4	1	11.1	W	35*	SW	31	0	3	28	9.1	
BARTER ISLAND	39	1009.8	1011.8	47	34	40.6	- 0.2	66	25	28	4	0	11	36	88	2.79	1.61	0.99	18	0	0.6	T	11.2	E	29*	SW	21	0	5	26	8.8	
BETHEL	125	1012.5	1014.3	58	44	51.2	- 3.3	76	15	38	19+	3	0	46	85	3.84	1.55	0.69	21	3	0.0	0	14.5	SSW	35*	SSW	30+	1	6	24	8.6	
COLD BAY	94	1013.5	1017.4	54	45	49.6	- 0.4	76	31	38	14	1	0	46	89	1.08	-1.06	0.38	10	0	0.0	0	16.5	SSE	39*	SSE	23	0	1	30	9.5	
CORDOVA	40	1016.6	1018.4	60	46	52.8	- 0.5	71	29	36	13	2	0	49	88	6.13	-0.31	1.93	20	0	0.0	0	5.6	E	17*	ESE	17+	1	3	27	9.1	
FAIRBANKS	436	996.6	1013.6	70	49	59.2	- 1.7	85	26	41	3	15	0	48	68	2.61	0.69	0.91	14	0	0.0	0	7.4	SW	23*	W	20+	3	7	21	7.7	
JUNEAU	17	1018.3	1019.2	65	47	56.3	1.6	79	27	40	14	11	0	49	79	6.04	1.39	1.65	17	0	0.0	0	9.2	NNW	32*	ESE	18	7	6	18	6.9	52
KING SALMON	44	1013.9	1015.9	59	46	52.3	- 2.3	79	14	39	8	1	0	46	82	3.07	0.25	0.88	14	0	0.0	0	9.6	SW	26*	S	23	0	5	26	9.2	
KOTZEBUE	10	1010.8	1011.4	57	46	51.3	- 1.3	69	10	37	4+	0	0	47	86	0.57	-0.96	0.18	12	0	0.0	0	13.3	WNW	39*	W	31	3	4	24	8.3	
MC GRATH	334	1002.0	1014.8	64	45	54.8	- 3.9	81	15	39	29+	8	0	46	74	3.31	0.99	0.70	17	1	0.0	0	8.1	SSW	26*	S	20	3	6	22	8.2	
NOME	13	1011.5	1012.3	52	42	47.4	- 2.2	75	10	35	16	1	0	43	85	3.33	0.87	1.17	12	0	0.0	0	11.9	SE	29*	SSW	30+	2	6	23	8.3	34
ST. PAUL ISLAND	22	1013.9		49	41	44.9	- 1.0	56	9+	28	13	0	1	43	93	2.33	-0.10	0.71	11	0	0.0	0						2	2	27	9.1	
SHEMYA	122	1011.2	1014.9	47	42	44.6		57	23	39	5+	0	0	43	96	1.68		0.61	9	0	0.0	0	12.6	SE	35*	ENE	27	0	1	30	9.6	
YAKUTAT	28	1018.6	1019.6	58	48	53.1	0.4	68	31	38	14	0	0	51	93	13.69	5.06	2.47	19	0	0.0	0	8.7	ESE	30*	ESE	18	2	7	22	8.5	
ARIZONA																																
FLAGSTAFF	6993			83	51	66.7	1.5	92	16	41	5	2	0			2.03	-0.46	0.59	12	18	0.0	0						8	17	6	5.3	
PHOENIX	1109	970.9	1009.0	105	78	91.7	1.6	114	19	67	6+	31	0	58	35	0.40	-0.30	0.22	4	7	0.0	0	8.0	W	40*	SE	22	21	7	3	2.9	97
PRESCOTT	5014	849.0	1012.0	92	62	77.0	1.0	101	16	54	4	21	0	48	43	3.73	1.02	1.24	12	17	0.0	0	7.2	SSW	54	NW	14	10	17	4	4.6	81
TUCSON	2584	924.1	1009.9	98	74	86.1	- 0.1	105	12+	64	4	30	0	56	42	1.81	0.01	0.71	11	22	0.0	0	10.3	S	49	SE	19	17	11	3	3.6	81
WINSLOW	4880	852.7	1009.5	97	64	80.2	3.0	103	19	55	5+	28	0	45	34	0.65	-0.59	0.19	10	10	0.0	0	10.2	WSW	38*	SW	3	12	15	4	4.5	
YUMA	199	1005.1	1009.1	107	81	94.0	- 0.6	116	10	66	5+	31	0	60	37	0.02	-0.21	0.02	1	1	0.0	0	10.6	SSE	52	NE	28	21	7	3	2.4	89
ARKANSAS																																
FORT SMITH	449	999.2	1015.8	91	69	80.0	- 2.3	96	31+	57	11	21	0	69	74	8.62	6.06	4.09	9	8	0.0	0	5.8	SW	31	W	12	8	10	13	5.8	60
LITTLE ROCK	257	1003.9	1016.9	92	69	80.7	- 1.2	97	30	58	11	23	0	69	72	2.64	-0.46	0.69	9	10	0.0	0	7.4	SW	33	S	13	8	15	8	6.0	63
TEXARKANA	361		1016.8	89	71	79.8	- 3.1	93	28+	64	10	19	0	72	83	6.68	2.74	2.56	14	11	0.0	0	6.0	SW								
CALIFORNIA																																
BAKERSFIELD	494	993.9	1011.5	100	71	85.2	1.0	110	11	57	6+	29	0	49	31	T	-0.01	T	0	0	0.0	0	7.7	NW	23*	NW	3	27	3	1	1.1	
BISHOP	4108	873.7		99	59	79.1	3.6	106	11	49	6+	30	0			0.12	0.02	0.12	1	5	0.0	0						24	6	1	2.3	
BLUE CANYON	5280	841.9		81	62	71.2	3.4	88	21+	42	5+	0	0			0.01	-0.02	0.01	1	0	0.0	0	6.4	WSW	20	SE	3+	27	4	0	1.0	
BURBANK	699	986.8	1013.2	86	63	74.3	1.1	100	8	58	6	7	0	59	65	0.00	-0.0	0.00	0	0	0.0	0	7.7	S	17*	S	2	27	3	1	2.1	
EUREKA U	43	1014.9		61	53	56.7	0.3	64	16+	49	7	0	0			0.03	-0.06	0.03	2	0	0.0	0	5.8	NW#	19	NW	16	6	9	16	6.8	51
FRESNO	331	999.0	1010.8	100	65	82.5	0.4	110	11	55	6+	28	0	48	34	T	-0.01	T	0	0	0.0	0	8.2	NW	23	W	11+	28	1	2	1.1	95
LONG BEACH	34	1011.9	1013.1	81	64	72.4		93	8	57	6	2	0	61	73	0.00		0.00	0	1	0.0	0	7.1	S	20*	S	17	19	11	1	3.1	
LOS ANGELES	99	1009.8	1013.5	77	65	71.2	3.6	80	18+	59	5	0	0	62	77	0.01	0.01	0.01	1	1	0.0	0	7.4	WSW	18*	W	27+	15	10	6	4.2	
LOS ANGELES U	312			84	64	74.2	1.7	94	8	60	5+	4	0	60	67	T	0.00	T	0	1	0.0	0	5.7	W#	19	W	6	19	11	1	2.6	83
MT SHASTA R	3544	893.3		87	51	69.2	2.0	98	12	37	6	11	0			0.73	0.54	0.73	2	2	0.0	0						26	5	0	.9	
OAKLAND	3	1013.5	1013.9	75	56	65.8	3.1	97	10	51	6	4	0	53	69	T	-0.01	T	0	0	0.0	0	9.8	WNW	28*	W	4	20	8	3	2.9	
POINT ARGUELLO	367	1000.3		65	52	58.3		83	12	44	7	0	0			0.08		0.03	6	1	0.0	0	7.0		28*	W	12+	5	6	20	7.2	
RED BLUFF	341	998.3	1010.8	101	68	84.5	1.3	113	11	55	5	28	0	45	29	T	-0.02	T	0	2	0.0	0	9.2	SSE	27	SE	12	29	2	0	.5	98
SACRAMENTO	17	1010.5	1011.7	99	60	79.2	4.6	113	11	51	5	27	0	52	48	T	0.00	T	0	0	0.0	0	8.4	S	23	S	29	28	3	0	.7	98
SACRAMENTO U	23			95	61	78.0	2.7	110	11	52	5	24	0			T	0.00	T	0	0	0.0	0										
SANDBERG R	4517	863.9		88	66	77.0	3.1	97	9	48	5	13	0			0.00	-0.20	0.00	0	0	0.0	0	13.1	S	46*	NNW	26	26	5	0	1.0	
SAN DIEGO	13	1009.8	1013.0	75	65	70.1	0.8	82	19	60	1	0	0	60	74	T	-0.01	T	0	0	0.0	0	6.8	SSW	17	NW	27+	8	15	8	5.4	57
SAN FRANCISCO	8	1013.9	1014.5	75	53	64.0	3.6	93	9	49	28+	4	0	52	73	T	-0.01	T	0	0	0.0	0	14.9	WNW	39	W	6	24	5	2	2.1	
SAN FRANCISCO U	52			67	53	60.0	1.1	82	17+	50	15	0	0			T	-0.01	T	0	0	0.0	0	11.2	W#	31	W	20					73
SANTA MARIA	238	1005.8	1014.4	74	53	63.5	1.3	87	12	46	7	0	0	54	79	0.03	0.00	0.03	1	0	0.0	0	7.2	WNW	35*	NW	5	20	10	1	3.0	
COLORADO																																
ALAMOSA	7536	776.5		81	47	63.8	- 0.3	87	24	35	22	0	0			0.89	0.02	0.50	9	11	0.0	0						10	17	4	4.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JULY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
COLORADO SPRINGS	6173	815.8	1016.6	82	54	68.2	- 3.0	93	24	44	22	6	0	50	59	2.14	-0.58	0.43	16	19	0.0	0	9.3	N	36*	NW	18	6	20	5	5.1	
DENVER	5283	841.2	1015.0	88	55	71.5	- 1.3	99	17	48	12	14	0	48	50	1.60	0.24	0.78	11	11	0.0	0	7.8	SSW	37	NW	14	6	22	3	5.0	74
GRAND JUNCTION	4849	860.1		93	64	78.4	0.2	100	16	56	22	24	0			0.03	-0.76	0.02	2	8	0.0	0	10.5	ESE	42	NW	18	10	14	7	5.0	75
PUEBLO	4639	858.8	1014.2	88	59	73.7	- 1.2	99	24+	50	22	16	0	53	55	2.51	0.70	0.92	15	13	0.0	0	8.2	W	50	NW	28	10	15	6	4.7	71
CONNECTICUT																																
BRIDGEPORT	7	1014.4	1015.9	80	66	72.8	0.0	90	22	58	10	1	0	64	78	2.97	-1.00	2.06	8	3	0.0	0	9.9	SW	23	ESE	15+	3	16	12	6.5	
HARTFORD	169	1009.1	1015.1	84	61	72.8	- 1.0	93	25+	48	5	9	0	62	71	1.50	-2.06	0.81	11	5	0.0	0	5.9	S	24	SW	2	1	15	15	7.1	59
NEW HAVEN	6	1015.0		80	65	72.5	1.3	91	22	57	10	1	0			2.39	-1.27	1.42	9	3	0.0	0	6.3		23	W	2	2	19	10	6.5	67
DELAWARE																																
WILMINGTON	78	1011.9	1015.3	85	56	75.6	- 0.3	93	23	57	11+	5	0	66	74	4.84	0.35	2.47	7	6	0.0	0	8.1	WSW	21*	NW	4	5	14	12	6.2	
DIST. OF COLUMBIA																																
WASHINGTON U	72			87	69	78.3	0.5	95	22	58	9	13	0			2.99	-1.12	0.97	8													
WASH NATL AP	14	1011.4	1015.9	87	70	78.6	1.3	94	22	57	10	15	0	68	72	3.95	-0.31	1.14	10	9	0.0	0	6.9	S	40	W	2	6	14	11	5.8	67
FLORIDA																																
APALACHICOLA U	13	1016.5		88	76	81.8	0.5	92	31+	72	20+	7	0			2.45	-5.11	1.32	7	10	0.0	0	5.6		25	E	18	7	18	6	5.3	65
DAYTONA BEACH	31	1017.8	1019.7	88	72	79.9	- 0.9	94	31	68	4	4	0	72	80	5.16	-1.95	2.13	10	17	0.0	0	7.5	SE	24*	NW	8	6	13	12	6.1	
FORT MYERS	13	1018.3		92	75	83.8	1.8	96	30	71	19	29	0			9.82	1.10	2.55	19	24	0.0	0	6.3		29*	NE	1	3	15	13	6.9	
JACKSONVILLE	24	1018.0	1019.4	93	73	82.9	0.8	99	31	70	19+	25	0	72	75	3.48	-4.16	0.91	12	13	0.0	0	9.2	SW	41	W	8	4	13	14	6.2	59
KEY WEST	5	1016.9	1018.3	89	81	84.9	1.2	90	31+	76	17+	11	0	74	70	0.54	-3.70	0.23	6	6	0.0	0	10.6	ESE	31	SE	17	5	14	12	6.4	74
LAKELAND U	214			91	73	82.3	1.1	96	31	70	4	27	0			3.09	-5.07	1.12	13	22	0.0	0	5.4					0	23	8	6.6	68
MIAMI BEACH	9			87	79	82.9	0.4	88	31+	71	27	0	0			3.58	-0.25	2.45	13		0.0	0	.7	W	23	E	24	7	14	10	5.6	67
MIAMI	7	1017.5	1018.8	89	78	83.5	0.9	92	31	74	26	15	0	73	71	1.91	-4.82	0.43	9	9	0.0	0	9.1	ESE	21*	NW	26+	2	18	11	6.6	
ORLANDO	106	1014.9	1019.5	94	72	83.3	1.2	100	31+	69	19+	29	0	72	75	9.93	2.23	3.10	14	19	0.0	0	7.1	SE	46*	SE	26	5	17	9	6.1	
PENSACOLA U	13			89	74	81.5	0.5	93	19	69	3	10	0			4.60	-2.99	1.33	13	10	0.0	0	7.8		28	W	21					68
TALLAHASSEE	58	1016.5	1019.2	91	70	80.2	- 0.8	96	31	66	2+	22	0	71	80	6.48	-1.39	1.81	17	22	0.0	0	6.8	S	35*	SSW	27	2	21	8	6.5	
TAMPA	19	1017.8	1019.4	91	74	82.9	1.2	96	30+	71	27	26	0	72	73	7.69	-0.42	2.18	18	25	0.0	0	9.2	ESE	35*	NE	23	1	17	13	6.8	56
WEST PALM BEACH	15	1017.8	1019.0	91	76	83.2	1.2	93	31+	72	20	28	0	73	73	1.22	-5.48	0.46	8	9	0.0	0	8.8	ESE	23*	SSE	11	6	13	12	6.3	
GEORGIA																																
ATHENS	803	990.1	1019.0	89	67	78.1	- 2.7	94	31+	61	11	17	0	69	78	6.95	2.14	1.87	11	12	0.0	0	5.0	SW	29*	S	12	8	15	8	5.5	
ATLANTA	975	980.4	1018.7	85	67	76.3	- 3.2	92	31	62	12+	3	0	67	76	2.19	-2.22	0.85	11	6	0.0	0	9.0	WSW	23*	NW	7	9	16	6	5.1	72
AUGUSTA	143	1011.0	1017.7	92	69	80.6	- 0.4	99	31	62	11	26	0	70	75	2.50	-2.71	0.79	7	13	0.0	0	5.3	SW	27*	NNW	17	4	19	8	6.1	
COLUMBUS	385	1004.6		91	69	79.9	- 1.0	95	31	62	11	25	0			4.53	-1.39	1.66	7	7	0.0	0	6.3		23*	SW	12	6	17	8	5.8	
MACON	356	1001.7	1018.4	93	71	81.5	- 0.9	99	31	66	12	26	0	69	70	2.07	-3.27	1.16	8	12	0.0	0	7.5	SW	31	S	12	6	16	9	5.8	75
ROME	637	995.2		88	65	76.9	- 3.1	96	31	57	5+	14	0			2.55	-2.16	1.52	13	9	0.0	0						7	12	12	6.0	
SAVANNAH	48	1016.3	1019.0	92	71	81.8	0.6	99	31	67	17	24	0	72	78	4.08	-3.01	1.01	13	18	0.0	0	7.5	SW	22	NE	22	5	17	9	5.9	70
THOMASVILLE U	283			92	71	81.5	0.9	97	25	67	19	25	0			4.03	-2.99	1.17	11	15	0.0	0										
HAWAII																																
HILO	31	1015.2	1017.2	83	67	75.2	0.4	86	31	64	3	0	0	66	75	5.47	-4.42	1.61	28	0	0.0	0	8.9	WSW	23*	ENE	10+	1	19	11	6.9	44
HONOLULU	7	1016.6	1016.8	86	73	79.1	0.3	89	1	69	1	0	0	65	64	0.28	-0.06	0.16	6	0	0.0	0	11.2	NE	28	NE	19+	6	19	6	5.6	88
LIHUE	115	1012.5	1017.7	85	73	79.1	1.7	87	10+	67	26	0	0	68	71	1.68	-0.19	0.40	20	1	0.0	0	13.0	NE	28	NE	15	3	17	11	6.3	78
IDAHO																																
BOISE	2838	918.1	1011.7	93	59	76.3	1.5	102	15	49	1	27	0	43	33	0.25	0.07	0.25	2	2	0.0	0	7.8	NW	29	S	5+	26	3	2	1.5	91
IDAHO FALLS 42NW R	4790			91	51	70.9	2.8	98	23	40	2	23	0			0.60	0.09	0.28	4		0.0	0										
IDAHO FALLS 46W R	4933	849.6		89	52	70.8	1.6	96	23	43	1	19	0			0.20	-0.24	0.12	3	1	0.0	0	7.6	NE	31A	SW	17					
LEWISTON	1413	962.8		92	61	76.6	1.4	103	22	50	1	20	0			0.17	-0.25	0.17	1	3	0.0	0						23	5	3	2.2	
POCATELLO	4444	864.2	1013.1	91	57	73.9	1.2	97	9	44	2	22	0	40	33	0.48	-0.28	0.46	3	4	0.0	0	9.6	WSW	30	NW	16+	19	8	4	3.4	84
ILLINOIS																																
CAIRO U	314	1003.3		88	70	79.3	- 1.9	95	4	62	10	12	0			5.26	2.66	2.58	14	10	0.0	0	7.7	SW	41	N	19	8	10	13	6.1	64
CHICAGO O HARE	658	990.4	1014.9	81	61	71.1		91	30	48	6	1	0	61	73	3.69		1.39	11	5	0.0	0	8.0	WSW	29*	NW	30	8	12	11	5.9	
CHICAGO MIDWAY	610	992.7	1015.2	82	66	74.0	- 0.6	92	30	55	9	1	0	60	66	2.99	0.26	0.67	12	6	0.0	0	8.9	SW	33	NW	30	6	14	11	6.0	71
MOLINE	582	992.3	1014.4	85	64	74.2	- 1.3	94	30	52	9+	3	0	63	72	7.63	4.41	2.07	14	12	0.0	0	7.1	W	37	NE	4	7	12	12	5.9	67
PEORIA	652	993.3	1015.5	83	63	73.3	- 2.4	91	30+	51	9+	3	0	64	75	5.56	1.86	1.74	12	9	0.0	0	8.0	S	29	N	4	6	15	10	5.5	63

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
ROCKFORD	728	988.0	1015.1	82	63	72.3	- 1.9	91	29	53	9+	2	0	62	72	3.92	0.59	0.92	12	10	0.0	0	7.8	WSW	24*	S	12	12	8	11	5.6	
SPRINGFIELD	588	991.8	1014.8	86	66	75.8	- 0.5	92	4	52	9	4	0	65	73	6.38	3.27	1.94	12	11	0.0	0	9.3	SW	43	SW	22	11	9	11	5.6	66
INDIANA																																
EVANSVILLE	383	1000.2	1015.9	87	67	77.2	- 1.0	94	31+	52	10	10	0	67	74	2.73	-0.27	0.71	15	8	0.0	0	8.7	SW	35	N	24	9	7	15	5.9	74
FORT WAYNE	801	984.8	1015.6	83	64	73.4	- 0.1	94	1	53	9	1	0	63	72	5.17	1.89	1.42	15	8	0.0	0	9.8	SW	48	W	24	3	15	13	6.8	62
INDIANAPOLIS	793	986.2	1015.8	84	63	73.4	- 2.6	92	31	52	10+	2	0	65	77	2.61	-0.42	0.86	14	8	0.0	0	6.6	SW	30	SW	23+	4	14	13	6.5	59
SOUTH BEND	768	987.1	1014.9	81	62	71.7	- 1.7	91	1	51	8	1	0	61	73	3.76	0.72	1.28	13	9	0.0	0	7.9	SSW	26*	SSW	15	6	14	11	6.2	
IOWA																																
BURLINGTON	694	990.0	1015.4	85	64	74.4	- 2.4	96	4	55	9	4	0	64	73	7.23	3.80	2.08	17	13	0.0	0	8.3	S	31	NW	28	7	16	8	5.4	75
DES MOINES	948	984.6	1015.3	84	64	74.1	- 2.1	93	4+	58	16+	5	0	64	75	7.05	4.11	1.86	15	12	0.0	0	7.0	SSE	50	SW	12	8	15	8	5.5	69
DUBUQUE	1065	989.7		79	60	69.7	- 3.6	87	30+	51	8	0	0			12.23	8.82	6.28	16	9	0.0	0						9	9	13	6.0	
SIOUX CITY	1095	973.3	1013.8	85	63	74.3	- 2.0	100	4	53	9	3	0	62	68	4.36	1.44	2.04	10	8	0.0	0	8.7	SSE	29	S	21	9	10	12	5.5	68
WATERLOO	868	983.2	1014.9	82	62	71.7	- 2.8	90	30	54	3	1	0	63	77	8.56	4.80	2.57	17	15	0.0	0	7.0	S	40*	NNW	1	9	10	12	5.6	
KANSAS																																
CONCORDIA U	1375	967.7		91	68	79.3	- 0.7	103	18	60	14	18	0	63	62	3.05	-0.34	1.64	10	13	0.0	0	5.7	S*	30	NW	20	11	15	5	4.6	77
DODGE CITY	2594	927.3	1013.2	90	65	77.5	- 2.4	101	18	59	12+	19	0	60	60	3.41	0.76	0.70	13	13	0.0	0	10.6	SSW	35	NE	19+	10	12	9	4.8	78
GOODLAND	3645	889.1	1013.3	90	61	75.3	- 0.3	101	17	55	22+	17	0	56	57	3.91	1.11	1.53	8	13	0.0	0	10.2	S	58*	NW	11	15	11	5	4.2	
TOPEKA	877	978.9	1014.2	88	65	76.7	- 2.5	100	18	53	10	13	0	65	72	7.25	4.00	2.32	11	10	0.0	0	11.6	SSW	41	E	5	9	14	8	5.1	73
WICHITA	1321	966.0	1013.7	90	68	78.8	- 2.1	101	5	55	10	17	0	65	66	6.56	3.13	2.93	11	12	0.0	0	11.3	S	58	N	19	13	10	8	5.0	74
KENTUCKY																5.11	1.36	1.43	14	13	0.0	0	8.3	SSW	23*	SSW	24+	3	12	16	7.2	
COVINGTON	869	984.9	1016.7	85	66	75.4	0.3	94	31	54	9	9	0	64	73																	
LEXINGTON	979	981.5	1017.0	85	66	75.6	- 1.0	91	2+	55	9	4	0	65	76	5.98	1.73	1.51	13	10	0.0	0	8.5	SSW				7	11	13	6.0	
LOUISVILLE	474	997.0	1016.1	87	66	76.5	- 1.4	94	30	52	11+	8	0	67	75	5.16	2.08	2.32	12	10	0.0	0	6.8	S	25	SW	23	6	12	13	6.1	60
LOUISIANA																																
ALEXANDRIA	92	1013.2	1017.7	88	69	78.3		94	18	65	2+	12	0	72	86	9.43		2.01	20	18	0.0	0	4.2	SW				4	10	17	6.8	
BATON ROUGE	64	1015.2	1018.2	88	70	78.8	- 2.3	93	26	65	1	12	0	71	84	10.94	5.07	4.17	17	22	0.0	0	7.0	S				2	16	13	6.8	
BURWOOD R	5		1018.8	88	78	82.8	0.2	91	16	74	28+	5	0	74	77	2.26	-4.78	1.33	7	18	0.0	0	7.1	SW								
LAKE CHARLES	12	1016.0	1017.4	88	74	81.0	- 1.2	94	26	69	12	16	0	73	79	8.43	1.50	2.62	14	19	0.0	0	3.6	S	23*	E	27	0	18	13	7.2	
NEW ORLEANS U	9	1016.2		90	75	82.6	- 0.5	94	31+	71	10+	21	0	72	75	5.84	-1.25	1.65	21	19	0.0	0	4.6		19	N	8+	3	24	4	6.2	66
NEW ORLEANS	3	1016.2	1018.3	89	71	79.7	- 2.1	92	25+	68	6+	12	0	70	77	10.38	4.49	3.17	18	20	0.0	0	5.6	SW	23*	E	29+	2	19	10	6.4	
SHREVEPORT	252	1008.3	1017.4	89	70	79.5	- 4.0	92	27+	64	17	16	0	70	78	3.95	0.25	0.99	11	11	0.0	0	9.0	S				7	11	13	6.2	72
MAINE																																
CARIBOU	624	989.3	1013.5	75	54	64.7	0.7	89	23	43	2	0	0	56	76	3.74	-0.29	1.32	17	13	0.0	0	8.5	S	29*	SW	24+	3	8	20	7.2	
PORTLAND	61	1010.7	1014.8	76	56	65.8	- 2.0	86	26+	41	2	0	0	59	80	2.87	0.04	0.74	9	6	0.0	0	7.8	S	36	N	21	3	10	18	7.3	62
MARYLAND																																
BALTIMORE	146	1011.0	1015.9	87	66	76.5	0.2	95	23+	55	10	9	0	66	74	4.57	0.63	1.73	12	7	0.0	0	10.1	W	28	NW	24+	10	15	6	5.1	66
BALTIMORE U	14			88	72	80.3	1.8	97	22	63	10+	13	0			3.72	-0.22	0.87	8													
FREDERICK	294			85	64	74.7	2.0	94	23	51	10+	10	0			4.67	1.02	1.98	10		0.0	0										
MASSACHUSETTS																																
BLUE HILL OBS R	629	991.0		79	61	70.3		88	23+	54	9+	0	0		78	3.87	0.16	1.01	13		0.0	0	11.6	SSW	33	NW	31					54
BOSTON	15	1009.9	1014.6	80	64	72.1	- 0.1	91	21+	57	10+	5	0	61	72	3.29	0.11	1.21	10	4	0.0	0	9.6	WSW	34	NW	3	2	15	14	6.7	64
NANTUCKET	43	1014.6	1015.4	73	60	66.5	- 0.6	84	26	53	7+	0	0	62	89	6.16	3.33	2.65	6	5	0.0	0	10.6	SW	24	SW	2	3	8	20	7.5	47
PITTSFIELD	1170			79	57	67.7	0.1	87	23+	41	5	0	0			4.93	-0.02	1.06	11		0.0	0										
WORCESTER	986	978.8	1015.1	78	61	69.4	- 0.8	88	2	49	5	0	0	59	73	4.42	0.64	1.39	12	8	0.0	0	6.7	WSW	17*	SW	25	2	15	14	6.8	
MICHIGAN																																
ALPENA	689	989.6		79	54	66.2	- 1.3	89	12	39	5+	0	0			1.65	-1.21	0.62	12	10	0.0	0	5.7	W*	23	NW	15	4	14	13	6.5	62
DETROIT	619	988.9	1015.3	83	64	73.4	0.3	92	1	51	9	2	0	61	67	2.99	0.08	1.08	9	7	0.0	0	8.4	S	41	W	23	7	13	11	6.0	63
DETROIT M WAYNE CO	630	991.1	1014.8	82	62	72.1		93	1	48	9	2	0	61	70	3.57		0.96	10	6	0.0	0	9.3	SW				7	13	11	6.0	
DETROIT WILLOW RUN	722	986.9	1015.0	84	62	73.0	- 0.5	93	1	50	4	3	0	60	67	1.81	-0.68	0.87	9	5	0.0	0	8.6	SW	35*	W	23	6	15	10	6.1	
ESCANABA U	594	989.9		74	59	66.2	- 0.7	85	29	46	4	0	0	59	78	3.35	0.13	1.57	14	3	0.0	0	7.9		28	N	7	6	12	13	6.2	52
FLINT	766	987.7	1015.4	82	58	69.7	- 1.3	90	23+	43	9	2	0	59	71	2.25	-0.64	1.08	10	10	0.0	0	7.0	WSW	21*	SW	24+	5	13	13	6.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No of days: Max. 90 F. or above	Temperature: No of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: 01 inch or more	Precipitation: No of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
GRAND RAPIDS	681	990.1	1015.1	82	61	71.4	- 0.1	90	30	48	9	1	0	58	66	1.90	-0.75	0.84	13	9	0.0	0	7.8	W	29	W	28	8	15	8	5.8	68
LANSING	852	983.2	1014.9	82	58	69.8	- 1.3	90	1	44	4	1	0	59	70	2.28	0.00	0.92	10	7	0.0	0	9.9	W	36	NW	3	6	16	9	5.9	73
MARQUETTE U	677	987.4		72	58	65.1	- 1.0	86	26+	48	4+	0	0			1.32	-1.81	0.51	12	5	0.0	0	5.8	W#	24	NW	2	6	11	14	6.2	63
MUSKEGON	627	992.0	1015.0	79	58	68.9	- 1.0	86	30	47	9	0	0	59	74	1.00	-1.12	0.51	8	7	0.0	0	7.6	W	21*	SSW	23+	9	14	8	5.2	
SAULT STE MARIE	721	991.8	1014.4	75	55	64.6	0.7	85	12	41	4	0	0	56	78	1.44	-1.05	0.49	11	6	0.0	0	7.9	WNW	21*	NW	3	7	8	16	6.6	51
MINNESOTA																																
DULUTH	1426	973.8	1014.9	77	53	65.1	- 1.3	87	25	37	8	0	0	55	72	2.47	-1.17	0.73	15	9	0.0	0	8.9	WNW	34	W	2	4	11	16	7.0	64
INTERNATIONAL FALLS	1179	973.5	1014.4	80	54	66.7	0.9	91	26	39	4	2	0	55	70	4.90	1.46	1.92	11	10	0.0	0	5.8	W	28*	W	1	5	14	12	6.4	
MINNEAPOLIS	830	981.6	1014.7	81	60	70.8	- 3.3	91	29	50	9	1	0	61	74	2.94	0.27	1.05	10	8	0.0	0	7.7	WNW	26*	NW	2	7	11	13	6.0	65
ROCHESTER	1297	967.8	1015.1	80	59	69.5	- 2.3	88	30+	50	3	0	0	60	76	4.99	1.52	2.21	13	11	0.0	0	7.5	S				11	7	13	5.7	
ST CLOUD	1034	977.2	1014.7	81	58	69.3	- 1.3	88	29+	49	3	0	0		70	3.15	0.10	1.10	10	8	0.0	0						5	10	16	6.5	
MISSISSIPPI																																
JACKSON	305	1005.8	1017.9	88	70	79.1	- 3.0	93	27	65	4	17	0	70	79	8.55	3.94	2.43	15	16	0.0	0	3.7	S	38	NW	7	5	11	15	6.7	53
MERIDIAN	292	1004.7	1018.4	90	68	79.2	- 1.7	93	26+	64	10+	23	0	71	83	4.37	-1.59	1.49	11	14	0.0	0	5.4	SSW	23*	E	1	2	22	7	6.3	
VICKSBURG U	234	1008.7		86	71	78.4	- 3.1	91	5	67	16+	7	0			4.38	0.42	1.22	13	11	0.0	0	6.4		30	W	23	6	11	14	6.5	49
MISSOURI																																
COLUMBIA	778	986.3	1014.5	86	67	76.2	- 1.6	93	31+	54	9	8	0	66	75	5.66	2.65	1.21	14	15	0.0	0	8.2	SSW	34	N	25	10	10	11	5.4	67
KANSAS CITY	742	980.1	1014.4	86	69	77.3	- 3.6	95	18	62	3	13	0	66	71	9.02	6.19	4.22	12	10	0.0	0	8.5	SW	42	NW	5	9	14	8	5.1	72
ST JOSEPH	809	979.8		87	66	76.9	- 3.2	97	1	58	10	13	0			9.66	6.57	4.03	12	8	0.0	0	9.4	S	35*	N	1	14	11	6	4.5	
ST LOUIS	535	995.0	1015.4	85	67	76.2	- 3.5	93	31+	54	10+	5	0	64	67	6.20	3.62	2.60	10	9	0.0	0	8.7	SW	37	N	25	9	10	12	5.9	67
ST LOUIS RFC	465			87	70	78.7	- 1.9	95	29	61	9+	6	0			5.58	2.67	1.70	9		0.0	0										
SPRINGFIELD	1265	969.3	1016.0	88	65	76.6	- 0.9	94	31+	53	10+	17	0	65	73	3.88	0.71	1.92	10	9	0.0	0	10.2	S	50	NW	20+	5	13	13	6.0	64
MONTANA																																
BILLINGS	3567	892.3	1013.2	89	62	75.0	1.7	101	3	52	13	16	0	45	39	0.85	-0.29	0.41	9	8	0.0	0	10.7	NE	45	SW	16	13	12	6	4.3	77
GLASGOW	2277	941.1		87	59	72.9	0.7	99	16	49	13+	10	0	43	40	1.66	0.19	1.14	6	5	0.0	0						10	16	5	4.8	
GREAT FALLS	3662	890.3	1015.1	85	56	70.2	0.6	94	16	47	13	6	0	45	46	1.01	-0.34	0.26	11	7	0.0	0	7.9	NE	38	NW	22	13	14	4	3.9	75
HAVRE	2583	927.2		87	55	70.9	- 0.4	98	7	47	26+	12	0			0.89	-0.58	0.59	7	4	0.0	0	7.7	NW#	71	NW	28	15	12	4	4.0	83
HELENA	3893	875.4	1014.3	86	56	70.9	2.9	96	16	47	13+	9	0	43	42	1.05	0.07	0.35	8	9	0.0	0	8.8	WNW	58	W	5	17	11	3	3.2	81
KALISPELL	2965	912.6		87	51	68.9	2.9	96	14	36	1	9	0			1.20	0.04	0.75	7	7	0.0	0	5.6					17	10	4	3.6	
MILES CITY	2629			90	61	75.7	0.7	102	16+	48	13	16	0	45	38	0.47	-0.30	0.13	8	7	0.0	0	10.6	NE	29*	NNE	29+	13	15	3	4.0	
MISSOULA	3190	903.2	1015.5	89	50	69.3	0.9	97	22	36	1	13	0	45	45	0.40	-0.43	0.22	4	5	0.0	0	7.4	NW	38	SW	5	19	10	2	3.0	85
NEBRASKA																																
GRAND ISLAND	1841	948.4		90	64	76.9	- 2.0	100	4	56	8	16	0	60	62	4.76	2.13	2.80	11	11	0.0	0	9.9	SW				13	10	8	4.5	
LINCOLN U	1150			89	67	77.7	- 1.5	100	5	61	16+	14	0			3.49	0.39	0.82	11	8	0.0	0	9.3	S#	40	SE	31	8	15	8	5.2	75
NORFOLK	1544	958.5		87	62	74.5	- 1.7	101	4	54	14	9	0			6.49	3.46	2.85	8	8	0.0	0						11	12	8	5.2	
NORTH PLATTE	2779	915.8	1012.6	88	59	73.4	- 2.4	99	30+	50	2	12	0	57	61	1.23	-1.17	0.53	10	10	0.0	0	10.2	SE	47	SW	17	11	9	11	5.2	69
OMAHA	978	974.4	1013.8	88	66	77.0	- 1.5	97	5+	59	16	12	0	63	67	3.12	-0.22	1.12	11	7	0.0	0	9.4	SSE	46	N	27	9	14	8	5.3	74
OMAHA N OMAHA AP	1323	966.5		85	65	74.6	- 1.8	94	4	58	23+	7	0			2.75	-0.59	1.00	15	7	0.0	0						8	15	8	5.7	
SCOTTSBLUFF	3950	880.0	1012.9	88	59	73.3	- 1.3	100	17	50	22	15	0	54	57	2.55	1.10	0.84	12	9	0.0	0	10.1	WNW	46*	NW	28	12	12	7	4.5	
VALENTINE	2587	924.1		88	57	72.7	- 1.9	103	4	44	14	11	0	55	59	2.09	-0.61	1.04	9	10	0.0	0	9.8	N#	54	SW	2	14	6	11	4.6	77
NEVADA																																
ELKO	5075	845.9	1012.7	92	52	72.1	1.9	96	22+	40	1	27	0	33	26	0.48	0.11	0.42	2	2	0.0	0	5.3	SW	26*	S	26	18	9	4	3.1	
ELY	6257	812.1		88	49	68.4	0.0	93	16+	39	1	12	0	34	31	0.64	0.09	0.40	6	7	0.0	0	11.6	S	38	SW	23+	12	15	4	4.5	92
LAS VEGAS	2162	944.5	1007.9	105	77	91.0	0.5	113	10	67	6+	30	0	42	23	0.53	0.07	0.50	3	8	0.0	0	8.5	SW	30*	S	17	15	14	2	3.5	82
RENO	4404	863.2	1014.3	92	47	69.4	- 0.2	100	22	34	6	26	0	40	38	0.30	0.07	0.24	3	4	0.0	0	5.3	WNW	34	NW	6+	22	7	2	2.2	95
WINNEMUCCA	4299	868.9		94	50	71.6	- 2.6	101	22	38	7+	27	0	30	25	0.30	-0.01	0.17	3	3	0.0	0	7.5	W	33	W	13+	19	10	2	2.7	91
NEW HAMPSHIRE																																
CONCORD	339	1004.1	1015.0	81	58	69.5	0.5	92	24	43	5+	2	0	59	73	3.13	-0.44	0.91	12	7	0.0	0	4.2	S	22	W	25	3	16	12	6.6	55
MT WASHINGTON OBS	6262	809.4		54	43	48.6	- 0.7	66	24	31	5+	0	2		92	5.17	-1.19	1.53	16	4	T	0	21.9	W	74Y	NW	1	1	11	19	8.0	29
NEW JERSEY																																
ATLANTIC CITY	58	1013.6	1015.7	86	68	76.6	2.3	94	22+	56	7	9	0	66	75	3.40	-0.30	1.24	8	7	0.0	0	8.1	WSW	25*	SE	15	6	13	12	6.3	58
ATLANTIC CITY U	10			80	69	74.7	1.1	88	26	62	10+	0	0			3.36	-0.42	1.21	9				8.2		23*	SW	31+					

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW JERSEY																																
NEWARK	11	1013.9	1015.3	86	69	77.3	2.0	97	2	61	9	13	0	64	68	7.95	3.75	3.15	9	5	0.0	0	7.8	SW	20*	SW	2	8	13	10	6.1	
TRENTON U	56	1007.7		85	67	75.8	0.5	96	23	58	7	5	0			9.97	5.91	3.07	10	8	0.0	0	6.8	W#	30	S	31	7	10	14	6.6	62
NEW MEXICO																																
ALBUQUERQUE	5310	850.0	1011.4	90	63	76.7	- 2.3	96	18	55	22	21	0	48	41	2.70	1.27	1.77	11	12	0.0	0	8.4	ESE	54	NW	20	16	14	1	3.3	86
CLAYTON	4969	848.3		86	59	72.2	- 1.9	95	18+	53	12+	12	0			2.35	-0.21	0.62	12	15	0.0	0						13	11	7	4.6	
RATON	6379	810.0		83	53	67.9	- 0.7	91	30+	49	12+	3	0			3.71	1.21	0.94	15	22	0.0	0						8	17	6	5.0	
ROSWELL	3612	893.7		94	62	78.1	- 0.9	102	20	58	28+	25	0	56	53	1.08	-0.73	0.42	6	9	0.0	0	9.4		33	N	11	13	15	3	3.9	
SILVER CITY	5373	835.1		93	62	77.2		99	20	54	10	25	0			0.73		0.33	12	21	0.0	0						11	18	2	4.3	
NEW YORK																																
ALBANY	277	1010.6	1014.6	82	61	71.6	0.2	93	2	47	6+	3	0	61	73	4.78	1.48	1.95	15	10	0.0	0	6.2	S	34	NW	2	3	12	16	7.3	66
BINGHAMTON	1590	956.9	1015.5	76	60	68.3	- 0.8	87	2	45	5	0	0	61	80	5.08	1.26	1.43	17	8	0.0	0	6.7	SW	30	W	2	0	13	18	7.5	54
BUFFALO	705	987.4	1015.4	79	61	69.7	- 0.9	89	23	47	5	0	0	62	79	3.02	0.59	0.89	16	8	0.0	0	7.9	SW	29	SW	2	2	12	17	7.1	57
NEW YORK U	132	1003.5		86	70	78.1	2.0	97	22	62	9+	12	0	64	67	4.92	0.70	1.17	9	4	0.0	0	6.8	SW#	24	SW	2	9	13	9	5.4	55
NEW YORK	19	1013.3	1015.3	83	69	76.0	0.1	94	2	61	5	6	0	64	70	5.47	1.35	1.94	10	6	0.0	0	10.3	ENE	29	SW	2	3	19	9	6.2	
ROCHESTER	543	995.8	1015.0	80	61	70.8	- 0.4	91	23	47	5	1	0	61	74	2.41	-0.68	0.67	11	8	0.0	0	9.2	SSW	35	W	3	6	7	18	7.0	51
SCHENECTADY	217			81	61	71.2	- 1.5	90	2	48	5	1	0			5.73	2.16	2.20	13	8	0.0	0						18	11	2	3.5	
SYRACUSE	424	993.0	1014.7	81	62	71.8	- 0.7	92	23	49	6	1	0	60	70	5.08	1.82	2.00	12	8	0.0	0	8.0	WSW	40	W	3	5	11	15	6.7	61
NORTH CAROLINA																																
ASHEVILLE U	2203	940.2		84	61	72.5	- 1.3	89	30	49	10	0	0			2.54	-1.96	0.77	14	12	0.0	0	5.0		29	NW	15	5	15	11	6.5	51
CAPE HATTERAS R	7	1016.2	1017.0	86	73	79.1	0.6	92	26	58	11	3	0	73	84	2.47	-4.01	0.71	10	10	0.0	0	11.7	WSW				6	11	14	6.2	78
CHARLOTTE	725	989.7	1017.5	88	67	77.3	- 1.3	95	31	53	10	11	0	69	79	1.43	-3.24	0.43	11	8	0.0	0	5.5	SW	22	N	31	8	11	12	5.9	71
GREENSBORO	891	986.0	1017.6	87	66	76.1	- 1.1	92	31	53	11	9	0	66	76	3.30	-1.64	0.95	13	10	0.0	0	6.7	SW	32	NW	15	7	15	9	6.0	63
RALEIGH	433	1003.2	1017.0	88	67	77.6	- 0.9	94	31	54	11+	18	0	68	76	3.10	-2.35	0.73	14	11	0.0	0	5.8	SW	23*	W	15	10	14	7	5.4	70
WILMINGTON	30	1014.8	1017.7	91	72	81.4	1.4	96	30+	63	11	22	0	65	72	1.65	-6.51	0.51	11	13	0.0	0	8.6	SW	24	SW	3	8	14	9	5.6	70
WINSTON SALEM	967	982.6	1017.7	87	66	76.6	- 0.9	93	31	55	10	11	0	65	70	2.35	-2.22	0.54	12	12	0.0	0	7.5	SW	52*	NW	15	7	14	10	5.8	
NORTH DAKOTA																																
BISMARCK	1647	955.2	1014.7	83	56	69.5	- 2.6	95	9	46	19	7	0	49	53	1.50	-0.83	0.63	10	5	0.0	0	10.6	E	38	N	9	8	13	10	6.0	69
DEVILS LAKE U	1471	961.8		80	57	68.5	- 0.8	93	9	48	3	5	0			2.84	0.17	0.97	7	8	0.0	0	6.5	S#	28	W	1	8	12	11	5.9	63
FARGO	900	980.7	1014.9	83	58	70.5	- 0.8	95	25	45	3	4	0	58	69	3.00	0.69	1.06	12	7	0.0	0	7.9	S	34	SW	12+	5	14	12	6.3	57
WILLISTON U	1877	947.9		84	59	71.3	0.4	96	24	49	22+	8	0			1.80	-0.33	0.82	7	9	0.0	0	6.5	NE#	26	NW	1	7	13	11	5.9	73
OHIO																																
AKRON	1210	978.5	1016.5	81	61	71.0	- 1.4	90	22	47	9	1	0	61	73	6.39	2.19	3.23	13	9	0.0	0	8.8	SW				6	12	13	6.7	
CINCINNATI OBS	761			85	66	75.5	- 1.1	92	31+	55	9	6	0			6.06	2.36	2.66	19	13	0.0	0	4.6	S	20	N	4					54
CINCINNATI	553	993.5		86	68	77.2	- 0.9	95	1	60	10	10	0			5.72	2.02	2.35	15	12	0.0	0										
CLEVELAND	777	987.9	1015.6	82	61	71.3	- 2.4	92	22	43	9	3	0	62	75	4.30	1.26	1.27	14	8	0.0	0	9.1	S	23	W	24+	5	15	11	6.2	62
COLUMBUS	812	986.4	1016.6	84	63	73.7	- 0.7	94	1	50	10	5	0	64	76	4.61	0.76	1.22	19	13	0.0	0	6.5	S	28	N	30+	4	14	13	6.6	59
COLUMBUS U	724			84	66	75.3	- 0.5	93	1	55	9	7	0			5.15	1.62	1.97	15	15	0.0	0										
DAYTON	1002	980.3	1016.2	83	65	73.9	- 1.1	92	1	55	8	2	0	63	72	3.86	0.57	1.43	17	9	0.0	0	8.6	SSW	49	SW	21	5	11	15	6.5	41
MANSFIELD	1296			80	62	71.0		89	1	49	9+	0	0			4.05		1.42	12	8	0.0	0						3	15	13	6.2	
SANDUSKY U	603	993.6		83	65	74.1	- 0.5	95	1	57	10+	4	0			6.45	3.00	2.95	13	13	0.0	0	7.3	SW	48	NW	23	9	16	6	4.8	74
TOLEDO	676	990.3	1015.7	82	58	70.1	- 3.0	91	1	43	10+	2	0	62	78	2.78	0.13	0.75	9	8	0.0	0	7.1	WSW	25	SW	23	5	16	10	6.1	65
YOUNGSTOWN	1178	973.9	1016.1	81	61	71.1	- 1.2	89	23+	46	5	0	0	60	71	5.87	1.71	1.88	9	6	0.0	0	7.6	SW	23*	NW	2	3	16	12	6.5	
OKLAHOMA																																
OKLAHOMA CITY	1280	972.4	1015.2	90	69	79.1	- 3.0	97	19+	58	10	18	0	66	68	4.82	2.67	2.17	6	5	0.0	0	12.2	SSE	50	NW	13	16	4	11	4.6	76
TULSA	650	991.1	1015.2	88	69	78.6	- 3.5	95	19+	59	10	18	0	67	70	10.88	8.19	4.81	10	10	0.0	0	10.4	SSE	29*	S	21+	12	8	11	5.3	70
OREGON																																
ASTORIA	8	1018.0	1018.5	69	54	61.9	1.1	100	11	45	8	1	0	55	79	0.50	-0.57	0.31	7	0	0.0	0	9.2	NNW	23*	NNW	9+	6	8	17	6.8	
BURNS U	4151	874.0		88	53	70.6	0.8	95	22+	43	1	17	0	37	31	0.36	0.11	0.34	2	0	0.0	0						25	3	3	1.7	
EUGENE	361	1003.7		83	51	66.8	0.2	105	12	42	7	3	0			0.32	0.06	0.26	3	1	0.0	0	9.0		24*	SW	15	18	9	4	2.8	
MEACHAM	4050			81	53	66.7	3.5	90	13	39	7	1	0			0.08	-0.38	0.08	1	1	0.0	0						25	4	2	1.8	
MEDFORD	1298	968.2	1015.1	94	52	73.0	1.2	108	11	42	6	27	0	48	47	0.10	-0.07	0.06	2	1	0.0	0	5.9	WNW	25*	SE	12	26	5	0	1.1	
PENDLETON	1482	961.4	1014.1	92	60	75.8	1.3	104	13	48	8	20	0	40	30	0.08	-0.18	0.08	1	1	0.0	0	9.8	WNW	31*	W	13	28	2	1	1.2	
PORTLAND	21	1011.2	1016.7	81	58	69.4	2.1	104	11	49	7	3	0	53	61	0.42	0.00	0.42	2	2	0.0	0	8.6	NNW	22	NW	25	15	10	6	3.8	74

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	Number of days: Max. 90° F. or above	Min. 32° F. or below	Average degree days	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	Number of days: 0.01 inch or more	With thunderstorms	Snow, sleet: Total	Maximum on ground
	Ft	Mb	Mb.	F	F	F	F	F		F				F	%	In	In	In			In	In
OREGON																						
PORTLAND U	30			82	59	70.4	1.9	105	12	53	6	4	0			0.35	-0.07	0.34	3		0.0	0
ROSEBURG	505	998.0		86	52	68.9	1.7	106	11	44	7	10	0			0.35	0.15	0.34	2	0	0.0	0
SALEM	195	1009.5	1016.9	84	52	67.[illegible]	-0.2	104	12	44	2	5	0	54	68	0.96	0.64	0.87	3	[illegible]	0.0	0
SEXTON SUMMIT R	3836	885.9		76	54	65.0	1.8	94	12+	4[illegible]	6+	2	0			0.35	0.03	0.27	3	0	0.0	0
PACIFIC AREA																						
CANTON ISLAND	8	1009.5	1009.5	89	78	83.3	-0.9	91	4	72	24	8	0	74	76	3.30	1.47	1.29	1[illegible]	0	0.0	0
ENIWETOK	13	1009.1		87	77	82.2		90	31+	71	12	3	0	76	79	8.29		1.44	24	0	0.0	0
JOHNSTON	7	1013.5		84	76	79.8		86	31	72	3[illegible]	0	0	73	78	0.85		0.16	11	0	0.0	0
KOROR R	94	1006.4	1009.3	87	75	80.9	0.4	89	19+	73	23+	0	0	75	86	13.68	-5.13	3.62	23	4	0.0	0
KWAJALEIN	8	1009.5	1009.6	86	77	81.3		89	30+	74	20+	0	0	75	81	9.98		1.64	25	6	0.0	0
MAJURO	10	1010.2	1010.5	86	77	81.5		88	30+	74	31	0	0	74	79	5.34		0.88	21	2	0.0	0
PONAPE R	123	1004.7	1009.3	87	72	79.7	-0.7	90	27+	70	12+	3	0	74	87	15.51	-1.55	2.73	25	6	0.0	0
TAGUAC GUAM R	361			86	72	78.9	-0.8	89	29+	68	27+	0	0			8.10	-3.32	1.57	26	6	0.0	0
TRUK MOEN ISLAND	5	1009.8	1010.1	86	75	80.5	0.2	90	29	71	8	1	0	76	86	19.24	5.78	6.25	23	3	0.0	0
WAKE ISLAND	11	1013.5	1013.9	86	76	81.3	-0.7	89	30+	71	5	0	0	74	79	4.94	-0.48	2.41	12	0	0.0	0
YAP R	55	1007.5	1008.6	85	75	80.1	-1.6	89	30+	71	31+	0	0	76	87	12.70	-3.90	4.05	25	2	0.[illegible]	0
PENNSYLVANIA																						
ALLENTOWN	376	1001.6	1015.9	84	64	73.8	-0.3	93	2	52	10	3	0	63	73	7.00	2.22	2.30	10	8	0.0	0
ERIE	732	989.3	1015.2	79	62	70.8	0.4	86	30+	47	5	0	0	61	73	3.25	0.06	1.10	10	10	0.0	0
HARRISBURG	335	1001.7	1015.5	86	65	75.1	-0.3	96	1	53	10	7	0	63	71	6.60	2.96	2.78	16	11	0.0	0
PHILADELPHIA	5	1010.7	1015.2	85	66	75.6	-0.7	93	22	53	6	5	0	65	72	5.96	1.76	1.65	10	8	0.0	0
PHILADELPHIA U	35			86	70	78.0	0.8	96	22	61	9	11	0									
PITTSBURGH	1151	986.3	1017.0	81	60	70.5	-1.8	89	23	48	10+	0	0	62	76	5.53	1.62	1.20	13	6	0.0	0
PITTSBURGH U	749			83	65	74.2	-1.2	92	22	53	10	4	0			4.64	0.92	1.92	12		0.0	0
READING U	266	1003.0		85	67	76.2	0.5	95	23	56	9	6	0			6.57	2.14	2.51	11	7	0.0	0
SCRANTON	940	991.7	1015.8	82	63	72.6	0.4	90	2	51	10+	1	0	61	69	5.96	0.63	1.90	17	9	0.0	0
WILLIAMSPORT	527	996.7	1015.6	83	62	72.6	-0.7	92	2	50	6	5	0	62	75	5.49	1.78	2.02	15	12	0.0	0
RHODE ISLAND																						
BLOCK ISLAND	110	1010.5		76	63	69.1	0.0	88	26	56	10+	0	0			2.33	-0.22	1.08	5	1	0.0	0
PROVIDENCE	55	1008.8	1015.0	81	63	72.2	1.2	90	26	55	10+	1	0	62	75	2.76	-0.30	0.89	9	5	0.0	0
SOUTH CAROLINA																						
CHARLESTON	41	1017.8	1018.2	90	72	80.6	0.5	95	31+	65	11	19	0	73	81	6.67	-1.37	1.42	12	13	0.0	0
CHARLESTON U	9			89	75	82.1	0.6	97	31+	70	11+	16	0			1.95	-6.09	0.62	11		0.0	0
COLUMBIA	217	1004.9	1017.5	93	69	81.2	-0.2	100	31	58	11	26	0	69	72	5.70	-0.86	2.69	12	13	0.0	0
FLORENCE	146	1011.4	1017.2	91	70	80.3	-0.6	97	31	62	11+	21	0	73	83	4.86	-1.59	1.90	13	14	0.0	0
GREENVILLE	1009	981.0	1017.6	89	67	78.3	-0.1	96	31	61	11+	19	0	67	74	5.03	0.22	2.46	12	14	0.0	0
SPARTANBURG	801	988.4	1018.0	88	67	77.3	-1.6	95	30	58	11+	13	0	66	75	5.54	0.84	1.40	14	13	0.0	0
SOUTH DAKOTA																						
HURON	1282	967.4	1013.9	87	57	72.2	-3.2	100	3	48	14	9	0	59	69	2.29	0.21	0.60	14	15	0.0	0
RAPID CITY	3165	902.2	1014.3	87	60	73.1	0.8	101	17+	51	15	11	0	49	48	2.11	0.05	1.10	7	11	0.0	0
SIOUX FALLS	1420	963.2	1014.0	85	60	72.2	-2.6	95	4	52	9	4	0	58	66	2.16	-0.84	0.96	10	11	0.0	0
TENNESSEE																						
BRISTOL	1507	964.3	1018.0	84	64	74.1	-0.7	90	31+	48	10	2	0	62	73	3.16	-1.98	0.99	13	11	0.0	0
CHATTANOOGA	670	990.6	1017.9	89	69	78.9	0.6	95	31+	57	4	17	0	69	76	3.85	-1.49	1.27	14	10	0.0	0
KNOXVILLE	950	983.3	1018.5	84	65	74.4	-4.0	89	31+	51	10	0	0	66	79	3.49	-1.23	1.14	14	10	0.0	0
MEMPHIS	263	1002.1	1016.8	90	70	80.2	-1.0	95	20	60	10+	21	0	67	69	3.97	0.74	1.77	13	10	0.0	0
MEMPHIS U	271			88	72	79.8	-1.5	93	1	64	10	14	0			3.00	-0.10	0.66	12		0.0	0
NASHVILLE	577	997.0	1017.0	88	67	77.4	-2.6	92	31+	54	10	12	0	67	74	5.34	1.38	1.88	15	11	0.0	0
OAK RIDGE	905	985.6		84	64	73.9	-2.8	91	30	51	10	2	0			7.06	1.72	1.57	16	18	0.0	0
TEXAS																						
ABILENE	1759	954.7	1014.5	90	69	79.2	-3.9	95	16	63	10	19	0	66	68	4.35	2.30	1.50	9	9	0.0	0
AMARILLO	3607	890.5	1013.1	89	64	76.4	-1.4	96	18+	57	11	20	0	60	60	4.10	1.74	1.20	9	10	0.0	0
AUSTIN	597	994.7	1016.2	91	72	81.6	-2.5	94	8+	68	17+	25	0	71	74	8.40	6.22	5.46	8	7	0.0	0

State and Station	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	Date	Number of days: Clear	Partly cloudy	Cloudy	Weather type: Heavy fog	Thunderstorms	Hail
	Mph		Mph								
OREGON											
PORTLAND U						10	8	7	2.5	[illegible]	
ROSEBURG	5.7	NW	18	N	7	10	8	7			
SALEM	5.5	NW	16*	W	18+	1	3	4	5.0		
SEXTON SUMMIT R	11.2	N				17	1	2	1.4		
PACIFIC AREA											
CANTON ISLAND	10.0	E	35*	ENE	31	7	14	11	6.4		
ENIWETOK	12.9										
JOHNSTON	16.4		35	E	2	1	22	8	6.1	86	
KOROR R	5.9	NW	22	NW	12	0	1	29	5.6	45	
KWAJALEIN	9.5	ENE	29*	NE	31	1	7	18	8.5		
MAJURO	8.6	ENE	23	E	28	0	7	24	8.7	88	
PONAPE R	3.5	SE	2[illegible]	SE	19+	1	6	24	8.6	65	
TAGUAC GUAM R	4.1	SE*	17	E	30+					32	
TRUK MOEN ISLAND	5.2	S				0	6	25	8.8	54	
WAKE ISLAND	12.8	E	25*	E	26+	1	13	17	7.6		
YAP R	6.4	SW	26	N	12	0	0	31	10.0	30	
PENNSYLVANIA											
ALLENTOWN	7.5	SW	38*	SW	2	7	15	9	5.9		
ERIE	10.4	S	37*	SW	23	6	16	9	5.8		
HARRISBURG	7.2	W	23	NW	2	4	16	11	6.3	66	
PHILADELPHIA	7.3	WSW	34	SW	24	6	13	12	6.3	65	
PHILADELPHIA U											
PITTSBURGH	7.0	SW	32*	NW	2	2	15	14	7.1	63	
PITTSBURGH U										48	
READING U	7.6		34	N	1	2	18	11	6.5	66	
SCRANTON	7.1	WSW	22	W	3	5	14	12	6.4	56	
WILLIAMSPORT	5.4	W	29*	NW	24	3	14	14	6.9		
RHODE ISLAND											
BLOCK ISLAND						5	7	19	7.5		
PROVIDENCE	9.3	S	30*	NW	2	7	13	11	6.3	56	
SOUTH CAROLINA											
CHARLESTON	7.6	SSW	43Y	W	2	7	13	11	5.9	68	
CHARLESTON U	9.2		33	SW	17						
COLUMBIA	5.8	SW	35	SW	12	8	14	9	5.5	54	
FLORENCE	7.4	SSW	23*	SW	15	10	13	8	5.2		
GREENVILLE	6.5	WSW	26	NW	16	9	9	13	5.8	66	
SPARTANBURG	5.8	SW	35*	NW	25	12	9	10	5.5		
SOUTH DAKOTA											
HURON	9.2	SSE	65	SW	25	8	13	10	5.2	82	
RAPID CITY	9.3	NNW	40	NW	9	10	12	9	5.2	53	
SIOUX FALLS	7.3	NE	40*	SW	20	8	14	9	5.5		
TENNESSEE											
BRISTOL	5.1	SW	40*	SW	15	2	13	16	7.3		
CHATTANOOGA	5.4	SSW	24	NW	15	6	13	12	6.5	64	
KNOXVILLE	7.2	WSW	73	SW	15	5	8	18	7.4	46	
MEMPHIS	8.8	SSW	28	NW	25	5	15	11	6.3	63	
MEMPHIS U											
NASHVILLE	7.2	S	42	W	21	7	12	12	6.3	72	
OAK RIDGE	3.6		50Y		17	5	13	13	6.7		
TEXAS											
ABILENE	8.0	SSE	32	NE	16	15	9	7	4.6	74	
AMARILLO	12.3	S	43	W	14	16	9	6	3.8	86	
AUSTIN	7.7	S	23	NW	17+	3	17	11	6.6	54	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
TEXAS																																
BROWNSVILLE	16	1013.1	1015.7	92	75	83.4	- 0.4	97	11	71	28+	28	0	73	75	0.91	-1.06	0.40	7	3	0.0	0	12.3	SE	37	E	26	7	20	4	4.9	81
CORPUS CHRISTI	43	1014.9	1016.1	92	75	83.4	- 0.4	96	9	70	11	28	0	73	74	4.37	2.11	3.73	6	4	0.0	0	10.8	SE	29	SE	15+	4	17	10	6.3	73
DALLAS	481	997.5	1015.9	92	74	82.8	- 2.7	96	30+	67	10	25	0	68	64	1.30	-0.67	0.52	5	3	0.0	0	11.1	S	36	S	24	13	10	8	4.7	74
DEL RIO U	957			93	73	83.2	- 1.5	99	9	70	23	27	0			3.51	1.93	1.70	5	6	0.0	0										
EL PASO	3918	885.9	1010.9	95	70	82.8	1.5	102	20	65	5+	30	0	54	40	2.18	0.86	1.66	7	8	0.0	0	6.9	ESE	36	SE	31	15	13	3	4.4	86
FORT WORTH	544	995.5	1016.0	92	73	82.3	- 2.8	96	30+	66	10	25	0	70	68	2.32	0.43	1.12	6	7	0.0	0	11.7	S	65*	N	7	12	12	7	4.7	
GALVESTON U	7			86	79	82.4	- 0.6	89	18	69	12+	0	0			6.71	1.91	3.11	7		0.0	0	10.7		36	W	12					78
GALVESTON	5	1015.3	1017.6	88	78	83.2	- 0.1	91	31+	69	12	12	0	71	70	7.35	2.64	3.17	6	11	0.0	0	9.2	S				3	18	10	6.3	
HOUSTON U	41			89	75	82.3	- 1.5	95	18	68	3	21	0			8.71	4.26	3.19	16		0.0	0										
HOUSTON	50	1014.5	1017.1	90	75	82.6	0.0	93	19+	72	26	24	0	74	79	10.07	5.28	3.78	15	20	0.0	0	6.4	SSE				0	16	15	7.1	65
LAREDO	500	998.9	1014.1	98	75	86.6	- 1.1	103	9	71	28+	30	0	67	58	1.22	-0.18	0.35	6	5	0.0	0	13.9	SE	30*	E	27	9	12	10	5.2	
LUBBOCK	3243	905.2	1014.6	88	65	76.3	- 3.0	95	17	60	22+	13	0	62	64	4.06	2.17	1.21	9	8	0.0	0	13.1	SSE	35*	NNW	8+	19	5	7	3.9	
MIDLAND	2854	916.3	1013.5	90	66	78.0	- 4.0	97	21+	60	22	17	0	62	61	6.73	4.92	5.99	5	6	0.0	0	10.4	SE	32*	N	22	11	13	7	4.8	
PORT ARTHUR	16	1015.7	1017.2	90	73	81.6	- 0.1	94	26	70	17+	25	0	74	83	6.09	-0.71	3.14	14	18	0.0	0	7.1	S	45	SE	7	0	14	17	7.3	42
SAN ANGELO	1903	948.3	1014.3	91	69	79.8	- 2.9	96	21+	62	11	24	0	65	65	0.81	-0.76	0.28	7	7	0.0	0	11.3	S	31*	E	16	15	10	6	4.4	
SAN ANTONIO	792	991.2	1015.8	92	73	82.6	- 1.6	96	8	70	27+	26	0	71	73	7.04	5.13	3.90	8	5	0.0	0	9.8	SSE	34	NW	22	4	17	10	6.1	58
VICTORIA	104	1011.8		91	74	82.3		93	31+	71	13+	25	0			6.82		3.05	13	12	0.0	0	8.8		38Y	SSE	22	1	21	9	6.5	
WACO	500	1000.8	1015.8	90	72	81.4	- 3.6	94	26	68	17+	24	0	71	74	7.68	5.74	2.61	8	6	0.0	0	12.3	S	35*	NW	16	9	9	13	6.0	
WICHITA FALLS	994	978.0	1013.9	96	71	83.7	- 0.1	101	19	58	10	28	0	66	59	1.22	-0.97	0.67	6	5	0.0	0	11.7	SSW	29*	SW	16	17	9	5	4.0	
UTAH																																
MILFORD	5028	845.6		94	56	75.2	1.2	100	15+	48	21+	27	0			0.26	-0.51	0.17	4	7	0.0	0						11	13	7	4.7	
SALT LAKE CITY	4220	867.9	1011.7	96	64	79.9	3.3	101	29+	52	1	30	0	45	32	0.54	-0.07	0.48	4	8	0.0	0	9.7	S	34	W	28	14	11	6	4.2	74
WENDOVER	4237	870.6		95	70	82.4		102	23	59	5	29	0			0.03		0.02	2	7	0.0	0						19	8	4	3.5	
VERMONT																																
BURLINGTON	331	999.3	1013.8	79	57	68.2	- 2.2	90	24	45	5	1	0	60	79	4.98	1.23	1.83	14	9	0.0	0	5.9	SSW	18	SW	25	1	16	14	7.1	50
VIRGINIA																																
LYNCHBURG	947	992.5		85	65	75.4	- 0.6	93	31	53	10	7	0			2.28	-1.87	0.74	12	12	0.0	0	6.6		26	SW	18	6	18	7	5.6	71
NORFOLK	26	1015.3	1016.7	90	71	80.6	3.1	99	31	59	11	21	0	70	75	1.69	-4.36	0.53	12	12	0.0	0	7.9	SW	34	NE	31	11	12	8	5.2	73
RICHMOND	162	1010.8	1017.0	90	67	78.5	1.0	97	31+	54	11	20	0	68	74	2.85	-2.79	1.61	8	7	0.0	0	6.9	SW	34	N	8	6	15	10	5.8	72
ROANOKE	1174	975.8	1017.4	88	65	76.6	0.7	95	21	50	10	12	0	63	68	1.59	-3.32	0.44	12	12	0.0	0	7.8	SW				5	19	7	5.9	
WASHINGTON																																
OLYMPIA	190	1010.8	1017.9	80	49	64.3	1.5	100	12	41	3	3	0	53	70	0.80	0.08	0.75	3	0	0.0	0	6.4	WSW	20*	SW	26	12	11	8	4.7	
SEATTLE TACOMA	400	1003.4	1017.6	79	56	67.1	3.2	97	12	52	30+	3	0	53	66	0.75	0.17	0.68	4	1	0.0	0	8.5	SSW	23*	SSW	5	11	14	6	4.5	
SEATTLE	14		1017.4											55	67								7.4	NW								
SEATTLE U	14			78	58	67.8	2.2	96	13+	54	7+	3	0			0.76	0.24	0.69	3		0.0	0			32	SW	5					65
SPOKANE	2357	946.5	1014.3	87	57	71.9	2.3	97	22+	45	1	11	0	45	41	0.37	0.01	0.36	3	4	0.0	0	6.4	SW	32	SW	16	20	7	4	3.3	79
STAMPEDE PASS R	3958	882.8		68	49	58.4	1.5	84	13+	41	6	0	0			1.36	0.07	1.17	6	1	0.0	0						14	10	7	4.3	
TATOOSH ISLAND	101	1015.6	1018.7	62	53	57.2	1.7	78	12	48	3	0	0	54	89	0.81	-1.18	0.62	6	0	0.0	0	10.7	SSW	40	E	12	7	7	17	7.0	35
WALLA WALLA U	949	978.0		92	65	78.4	2.2	103	13	55	8+	21	0			0.01	-0.27	0.01	1	2	0.0	0	5.6	W#	19	SW	27	27	2	2	1.5	93
YAKIMA	1061	975.6	1014.1	91	55	73.1	1.7	103	13	43	7	17	0	48	43	0.25	0.07	0.21	3	6	0.0	0	8.0	WNW	23*	NW	23+	25	5	1	1.5	
WEST INDIES																																
SAN JUAN P.R. U	47			84	75	79.6	- 0.4	87	29+	72	22+	0	0			11.19	5.17	2.79	24		0.0	0										
SAN JUAN P.R.	15	1014.3	1017.3	87	74	80.5	0.4	89	31+	70	8	0	0	73	79	9.35	2.61	2.14	23	7	0.0	0	7.9	ENE	26	NE	22	2	21	8	6.3	62
SWAN ISLAND	28	1012.6		86	76	81.1	- 1.3	90	4	71	28	1	0			5.61	1.31	1.25	17	11	0.0	0						1	11	19	8.0	
WEST VIRGINIA																																
CHARLESTON	939	982.1	1017.5	82	63	72.4	- 3.0	90	2	46	10	1	0	65	81	13.54	8.09	5.60	19	12	0.0	0	4.6	SW	28*	NW	19	1	11	19	7.8	
HUNTINGTON U	567			85	66	75.1	- 1.8	92	31+	53	10	5	0			9.90	5.08	1.66	20		0.0	0										
PARKERSBURG U	621			85	65	75.0	- 0.7	92	23+	49	10	7	0			5.76	1.60	2.39	13	8	0.0	0	4.8		23	W	31					48
WISCONSIN																																
GREEN BAY	689	992.0	1014.7	80	58	69.2	- 0.7	90	29	45	4	1	0	59	74	4.91	2.32	1.62	12	7	0.0	0	8.9	SW	32	S	11	8	11	12	5.8	59
LA CROSSE	652	989.6		82	62	71.8	- 2.2	91	29	53	8	2	0	61	72	2.74	-0.47	0.92	10	9	0.0	0	7.8	S	52*	W	30	8	12	11	5.8	
MADISON	858	979.8	1014.6	81	59	69.9	- 3.1	88	30+	45	8	0	0	62	76	3.67	0.37	1.06	12	6	0.0	0	7.7	SW	24	NW	23	9	11	12	6.3	68
MILWAUKEE	670	990.8	1015.7	80	60	69.9	- 1.4	88	30+	45	9	0	0	60	73	2.91	0.46	1.18	10	6	0.0	0	8.2	NNE	24	N	30+	10	11	10	5.4	67

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

JULY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90°F. or above	Temperature: No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
WYOMING	Ft.	Mb.	Mb.	°F.	°F.	°F.	°F.	°F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
CASPER	5319	840.2	1013.1	85	56	70.3	- 0.8	94	3	46	12	9	0	41	41	1.21	0.04	0.80	6	8	0.0	0	11.2	WSW	35*	NW	27	12	14	5	4.3	
CHEYENNE	6131	816.1	1014.9	84	55	69.1	1.0	92	17+	47	22	4	0	46	50	1.53	-0.43	0.42	11	12	0.0	0	11.3	WNW	42	N	17	9	14	8	5.3	62
LANDER	5563	838.1		86	56	71.1	0.7	95	3	48	12	13	0	41	39	0.38	-0.50	0.12	8	11	0.0	0	7.4	SW#	52	W	17	10	16	5	4.5	75
SHERIDAN	3942	886.2	1010.7	87	57	71.7	1.1	100	3	48	22+	14	0	45	42	1.31	-0.07	0.97	8	8	0.0	0	8.1	NW	57	NW	9	15	13	3	3.7	72

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

A Maximum hourly average.

\+ And also on an earlier date or dates.

B Number of days maximum 70°F. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb.	C.	C.	C	C.	C.		C.				C.	%	Mm.	Mm	Mm.			Mm	Mm.	M.p.s.		M.p.s							%
ALABAMA																																
BIRMINGHAM	186	993.5	1018.7	31.7	20.0	25.8	-0.7	33.9	31+	15.0	5	16	0	21.1	80	258	129	85	17	14	0	0	2.7	SSW	14.8	SW	22+	7	10	14	6.3	66
HUNTSVILLE	184	995.2	1018.3	31.7	19.4	25.7		35.6	30	13.9	4	18	0	19.4	73	55		22	14	7	0	0	2.4	SE	7.6*	SSE	20	6	12	13	6.2	
MOBILE	64	1010.7	1018.8	32.2	21.7	27.0	-0.1	34.4	26	20.0	4+	20	0	21.7	79	122	-106	22	17	22	0	0	3.0	S	15.2*	NW	3	2	16	13	6.8	
MONTGOMERY	59	1010.5	1018.5	32.8	21.7	26.9	-0.4	34.4	26	18.3	5	24	0	22.2	80	96	- 50	26	11	14	0	0	2.9	SW	13.0	W	17	2	20	9	6.1	68
ALASKA																																
ANCHORAGE	27	1011.9	1016.6	17.8	10.6	14.3	0.2	21.7	14	6.7	7	3	0	8.3	70	56	17	20	13	0	0	0	2.7	SSE	8.9*	SSE	2	1	5	25	8.4	35
ANNETTE	34	1016.3	1020.3	21.1	12.2	16.6	2.8	29.4	27	8.3	5+	18	0	11.1	73	73	- 69	40	8	0	0	0	3.3	NNW	8.9*	SSE	18	13	6	12	5.0	
BARROW	7	1010.2	1010.8	6.7	0.0	3.4	-0.8	20.6	10	- 2.8	9	0	17	1.7	89	46	25	20	11	0	36	25	5.0	W	15.6*	SW	31	0	3	28	9.1	
BARTER ISLAND	12	1009.8	1011.8	8.3	1.1	4.8	-0.1	18.9	25	- 2.2	4	0	11	2.2	88	71	41	25	18	0	15	T	5.0	E	13.0*	WSW	21	0	5	26	8.8	
BETHEL	38	1012.5	1014.3	14.4	6.7	10.7	-1.8	24.4	15	3.3	19+	3	0	7.8	85	98	39	18	21	3	0	0	6.5	SSW	15.6*	SSW	30+	1	6	24	8.6	
COLD BAY	29	1013.5	1017.4	12.2	7.2	9.8	-0.2	24.4	31	3.3	14	1	0	7.8	89	27	- 27	10	10	0	0	0	7.4	SSE	17.4*	SSE	23	0	1	30	9.5	
CORDOVA	12	1016.6	1018.4	15.6	7.8	11.6	-0.3	21.7	29	2.2	13	2	0	9.4	88	156	- 8	49	20	0	0	0	2.5	E	7.6*	ESE	17+	1	3	27	9.1	
FAIRBANKS	133	996.6	1013.6	21.1	9.4	15.1	-0.9	29.4	26	5.0	3	15	0	8.9	68	66	18	23	14	0	0	0	3.3	SW	10.3*	W	20+	3	7	21	7.7	
JUNEAU	5	1018.3	1019.2	18.3	8.3	13.5	0.9	26.1	27	4.4	14	11	0	9.4	79	153	35	42	17	0	0	0	4.1	NNW	14.3*	ESE	18	7	6	18	6.9	52
KING SALMON	13	1013.9	1015.9	15.0	7.8	11.3	-1.3	26.1	14	3.9	8	1	0	7.8	82	78	6	22	14	0	0	0	4.3	SW	11.6*	S	23	0	5	26	9.2	
KOTZEBUE	3	1010.8	1011.4	13.9	7.8	10.7	-0.7	20.6	10	2.8	4+	0	0	8.3	86	14	- 24	5	12	0	0	0	5.9	WNW	17.4*	W	31	3	4	24	8.3	
MC GRATH	102	1002.0	1014.8	17.8	7.2	12.7	-2.2	27.2	15	3.9	29+	8	0	7.8	74	84	25	18	17	1	0	0	3.6	SSW	11.6*	S	20	3	6	22	8.2	
NOME	4	1011.5	1012.3	11.1	5.6	8.6	-1.2	23.9	10	1.7	16	1	0	6.1	85	85	22	30	12	0	0	0	5.3	SE	13.0*	SSW	30+	2	6	23	8.3	34
ST. PAUL ISLAND	7	1013.9		9.4	5.0	7.2	-0.6	13.3	9+	- 2.2	13	0	1	6.1	93	59	- 3	18	11	0	0	0						2	2	27	9.1	
SHEMYA	37	1011.2	1014.9	8.3	5.6	7.0		13.9	23	3.9	5+	0	0	6.1	96	43		15	9	0	0	0	5.6	SE	15.6*	ENE	27	0	1	30	9.6	
YAKUTAT	9	1018.6	1019.6	14.4	8.9	11.7	0.2	20.0	31	3.3	14	0	0	10.6	93	348	129	63	19	0	0	0	3.9	ESE	13.4*	ESE	18	2	7	22	8.5	
ARIZONA																																
FLAGSTAFF	2131			28.3	10.6	19.3	0.8	33.3	16	5.0	5	2	0			52	- 12	15	12	18	0	0						8	17	6	5.3	
PHOENIX	338	970.9	1009.0	40.6	25.6	33.2	0.9	45.6	19	19.4	6+	31	0	14.4	35	10	- 8	6	4	7	0	0	3.6	W	17.9*	SE	22	21	7	3	2.9	97
PRESCOTT	1528	849.0	1012.0	33.3	16.7	25.0	0.6	38.3	16	12.2	4	21	0	8.9	43	35	26	31	12	17	0	0	3.2	SSW	24.1	NW	14	10	17	4	4.6	81
TUCSON	788	924.1	1009.9	36.7	23.3	30.1	-0.1	40.6	12+	17.8	4	30	0	13.3	42	46	0	18	11	22	0	0	4.6	S	21.9	SE	19	17	11	3	3.6	81
WINSLOW	1487	852.7	1009.5	36.1	17.8	26.8	1.7	39.4	19	12.8	5+	28	0	7.2	34	17	- 15	5	10	10	0	0	4.6	WSW	17.0*	SW	3	12	15	4	4.5	
YUMA	61	1005.1	1009.1	41.7	27.2	34.4	-0.3	46.7	10	18.9	5+	31	0	15.6	37	1	- 5	1	1	1	0	0	4.7	SSE	3.2	NE	28	21	7	3	2.4	89
ARKANSAS																																
FORT SMITH	137	999.2	1015.8	32.8	20.6	26.7	-1.3	35.6	31+	3.9	11	21	0	20.6	74	219	154	104	9	8	0	0	2.6	SW	13.9	W	12	8	10	13	5.8	60
LITTLE ROCK	78	1003.9	1016.9	33.3	20.6	27.1	-0.7	36.1	30	14.4	11	23	0	20.6	72	67	- 12	18	9	10	0	0	3.3	SW	14.8	S	13	8	15	8	6.0	63
TEXARKANA	110		1016.8	31.7	21.7	26.6	-1.7	33.9	28+	17.8	10	19	0	22.2	83	170	70	65	14	11	0	0	2.7	SW								
CALIFORNIA																																
BAKERSFIELD	151	993.9	1011.5	37.8	21.7	29.6	0.6	43.3	11	13.9	6+	29	0	9.4	31	T	0	T	0	0	0	0	3.4	NW	10.3*	WNW	3	27	3	1	1.1	
BISHOP	1252	873.7		37.2	15.0	26.2	2.0	41.1	11	9.4	6+	30	0			3	1	3	1	5	0	0						24	6	1	2.3	
BLUE CANYON	1609	841.9		27.2	16.7	21.8	1.9	31.1	21+	5.6	5+	0	0			T	- 1	0	1	0	0	0	2.9	WSW	8.9	SE	3+	27	4	0	1.0	
BURBANK	213	986.8	1013.2	30.0	17.2	23.5	0.6	37.8	8	14.4	6	7	0	15.0	65	0	0	0	0	0	0	0	3.4	S	7.6*	S	2	27	3	1	2.1	
EUREKA U	13	1014.9		16.1	11.7	13.7	0.2	17.8	16+	9.4	7	0	0			1	- 2	1	2	0	0	0	2.6	NW#	8.5	NW	16	6	9	16	6.8	51
FRESNO	101	999.0	1010.8	37.8	18.3	28.1	0.2	43.3	11	12.8	6+	28	0	8.9	34	T	0	T	0	0	0	0	3.7	NW	10.3	W	11+	28	1	2	1.1	95
LONG BEACH	10	1011.9	1013.1	27.2	17.8	22.4		33.9	8	13.9	6	2	0	16.1	73	0		0	0	1	0	0	3.2	S	8.9*	S	17	19	11	1	3.1	
LOS ANGELES	30	1009.8	1013.5	25.0	18.3	21.8	2.0	26.7	18+	15.0	5	0	0	16.7	77	T	0	0	1	1	0	0	3.3	WSW	8.0*	W	27+	15	10	6	4.2	
LOS ANGELES U	95			28.9	17.8	23.4	0.9	34.4	8	15.6	5+	4	0	15.6	67	T	0	T	0	1	0	0	2.5	W#	8.5	W	6	19	11	1	2.6	83
MT SHASTA R	1080	893.3		30.6	10.6	20.7	1.1	36.7	12	2.8	6	11	0			19	14	19	2	2	0	0						26	5	0	.9	
OAKLAND	1	1013.5	1013.9	23.9	13.3	18.8	1.7	36.1	10	10.6	6	4	0	11.7	69	T	0	T	0	0	0	0	4.4	WNW	12.5*	W	4	20	8	3	2.9	
POINT ARGUELLO	112	1000.3		18.3	11.1	14.6		28.3	12	6.7	7	0	0			2		1	6	1	0	0	3.1		12.5*	W	12+	5	6	20	7.2	
RED BLUFF	104	998.3	1010.8	38.3	20.0	29.2	0.7	45.0	11	12.8	5	28	0	7.2	29	T	- 1	T	0	2	0	0	4.1	SSE	12.1	SE	12	29	2	0	.5	98
SACRAMENTO	5	1010.5	1011.7	37.2	15.6	26.2	2.6	45.0	11	10.6	5	27	0	11.1	48	T	0	T	0	0	0	0	3.8	S	10.3	S	29	28	3	0	.7	98
SACRAMENTO U	7			35.0	16.1	25.6	1.5	43.3	11	11.1	5	24	0			T	0	T	0	0	0	0										
SANDBERG R	1377	863.3		31.1	18.9	25.0	1.7	36.1	9	8.9	5	13	0			0	- 5	0	0	0	0	0	5.9	S	20.6*	NNW	26	26	5	0	1.0	
SAN DIEGO	4	1009.8	1013.0	23.9	19.3	21.2	0.4	27.8	19	5.6	1	0	0	15.6	74	T	0	T	0	0	0	0	3.0	SSW	7.6	NW	27+	8	15	8	5.4	57
SAN FRANCISCO	2	1013.9	1014.5	23.9	11.7	17.8	2.0	33.9	9	9.4	28+	4	0	11.1	73	T	0	T	0	0	0	0	6.7	WNW	17.4	W	6	24	5	2	2.1	
SAN FRANCISCO U	16			19.4	11.7	15.6	0.6	27.8	17+	10.0	15	0	0			T	0	T	0	0	0	0	5.0	W#	13.9	W	20					73
SANTA MARIA	73	1005.8	1014.4	23.3	11.7	17.5	0.7	30.6	12	7.8	7	0	0	12.2	79	1	0	1	1	0	0	0	3.2	WNW	15.6*	WNW	5	20	10	1	3.0	
COLORADO																																
ALAMOSA	2247	776.5		27.2	8.3	17.7	-0.2	30.6	24	1.7	22	0	0			23	1	13	9	11	0	0						10	17	4	4.9	
COLORADO SPRINGS	1882	815.8	1016.6	27.8	12.2	20.1	-1.7	33.9	24	6.7	22	6	0	10.0	59	54	- 15	11	16	19	0	0	4.2	N	16.1*	WNW	18	6	20	5	5.1	
DENVER	1610	841.2	1015.0	31.1	12.8	21.9	-0.7	37.2	17	8.9	12	14	0	8.9	50	41	6	20	11	11	0	0	3.5	SSW	16.5	NW	14	6	22	3	5.0	74
GRAND JUNCTION	1478	860.1		33.9	17.8	25.8	0.1	37.8	16	13.3	22	24	0			1	- 19	1	2	8	0	0	4.7	ESE	18.8	NW	18	10	14	7	5.0	75

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JULY 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
PUEBLO	1414	858.8	1014.2	31.1	15.0	23.2	-0.7	37.2	24+	10.0	22	16	0	11.7	55	64	18	23	15	13	0	0	3.7	W	22.4	NW	28	10	15	6	4.7	71
CONNECTICUT																																
BRIDGEPORT	2	1014.4	1015.9	26.7	18.9	22.7	0.0	32.2	22	14.4	10	1	0	17.8	78	75	- 25	52	8	3	0	0	4.4	SW	10.3	ESE	15+	3	16	12	6.5	
HARTFORD	52	1009.1	1015.1	28.9	16.1	22.7	-0.6	33.9	25+	8.9	5	9	0	16.7	71	38	- 52	21	11	5	0	0	2.6	S	10.7	SW	2	1	15	15	7.1	58
NEW HAVEN	2	1015.0		26.7	18.3	22.5	0.7	32.8	22	13.9	10	1	0			61	- 32	36	9	3	0	0	2.8		10.3	W	2	2	19	10	6.5	67
DELAWARE																																
WILMINGTON	24	1011.9	1015.3	29.4	18.9	24.2	-0.2	33.9	23	3.9	11+	5	0	18.9	74	123	9	63	7	6	0	0	3.6	WSW	9.4*	NW	4	5	14	12	6.2	
DIST. OF COLUMBIA																																
WASHINGTON U	22			30.6	20.6	25.7	0.3	35.0	22	14.4	9	13	0			76	- 28	25	8													
WASH NATL AP	4	1011.4	1015.9	30.6	21.1	25.9	0.7	34.4	22	13.9	10	15	0	0.0	72	100	- 8	29	10	9	0	0	3.1	S	17.9	W	2	6	14	11	5.8	67
FLORIDA																																
APALACHICOLA U	4	1016.5		31.1	24.4	27.7	0.3	33.3	31+	22.2	20+	7	0			62	-130	34	7	10	0	0	2.5		11.2	E	18	7	18	6	5.3	65
DAYTONA BEACH	9	1017.8	1019.7	31.1	22.2	26.6	-0.5	34.4	31	20.0	4	4	0	22.2	80	131	- 50	54	10	17	0	0	3.4	SE	10.7*	WNW	8	6	13	12	6.1	
FORT MYERS	4	1018.3		33.3	23.9	28.8	1.0	35.6	30	21.7	19	29	0			249	28	65	19	24	0	0	2.8		13.0*	NE	1	3	15	13	6.9	
JACKSONVILLE	7	1018.0	1019.4	33.9	22.8	28.3	0.4	37.2	31	21.1	19+	25	0	22.2	75	88	-106	23	12	13	0	0	4.1	SW	18.3	W	8	4	13	14	6.2	59
KEY WEST	2	1016.9	1018.3	31.7	27.2	29.4	0.7	32.2	31+	24.4	17+	11	0	23.3	70	14	- 94	6	6	6	0	0	4.7	ESE	13.9	SE	17	5	14	12	6.4	74
LAKELAND U	65			32.8	22.8	27.9	0.6	35.6	31	21.1	4	27	0			78	-129	28	13	22	0	0	2.4					0	23	8	6.6	68
MIAMI BEACH	3			30.6	26.1	28.3	0.2	31.1	31+	21.7	27	0	0			91	- 6	62	13		0	0	0.3	W	10.3	E	24	7	14	10	5.6	67
MIAMI	2	1017.5	1018.8	31.7	25.6	28.6	0.5	33.3	31	23.3	26	15	0	22.8	71	49	-122	11	9	9	0	0	4.1	ESE	9.4*	WNW	26+	2	18	11	6.6	
ORLANDO	32	1014.9	1019.5	34.4	22.2	28.5	0.7	37.8	31+	20.6	19+	29	0	22.2	75	252	57	79	14	19	0	0	3.2	SE	20.6*	SE	26	5	17	9	6.1	
PENSACOLA U	4			31.7	23.3	27.5	0.3	33.9	19	20.6	3	10	0			117	- 76	34	13	10	0	0	3.5		12.5	W	21					68
TALLAHASSEE	18	1016.5	1019.2	32.8	21.1	26.8	-0.4	35.6	31	18.9	2+	22	0	21.7	80	165	- 35	46	17	22	0	0	3.0	S	15.6*	SSW	27	2	21	8	6.5	
TAMPA	6	1017.8	1019.4	32.8	23.3	28.3	0.7	35.6	30+	21.7	27	26	0	22.2	73	195	- 11	55	18	25	0	0	4.1	ESE	15.6*	NE	23	1	17	13	6.8	58
WEST PALM BEACH	5	1017.8	1019.0	32.8	24.4	28.4	0.7	33.9	31+	22.2	20	28	0	22.8	73	31	-139	12	8	9	0	0	3.9	ESE	10.3*	SSE	11	6	13	12	6.3	
GEORGIA																																
ATHENS	245	990.1	1019.0	31.7	19.4	25.6	-1.5	34.4	31+	16.1	11	17	0	20.6	78	177	54	47	11	12	0	0	2.2	SW	13.0*	S	12	8	15	8	5.5	
ATLANTA	297	980.4	1018.7	29.4	19.4	24.6	-1.8	33.3	31	16.7	12+	3	0	19.4	76	56	- 56	22	11	6	0	0	4.0	WSW	10.3*	WNW	7	9	16	6	5.1	72
AUGUSTA	44	1011.0	1017.7	33.3	20.6	27.0	-0.2	37.2	31	6.7	11	26	0	21.1	75	64	- 69	20	7	13	0	0	2.4	SW	12.1*	NNW	17	4	19	8	6.1	
COLUMBUS	117	1004.6		32.8	20.6	26.6	-0.6	35.0	31	16.7	11	25	0			115	- 35	42	7	7	0	0	2.8		10.3*	SW	12	6	17	8	5.8	
MACON	109	1001.7	1018.4	33.9	21.7	27.5	-0.5	37.2	31	18.9	12	26	0	20.6	70	53	- 83	29	8	12	0	0	3.4	SW	13.9	S	12	6	16	9	5.8	75
ROME	194	995.2		31.1	18.3	24.9	-1.7	35.6	31	13.9	5+	14	0			65	- 55	39	13	9	0	0						7	12	12	6.0	
SAVANNAH	15	1016.3	1019.0	33.3	21.7	27.7	0.3	37.2	31	19.4	17	24	0	22.2	78	104	- 76	26	13	18	0	0	3.4	SW	9.8	NE	22	5	17	9	5.9	70
THOMASVILLE U	86			33.3	21.7	27.5	0.5	36.1	25	19.4	19	25	0			102	- 76	30	11	15	0	0										
HAWAII																																
HILO	9	1015.2	1017.2	28.3	19.4	24.0	0.2	30.0	31	17.8	3	0	0	18.9	75	139	-112	41	28	0	0	0	4.0	WSW	10.3*	ENE	10+	1	19	11	6.9	44
HONOLULU	2	1016.6	1016.8	30.0	22.8	26.2	0.2	31.7	1	20.6	1	0	0	18.3	64	7	- 2	4	6	0	0	0	5.0	NE	12.5	NE	19+	6	19	6	5.6	88
LIHUE	35	1012.5	1017.7	29.4	22.8	26.2	0.9	30.6	10+	19.4	26	0	0	20.0	71	43	- 5	10	20	1	0	0	5.8	NE	12.5	NE	15	3	17	11	6.3	78
IDAHO																																
BOISE	865	918.1	1011.7	33.9	15.0	24.6	0.8	38.9	15	9.4	1	27	0	6.1	33	6	2	6	2	2	0	0	3.5	NW	13.0	S	5+	26	3	2	1.5	91
IDAHO FALLS 42NW R	1460			32.8	10.6	21.6	1.6	36.7	23	4.4	2	23	0			15	2	7	4		0	0										
IDAHO FALLS 46W R	1504	849.6		31.7	11.1	21.6	0.9	35.6	23	6.1	1	19	0			5	- 6	3	3	1	0	0	3.4	NE	13.9A	WSW	17					
LEWISTON	431	962.8		33.3	16.1	24.8	0.8	39.4	22	0.0	1	20	0			4	- 6	4	1	3	0	0						23	5	3	2.2	
POCATELLO	1355	864.2	1013.1	32.8	13.9	23.3	0.7	36.1	9	6.7	2	22	0	4.4	33	12	- 7	12	3	4	0	0	4.3	WSW	13.4	NW	16+	19	8	4	3.4	84
ILLINOIS																																
CAIRO U	96	1003.3		31.1	21.1	26.3	-1.1	35.0	4	16.7	10	12	0			134	68	66	14	10	0	0	3.4	SW	18.3	N	19	8	10	13	6.1	64
CHICAGO O HARE	201	990.4	1014.9	27.2	16.1	21.7		32.8	30	8.9	6	1	0	16.1	73	94		35	11	5	0	0	3.6	WSW	13.0*	WNW	30	8	12	11	5.9	
CHICAGO MIDWAY	186	992.7	1015.2	27.8	18.9	23.3	-0.3	33.3	30	12.8	9	1	0	15.6	66	76	7	17	12	6	0	0	4.0	SW	14.8	NW	30	6	14	11	6.0	71
MOLINE	177	992.3	1014.4	29.4	17.8	23.4	-0.7	34.4	30	11.1	9+	3	0	17.2	72	194	112	53	14	12	0	0	3.2	W	16.5	NE	4	7	12	12	5.9	67
PEORIA	199	993.3	1015.5	28.3	17.2	22.9	-1.3	32.8	30+	10.6	9+	3	0	17.8	75	141	47	44	12	9	0	0	3.6	S	13.0	N	4	6	15	10	5.5	63
ROCKFORD	222	988.0	1015.1	27.8	17.2	22.4	-1.1	32.8	29	11.7	9+	2	0	16.7	72	100	15	23	12	10	0	0	3.5	WSW	10.7*	S	12	12	8	11	5.6	
SPRINGFIELD	179	991.8	1014.8	30.0	18.9	24.3	-0.3	33.3	4	11.1	9	4	0	18.3	73	162	83	49	12	11	0	0	4.2	SW	19.2	SW	22	11	9	11	5.6	66
INDIANA																																
EVANSVILLE	117	1000.2	1015.9	30.6	19.4	25.1	-0.6	34.4	31+	11.1	10	10	0	19.4	74	69	- 7	18	15	8	0	0	3.9	SW	15.6	N	24	9	7	15	5.9	74
FORT WAYNE	244	984.8	1015.6	28.3	17.8	23.0	-0.1	34.4	1	11.7	9	1	0	17.2	72	131	48	36	15	8	0	0	4.4	SW	21.5	W	24	3	15	13	6.8	62

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JULY 1961

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
INDIANAPOLIS	242	986.2	1015.8	28.9	17.2	23.0	-1.4	33.3	31	11.1	10+	2	0	18.3	77	66	- 11	22	14	8	0	0	3.0	SW	13.4	SW	23+	4	14	13	6.5	59
SOUTH BEND	234	987.1	1014.9	27.2	16.7	22.1	-0.9	32.8	1	10.6	8	1	0	16.1	73	96	18	33	13	9	0	0	3.5	SSW	11.6*	SSW	15	6	14	11	6.2	
IOWA																																
BURLINGTON	212	990.0	1015.4	29.4	17.8	23.6	-1.3	35.6	4	12.8	9	4	0	17.8	73	184	97	53	17	13	0	0	3.7	S	13.9	NW	28	7	16	8	5.4	75
DES MOINES	289	984.6	1015.3	28.9	17.8	23.4	-1.2	33.9	4+	14.4	16+	5	0	17.8	75	179	104	47	15	12	0	0	3.1	SSE	22.4	SW	12	8	15	8	5.5	69
DUBUQUE	325	989.7		26.1	15.6	20.9	-2.0	30.6	30+	10.6	8	0	0			311	224	160	16	9	0	0						9	9	13	6.0	
SIOUX CITY	334	973.3	1013.8	29.4	17.2	23.5	-1.1	37.8	4	11.7	9	3	0	16.7	68	111	37	52	10	8	0	0	3.9	SSE	13.0	S	21	9	10	12	5.5	68
WATERLOO	265	983.2	1014.9	27.8	16.7	22.1	-1.6	32.2	30	12.2	3	1	0	17.2	77	217	122	65	17	15	0	0	3.1	S	17.9*	NNW	1	9	10	12	5.6	
KANSAS																																
CONCORDIA U	419	967.7		32.8	20.0	26.3	-0.4	39.4	18	15.6	14	18	0	17.2	62	77	- 9	42	10	13	0	0	2.5	S#	13.4	NW	20	11	15	5	4.6	77
DODGE CITY	791	927.3	1013.2	32.2	18.3	25.3	-1.3	38.3	18	15.0	12+	19	0	15.6	60	87	19	18	13	13	0	0	4.7	SSW	15.6	NE	19+	10	12	9	4.8	78
GOODLAND	1111	889.1	1013.3	32.2	16.1	24.1	-0.2	38.3	17	12.8	22+	17	0	13.3	57	99	28	39	8	13	0	0	4.6	S	25.9*	NW	11	15	11	5	4.2	
TOPEKA	267	978.9	1014.2	31.1	18.3	24.8	-1.4	37.8	18	11.7	10	13	0	18.3	72	184	102	59	11	10	0	0	5.2	SSW	18.3	E	5	9	14	8	5.1	73
WICHITA	403	966.0	1013.7	32.2	20.0	26.0	-1.2	38.3	5	12.8	10	17	0	18.3	66	167	80	74	11	12	0	0	5.1	S	25.9	N	19	13	10	8	5.0	74
KENTUCKY																																
COVINGTON	265	984.9	1016.7	29.4	18.9	24.1	0.2	34.4	31	12.2	9	9	0	17.8	73	130	35	36	14	13	0	0	3.7	SSW	10.3*	SSW	24+	3	12	16	7.2	
LEXINGTON	298	981.5	1017.0	29.4	18.9	24.2	-0.6	32.8	2+	12.8	9	4	0	18.3	76	152	44	38	13	10	0	0	3.8	SSW				7	11	13	6.0	
LOUISVILLE	144	997.0	1016.1	30.6	18.9	24.7	-0.8	34.4	30	1.1	11+	8	0	19.4	75	131	53	59	12	10	0	0	3.0	S	11.2	SW	23	6	12	13	6.1	60
LOUISIANA																																
ALEXANDRIA	28	1013.2	1017.7	31.1	20.6	25.7		34.4	18	18.3	2+	12	0	22.2	86	240		51	20	18	0	0	1.9	SW				4	10	17	6.8	
BATON ROUGE	20	1015.2	1018.2	31.1	21.1	26.0	-1.3	33.9	26	18.3	1	12	0	21.7	84	278	129	106	17	22	0	0	3.1	S				2	16	13	6.8	
BURWOOD R	2		1018.8	31.1	25.6	28.2	0.1	32.8	16	23.3	28+	5	0	23.3	77	57	-121	34	7	18	0	0	3.2	SW								
LAKE CHARLES	4	1016.0	1017.4	31.1	23.3	27.2	-0.7	34.4	26	0.6	12	16	0	22.8	79	214	38	67	14	19	0	0	1.6	S	10.3*	E	27	0	18	13	7.2	
NEW ORLEANS U	3	1016.2		32.2	23.9	28.1	-0.3	34.4	31+	21.7	10+	21	0	22.2	75	148	- 32	42	21	19	0	0	2.1		8.5	N	8+	3	24	4	6.2	66
NEW ORLEANS	1	1016.2	1018.3	31.7	21.7	26.5	-1.2	33.3	25+	20.0	6+	12	0	21.1	77	264	114	81	18	20	0	0	2.5	SW	10.3*	E	29+	2	19	10	6.4	
SHREVEPORT	77	1008.3	1017.4	31.7	21.1	26.4	-2.2	33.3	27+	17.8	17	16	0	21.1	78	100	6	25	11	11	0	0	4.0	S				7	11	13	6.2	72
MAINE																																
CARIBOU	190	989.3	1013.5	23.9	12.2	18.2	0.4	31.7	23	6.1	2	0	0	13.3	76	95	- 7	34	17	13	0	0	3.8	S	13.0*	WSW	24+	3	8	20	7.2	
PORTLAND	19	1010.7	1014.8	24.4	13.3	18.8	-1.1	30.0	26+	5.0	2	0	0	15.0	80	73	1	19	9	6	0	0	3.5	S	16.1	N	21	3	10	18	7.3	62
MARYLAND																																
BALTIMORE	45	1011.0	1015.9	30.6	18.9	24.7	0.1	35.0	23+	12.8	10	9	0	18.9	74	116	16	44	12	7	0	0	4.5	W	12.5	NW	24+	10	15	6	5.1	66
BALTIMORE U	4			31.1	22.2	26.8	1.0	36.1	22	17.2	10+	13	0			94	- 6	22	8													
FREDERICK	90			29.4	17.8	23.7	1.1	34.4	23	10.6	10+	10	0			119	26	50	10		0	0										
MASSACHUSETTS																																
BLUE HILL OBS R	192	991.0		26.1	16.1	21.3		31.1	23+	12.2	9+	0	0		78	98	4	26	13		0	0	5.2	SSW	14.8	NW	31					54
BOSTON	5	1009.9	1014.6	26.7	17.8	22.3	-0.1	32.8	21+	13.9	10+	5	0	16.1	72	84	3	31	10	4	0	0	4.3	WSW	15.2	NW	3	2	15	14	6.7	64
NANTUCKET	13	1014.6	1015.4	22.8	15.6	19.2	-0.3	28.9	26	11.7	7+	0	0	16.7	89	156	85	67	6	5	0	0	4.7	SW	10.7	SW	2	3	8	20	7.5	47
PITTSFIELD	357			26.1	13.9	19.8	0.1	30.6	23+	5.0	5	0	0			125	- 1	27	11		0	0										
WORCESTER	301	978.8	1015.1	25.6	16.1	20.8	-0.4	31.1	2	9.4	5	0	0	15.0	73	112	16	35	12	8	0	0	3.0	WSW	7.6*	WSW	25	2	15	14	6.8	
MICHIGAN																																
ALPENA	210	989.6		26.1	12.2	19.0	-0.7	31.7	12	3.9	5+	0	0			42	- 31	16	12	10	0	0	2.5	W#	10.3	NW	15	4	14	13	6.5	62
DETROIT	189	988.9	1015.3	28.3	17.8	23.0	0.2	33.3	1	10.6	9	2	0	16.1	67	76	2	27	9	7	0	0	3.8	S	18.3	W	23	7	13	11	6.0	63
DETROIT M WAYNE CO	192	991.1	1014.8	27.8	16.7	22.3		33.9	1	8.9	9	2	0	16.1	70	91		24	10	6	0	0	4.2	SW				7	13	11	6.0	
DETROIT WILLOW RUN	220	986.9	1015.0	28.9	16.7	22.8	-0.3	33.9	1	10.0	4	3	0	15.6	67	46	- 17	22	9	5	0	0	3.8	SW	15.6*	W	23	6	15	10	6.1	
ESCANABA U	181	989.9		23.3	15.0	19.0	-0.4	29.4	29	7.8	4	0	0	15.0	78	85	3	40	14	3	0	0	3.5		12.5	N	7	6	12	13	6.2	52
FLINT	233	987.7	1015.4	27.8	14.4	20.9	-0.7	32.2	23+	6.1	9	2	0	15.0	71	57	- 16	27	10	10	0	0	3.1	WSW	9.4*	SW	24+	5	13	13	6.4	
GRAND RAPIDS	208	990.1	1015.1	27.8	16.1	21.9	-0.1	32.2	30	8.9	9	1	0	14.4	66	48	- 19	21	13	9	0	0	3.5	W	13.0	W	28	8	15	8	5.8	68
LANSING	260	983.2	1014.9	27.8	14.4	21.0	-0.7	32.2	1	6.7	4	1	0	15.0	70	58	0	23	10	7	0	0	4.4	W	16.1	NW	3	6	16	9	5.9	73
MARQUETTE U	206	987.4		22.2	14.4	18.4	-0.6	30.0	26+	8.9	4+	0	0			34	- 46	13	12	5	0	0	2.6	W#	10.7	NW	2	6	11	14	6.2	63
MUSKEGON	191	992.0	1015.0	26.1	14.4	20.5	-0.6	30.0	30	8.3	9	0	0	15.0	74	25	- 28	13	8	7	0	0	3.4	W	9.4*	SSW	23+	9	14	8	5.2	
SAULT STE MARIE	220	991.8	1014.4	23.9	12.8	18.1	0.4	29.4	12	5.0	4	0	0	13.3	78	37	- 27	12	11	6	0	0	3.5	WNW	9.4*	NW	3	7	8	16	6.6	51
MINNESOTA																																
DULUTH	435	973.8	1014.9	25.0	11.7	18.4	-0.7	30.6	25	2.8	8	0	0	12.8	72	63	- 30	19	15	9	0	0	4.0	WNW	15.2	W	2	4	11	16	7.0	64
INTERNATIONAL FALLS	359	973.5	1014.4	26.7	12.2	19.3	0.5	32.8	26	3.9	4	2	0	12.8	70	124	37	49	11	10	0	0	2.6	W	12.5*	W	1	5	14	12	6.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm. or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy 4-7	Cloudy, 8-10	Sky cover, tenths sunrise to sunset	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm	Mm.	Mm.			Mm.	Mm	M.p.s		M p s							%
MINNESOTA																																
MINNEAPOLIS	253	981.6	1014.7	27.2	15.6	21.6	-1.8	32.8	29	10.0	9	1	0	16.1	74	75	7	27	10	8	0	0	3.4	WNW	11.6*	NW	2	7	11	13	6.0	65
ROCHESTER	395	967.8	1015.1	26.7	15.0	20.8	-1.3	31.1	30+	10.0	3	0	0	15.6	76	127	39	56	13	11	0	0	3.4	S				11	7	13	5.7	
ST CLOUD	315	977.2	1014.7	27.2	14.4	20.7	-0.7	31.1	29+	9.4	3	0	0		70	80	3	28	10	8	0	0						5	10	16	6.5	
MISSISSIPPI																																
JACKSON	93	1005.8	1017.9	31.1	21.1	26.2	-1.7	33.9	27	18.3	4	17	0	21.1	79	217	100	62	15	16	0	0	1.7	S	17.0	NW	7	5	11	15	6.7	53
MERIDIAN	89	1004.7	1018.4	32.2	20.0	26.2	-0.9	33.9	26+	17.8	10+	23	0	21.7	83	111	- 40	38	11	14	0	0	2.4	SSW	10.9*	E	1	2	22	7	6.3	
VICKSBURG U	71	1008.7		30.0	21.7	25.8	-1.7	32.8	5	19.4	16+	7	0			111	11	31	13	11	0	0	2.9		13.4	W	23	6	11	14	6.5	49
MISSOURI																																
COLUMBIA	237	986.3	1014.5	30.0	19.4	24.6	-0.9	33.9	31+	12.2	9	8	0	18.9	75	144	67	31	14	15	0	0	3.7	SSW	15.2	N	25	10	10	11	5.4	67
KANSAS CITY	226	980.1	1014.4	30.0	20.6	25.2	-2.0	35.0	18	16.7	3	13	0	18.9	71	229	157	107	12	10	0	0	3.8	SW	18.8	NW	5	9	14	8	5.1	72
ST JOSEPH	247	979.8		30.6	18.9	24.9	-1.8	36.1	1	14.4	10	13	0			245	167	102	12	8	0	0	4.2	S	15.6*	N	1	14	11	6	4.5	
ST LOUIS	163	995.0	1015.4	29.4	19.4	24.6	-1.9	33.9	31+	12.2	10+	5	0	17.8	67	157	92	66	10	9	0	0	3.9	SW	16.5	N	25	9	10	12	5.9	67
ST LOUIS RFC	142			30.6	21.1	25.9	-1.1	35.0	29	16.1	9+	6	0			142	68	43	9		0	0										
SPRINGFIELD	386	969.3	1016.0	31.1	18.3	24.8	-0.5	34.4	31+	11.7	10+	17	0	18.3	73	99	18	49	10	9	0	0	4.6	S	22.4	NW	20+	5	13	13	6.0	64
MONTANA																																
BILLINGS	1087	892.3	1013.2	31.7	16.7	23.9	0.9	38.3	3	11.1	13	16	0	7.2	39	22	- 7	10	9	8	0	0	4.8	NE	20.1	SW	16	13	12	6	4.3	77
GLASGOW	694	941.1		30.6	15.0	22.7	0.4	37.2	16	9.4	13+	10	0	6.1	40	42	5	29	6	5	0	0						10	16	5	4.8	
GREAT FALLS	1116	890.3	1015.1	29.4	13.3	21.2	0.3	34.4	16	8.3	13	6	0	7.2	46	26	- 9	7	11	7	0	0	3.5	NE	17.0	NW	22	13	14	4	3.9	75
HAVRE	787	927.2		30.6	12.8	21.6	-0.2	36.7	7	8.3	26+	12	0			23	- 15	15	7	4	0	0	3.4	NW#	31.7	NW	28	15	12	4	4.0	83
HELENA	1187	875.4	1014.3	30.0	13.3	21.6	1.6	35.6	16	8.3	13+	9	0	6.1	42	27	2	9	8	9	0	0	3.9	WNW	25.9	W	5	17	11	3	3.2	81
KALISPELL	904	912.6		30.6	10.6	20.5	1.6	35.6	14	2.2	1	9	0			30	1	19	7	7	0	0	2.5					17	10	4	3.6	
MILES CITY	801			32.2	16.1	24.3	0.4	38.9	16+	8.9	13	16	0	7.2	38	12	- 8	3	8	7	0	0	4.7	NE	3.0*	NNE	29+	13	15	3	4.0	
MISSOULA	972	903.2	1015.5	31.7	10.0	20.7	0.5	36.1	22	2.2	1	13	0	7.2	45	10	- 11	6	4	5	0	0	3.3	NW	17.0	SW	5	19	10	2	3.0	85
NEBRASKA																																
GRAND ISLAND	561	948.4		32.2	17.8	24.9	-1.1	37.8	4	13.3	8	16	0	15.6	62	121	54	71	11	11	0	0	4.4	SW				13	10	8	4.5	
LINCOLN U	351			31.7	19.4	25.4	-0.8	37.8	5	16.1	16+	14	0			89	10	21	11	8	0	0	4.2	S#	17.9	SE	31	8	15	8	5.2	75
NORFOLK	471	958.5		30.6	16.7	23.6	-0.9	38.3	4	12.2	14	9	0			165	88	72	8	8	0	0						11	12	8	5.2	
NORTH PLATTE	847	915.8	1012.6	31.1	15.0	23.0	-1.3	37.2	30+	10.0	2	12	0	13.9	61	31	- 30	13	10	10	0	0	4.6	SE	21.0	SW	17	11	9	11	5.2	69
OMAHA	298	974.4	1013.8	31.1	18.9	25.0	-0.8	36.1	5+	15.0	16	12	0	17.2	67	79	- 6	28	11	7	0	0	4.2	SSE	20.6	N	27	9	14	8	5.3	74
OMAHA N OMAHA AP	403	966.5		29.4	18.3	23.7	-1.0	34.4	4	14.4	23+	7	0			70	- 15	25	15	7	0	0						8	15	8	5.7	
SCOTTSBLUFF	1204	880.0	1012.9	31.1	15.0	22.9	-0.7	37.8	17	10.0	22	15	0	12.2	57	65	28	21	12	9	0	0	4.5	WNW	20.6*	NW	28	12	12	7	4.5	
VALENTINE	789	924.1		31.1	13.9	22.6	-1.1	39.4	4	6.7	14	11	0	12.8	59	53	- 15	26	9	10	0	0	4.4	N#	24.1	SW	2	14	6	11	4.6	77
NEVADA																																
ELKO	1547	845.9	1012.7	33.3	11.1	22.3	1.1	35.6	22+	4.4	1	27	0	0.6	26	12	3	11	2	2	0	0	2.4	SW	11.6*	S	26	18	9	4	3.1	
ELY	1907	812.1		31.1	9.4	20.2	0.0	33.9	16+	3.9	1	12	0	1.1	31	16	2	10	6	7	0	0	5.2	S	17.0	SW	23+	12	15	4	4.5	92
LAS VEGAS	659	944.5	1007.9	40.6	25.0	32.8	0.3	45.0	10	19.4	6+	30	0	5.6	23	13	2	13	3	8	0	0	3.8	SW	13.4*	S	17	15	14	2	3.5	82
RENO	1342	863.2	1014.3	33.3	8.3	20.8	-0.1	37.8	22	1.1	6	26	0	4.4	38	8	2	6	3	4	0	0	2.4	WNW	15.2	NW	6+	22	7	2	2.2	95
WINNEMUCCA	1310	868.9		34.4	10.0	22.0	-1.4	38.3	22	3.3	7+	27	0	- 1.1	25	8	0	4	3	3	0	0	3.4	W	14.8	W	13+	19	10	2	2.7	91
NEW HAMPSHIRE																																
CONCORD	103	1004.1	1015.0	27.2	14.4	20.8	0.3	33.3	24	6.1	5+	2	0	15.0	73	80	- 11	23	12	7	0	0	1.9	S	9.8	W	25	3	16	12	6.6	55
MT WASHINGTON OBS	1909	809.4		12.2	6.1	9.2	-0.4	18.9	24	- 0.6	5+	0	2		92	131	- 30	39	16	4	T	0	9.8	W	33.1Y	NW	1	1	11	19	8.0	29
NEW JERSEY																																
ATLANTIC CITY	18	1013.6	1015.7	30.0	20.0	24.8	1.3	34.4	22+	13.3	7	9	0	18.9	75	86	- 8	31	8	7	0	0	3.6	WSW	11.2*	SE	15	6	13	12	6.3	58
ATLANTIC CITY U	3			26.7	20.6	23.7	0.6	31.1	26	16.7	10+	0	0			85	- 11	31	9				3.7		10.3*	SW	31+					
NEWARK	3	1013.9	1015.3	30.0	20.6	25.2	1.1	36.1	2	16.1	9	13	0	17.8	68	202	95	80	9	5	0	0	3.5	SW	8.9*	SW	2	8	13	10	6.1	
TRENTON U	17	1007.7		29.4	19.4	24.3	0.3	35.6	23	14.4	7	5	0			253	150	78	10	8	0	0	3.0	W#	13.4	S	31	7	10	14	6.6	62
NEW MEXICO																																
ALBUQUERQUE	1618	850.0	1011.4	32.2	17.2	24.8	-1.3	35.6	18	12.8	22	21	0	8.9	41	69	32	45	11	12	0	0	3.8	ESE	24.1	NW	20	16	14	1	3.3	86
CLAYTON	1515	848.3		30.0	15.0	22.3	-1.1	35.0	18+	11.7	12+	12	0			60	- 5	16	12	15	0	0						13	11	7	4.6	
RATON	1944	810.0		28.3	11.7	19.9	-0.4	32.8	30+	9.4	12+	3	0			94	31	24	15	22	0	0						8	17	6	5.0	
ROSWELL	1101	893.7		34.4	16.7	25.6	-0.5	38.9	20	14.4	28+	25	0	13.3	53	27	- 19	11	6	9	0	0	4.2		14.8	N	11	13	15	3	3.9	
SILVER CITY	1638	835.1		33.9	16.7	25.1		37.2	20	12.2	10	25	0			19		8	12	21	0	0						11	18	2	4.3	
NEW YORK																																
ALBANY	84	1010.6	1014.6	27.8	16.1	22.0	0.1	33.9	2	8.3	6+	3	0	16.1	73	121	38	50	15	10	0	0	2.8	S	15.2	NW	2	3	12	16	7.3	66

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
NEW YORK	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
BINGHAMTON	485	956.9	1015.5	24.4	15.6	20.2	-0.4	30.6	2	7.2	5	0	0	16.1	80	129	32	36	17	8	0	0	3.0	SW	13.4	W	2	0	13	18	7.5	54
BUFFALO	215	987.4	1015.4	26.1	16.1	20.9	-0.5	31.7	23	8.3	5	0	0	16.7	79	77	15	23	16	8	0	0	3.5	SW	13.0	SW	2	2	12	17	7.1	57
NEW YORK U	40	1003.5		30.0	21.1	25.6	1.1	36.1	22	16.7	9+	12	0	17.8	67	125	18	30	9	4	0	0	3.0	SW#	10.7	SW	2	9	13	9	5.4	55
NEW YORK	6	1013.3	1015.3	28.3	20.6	24.4	0.1	34.4	2	16.1	5	6	0	17.8	70	139	34	49	10	6	0	0	4.6	ENE	13.0	SW	2	3	19	9	6.2	
ROCHESTER	166	995.8	1015.0	26.7	16.1	21.6	-0.2	32.8	23	8.3	5	1	0	16.1	74	61	- 17	17	11	8	0	0	4.1	SSW	15.6	W	3	6	7	18	7.0	51
SCHENECTADY	66			27.2	16.1	21.8	-0.8	32.2	2	8.9	5	1	0			146	55	56	13	8	0	0						18	11	2	3.5	
SYRACUSE	129	993.0	1014.7	27.2	16.7	22.1	-0.4	33.3	23	9.4	6	1	0	15.6	70	129	46	51	12	8	0	0	3.6	WSW	17.9	W	3	5	11	15	6.7	61
NORTH CAROLINA																																
ASHEVILLE U	671	940.2		28.9	16.1	22.5	-0.7	31.7	30	9.4	10	0	0			65	- 50	20	14	12	0	0	2.2		13.0	NW	15	5	15	11	6.5	51
CAPE HATTERAS R	2	1016.2	1017.0	30.0	22.8	26.2	0.3	33.3	26	14.4	11	3	0	22.8	84	63	-102	18	10	10	0	0	5.2	WSW				6	11	14	6.2	78
CHARLOTTE	221	989.7	1017.5	31.1	19.4	25.2	-0.7	35.0	31	11.7	10	11	0	20.6	79	36	- 82	11	11	8	0	0	2.5	SW	9.8	N	31	8	11	12	5.9	71
GREENSBORO	272	986.0	1017.6	30.6	18.9	24.5	-0.6	33.3	31	1.7	11	9	0	18.9	76	84	- 42	24	13	10	0	0	3.0	SW	14.3	WNW	15	7	15	9	6.0	63
RALEIGH	132	1003.2	1017.0	31.1	19.4	25.3	-0.5	34.4	31	12.2	11+	18	0	20.0	76	79	- 60	19	14	11	0	0	2.6	SW	10.3*	W	15	10	14	7	5.4	70
WILMINGTON	9	1014.8	1017.7	32.8	22.2	27.4	0.8	35.6	30+	7.2	11	22	0	18.3	72	42	-165	13	11	13	0	0	3.8	SW	10.7	SW	3	8	14	9	5.6	70
WINSTON SALEM	295	982.6	1017.7	30.6	18.9	24.8	-0.5	33.9	31	12.8	10	11	0	18.3	70	60	- 56	14	12	12	0	0	3.4	SW	23.2*	WNW	15	7	14	10	5.8	
NORTH DAKOTA																																
BISMARCK	502	955.2	1014.7	28.3	13.3	20.8	-1.4	35.0	9	7.8	19	7	0	9.4	53	38	- 21	16	10	5	0	0	4.7	E	17.0	N	9	8	13	10	6.0	69
DEVILS LAKE U	448	961.8		26.7	13.9	20.3	-0.4	33.9	9	8.9	3	5	0			72	4	25	7	8	0	0	2.9	S#	12.5	W	1	8	12	11	5.9	63
FARGO	274	980.7	1014.9	28.3	14.4	21.4	-0.4	35.0	25	7.2	3	4	0	14.4	69	76	18	27	12	7	0	0	3.5	S	15.2	SW	12+	5	14	12	6.3	57
WILLISTON U	572	947.9		28.9	15.0	21.8	0.2	35.6	24	9.4	22+	8	0			46	- 8	21	7	9	0	0	2.9	NE#	11.6	NW	1	7	13	11	5.9	73
OHIO																																
AKRON	369	978.5	1016.5	27.2	16.1	21.7	-0.8	32.2	22	8.3	9	1	0	16.1	73	162	56	82	13	9	0	0	3.9	SW				6	12	13	6.7	
CINCINNATI OBS	232			29.4	18.9	24.2	-0.6	33.3	31+	12.8	9	6	0			154	60	68	19	13	0	0	2.1	S	8.9	N	4					54
CINCINNATI	169	993.5		30.0	20.0	25.1	-0.5	35.0	1	15.6	10	10	0			145	51	60	15	12	0	0										
CLEVELAND	237	987.9	1015.6	27.8	16.1	21.8	-1.3	33.3	22	6.1	9	3	0	16.7	75	109	32	32	14	8	0	0	4.1	S	10.3	W	24+	5	15	11	6.2	62
COLUMBUS	247	986.4	1016.6	28.9	17.2	23.2	-0.4	34.4	1	10.0	10	5	0	17.8	76	117	19	31	19	13	0	0	2.9	S	12.5	N	30+	4	14	13	6.6	59
COLUMBUS U	221			28.9	18.9	24.1	-0.3	33.9	1	12.8	9	7	0			131	41	50	15	15	0	0										
DAYTON	305	980.3	1016.2	28.3	18.3	23.3	-0.6	33.3	1	12.8	8	2	0	17.2	72	98	14	36	17	9	0	0	3.8	SSW	21.9	SW	21	5	11	15	6.5	41
MANSFIELD	395			26.7	16.7	21.7		31.7	1	9.4	9+	0	0			103		36	12	8	0	0						3	15	13	6.2	
SANDUSKY U	184	993.6		28.3	18.3	23.4	-0.3	35.0	1	13.9	10+	4	0			164	76	75	13	13	0	0	3.3	SW	21.5	NW	23	9	16	6	4.8	74
TOLEDO	206	990.3	1015.7	27.8	14.4	21.2	-1.7	32.8	1	6.1	10+	2	0	16.7	78	71	3	19	9	8	0	0	3.2	WSW	11.2	SW	23	5	16	10	6.1	65
YOUNGSTOWN	359	973.9	1016.1	27.2	16.1	21.7	-0.7	31.7	23+	7.8	5	0	0	15.6	71	149	43	48	9	6	0	0	3.4	SW	10.3*	WNW	2	3	16	12	6.5	
OKLAHOMA																																
OKLAHOMA CITY	390	972.4	1015.2	32.2	20.6	26.2	-1.7	36.1	19+	14.4	10	18	0	18.9	68	122	68	55	6	5	0	0	5.5	SSE	22.4	NW	13	16	4	11	4.6	76
TULSA	198	991.1	1015.2	31.1	20.6	25.9	-1.9	35.0	19+	15.0	10	18	0	19.4	70	276	208	122	10	10	0	0	4.6	SSE	13.0*	S	21+	12	8	11	5.3	70
OREGON																																
ASTORIA	2	1018.0	1018.5	20.6	12.2	16.6	0.6	37.8	11	7.2	8	1	0	12.8	79	13	- 14	8	7	0	0	0	4.1	NNW	10.3*	NNW	9+	6	8	17	6.8	
BURNS U	1265	874.0		31.1	11.7	21.4	0.4	35.0	22+	6.1	1	17	0	2.8	31	9	3	9	2	0	0	0						25	3	3	1.7	
EUGENE	110	1003.7		28.3	10.6	19.3	0.1	40.6	12	5.6	7	3	0			8	2	7	3	1	0	0	4.0		10.7*	WSW	15	18	9	4	2.8	
MEACHAM	1234			27.2	11.7	19.3	1.9	32.2	13	3.9	7	1	0			2	- 10	2	1	1	0	0						25	4	2	1.8	
MEDFORD	396	968.2	1015.1	34.4	11.1	22.8	0.7	42.2	11	5.6	6	27	0	8.9	47	3	- 2	2	2	1	0	0	2.6	WNW	11.2*	SE	12	26	5	0	1.1	
PENDLETON	452	961.4	1014.1	33.3	15.6	24.3	0.7	40.0	13	8.9	8	20	0	4.4	30	2	- 5	2	1	1	0	0	4.4	WNW	13.9*	W	13	28	2	1	1.2	
PORTLAND	6	1011.2	1016.7	27.2	14.4	20.8	1.2	40.0	11	9.4	7	3	0	11.7	61	11	0	11	2	2	0	0	3.8	NNW	9.8	NW	25	15	10	6	3.8	74
PORTLAND U	9			27.8	15.0	21.3	1.1	40.6	12	11.7	6	4	0			9	- 2	9	3		0	0										
ROSEBURG	154	998.0		30.0	11.1	20.5	0.9	41.1	11	6.7	7	10	0			9	4	9	2	0	0	0	2.5	N#	8.0	N	7	20	8	3	2.5	81
SALEM	59	1009.5	1016.9	28.9	11.1	19.7	-0.1	40.0	12	6.7	2	5	0	12.2	68	24	16	22	3	2	0	0	2.5	NW	7.2*	W	13+	19	8	4	3.0	
SEXTON SUMMIT R	1169	885.9		24.4	12.2	18.3	1.0	34.4	12+	5.6	6+	2	0			9	1	7	3	0	0	0	5.1	N				27	2	2	1.4	
PACIFIC AREA																																
CANTON ISLAND	2	1009.5	1009.5	31.7	25.6	28.5	-0.5	32.8	4	22.2	24	8	0	23.3	76	97	37	33	19	0	0	0	5.4	E	15.6*	ENE	31	7	13	11	6.2	
ENIWETOK	4	1009.1		30.6	25.0	27.9		32.2	31+	1.7	12	3	0	24.4	79	211		37	24	3	0	0	5.8									
JOHNSTON	2	1013.5		28.9	24.4	26.6		30.0	31	22.2	3+	0	0	22.8	78	22		4	11	0	0	0	7.3		15.6	E	2	3	20	8	6.1	86
KOROR R	29	1006.4	1009.3	30.6	23.9	27.2	0.2	31.7	29+	22.8	23+	0	0	23.9	86	347	-130	92	23	4	0	0	2.6	NW	9.8	NW	13	0	2	29	9.6	45
KWAJALEIN	2	1009.5	1009.6	30.0	25.0	27.4		31.7	30+	23.3	20+	0	0	23.9	81	253		42	25	6	0	0	4.2	ENE	13.0*	NE	31	1	7	23	8.5	
MAJURO	3	1010.2	1010.5	30.0	25.0	27.5		31.1	30+	23.3	31	0	0	23.3	79	136		22	21	2	0	0	3.8	ENE	12.5	E	28	0	7	24	8.7	68
PONAPE R	37	1004.7	1009.3	30.6	22.2	26.5	-0.4	32.2	27+	1.1	12+	3	0	23.3	87	394	- 39	69	25	6	0	0	1.6	SE	9.8	SE	19+	1	6	24	8.6	63
TAGUAC GUAM R	110			30.0	22.2	26.0	-0.4	31.7	29+	20.0	27+	0	0			206	- 84	40	26	6	0	0	1.8	SE#	8.5	E	30+					32

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JULY 1961

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C	C	C	C.	C		C				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s.							%
PACIFIC AREA																																
TRUK MOEN ISLAND	2	1009.8	1010.1	30.0	23.9	26.9	0.1	32.2	29	21.7	8	1	0	24.4	86	489	147	159	23	3	0	0	2.3	S				0	6	25	8.8	84
WAKE ISLAND	3	1013.5	1013.9	30.0	24.4	27.4	-0.4	31.7	30+	21.7	6	0	0	23.3	79	125	- 12	61	18	0	0	0	6.2	E	11.2*	E	26+	1	13	17	7.6	
YAP R	17	1007.5	1008.6	29.4	23.9	26.7	-0.9	31.7	30+	21.7	31+	0	0	24.4	87	323	- 59	103	25	2	0	0	2.9	SW	11.6	N	12	0	0	31	10.0	30
PENNSYLVANIA																																
ALLENTOWN	115	1001.6	1015.9	28.9	17.8	23.2	-0.2	33.9	2	11.1	10	3	0	17.2	73	178	56	58	10	8	0	0	3.4	SW	17.0*	WSW	2	7	15	9	5.9	
ERIE	223	989.3	1015.2	26.1	16.7	21.6	0.2	30.0	30+	8.3	5	0	0	16.1	73	83	2	28	10	10	0	0	4.6	S	16.5*	WSW	23	6	16	9	5.8	
HARRISBURG	102	1001.7	1015.5	30.0	18.3	23.9	-0.2	35.6	1	11.7	10	7	0	7.2	71	168	75	71	16	11	0	0	3.2	W	10.3	NW	2	4	16	11	6.3	66
PHILADELPHIA	2	1010.7	1015.2	29.4	18.9	24.2	-0.4	33.9	22	11.7	6	5	0	18.3	72	151	45	42	10	8	0	0	3.3	WSW	15.2	SW	24	6	13	12	6.3	65
PHILADELPHIA U	11			30.0	21.1	25.6	0.4	35.6	22	16.1	9	11	0																			
PITTSBURGH	351	986.3	1017.0	27.2	15.6	21.4	-1.0	31.7	23	8.9	10+	0	0	16.7	76	140	41	30	13	6	0	0	3.1	SW	14.3*	NW	2	2	15	14	7.1	63
PITTSBURGH U	228			28.3	18.3	23.4	-0.7	33.3	22	11.7	10	4	0			118	23	49	12		0	0										45
READING U	81	1003.0		29.4	19.4	24.6	0.3	35.0	23	13.3	9	6	0			167	54	64	11	7	0	0	3.4		15.2	N	1	2	18	11	6.5	66
SCRANTON	287	991.7	1015.8	27.8	17.2	22.6	0.2	32.2	2	10.6	10+	1	0	16.1	69	151	16	48	17	9	0	0	3.2	WSW	9.8	W	3	5	14	12	6.4	56
WILLIAMSPORT	161	996.7	1015.6	28.3	16.7	22.6	-0.4	33.3	2	10.0	6	5	0	16.7	75	139	45	51	15	12	0	0	2.4	W	13.0*	NW	24	3	14	14	6.9	
RHODE ISLAND																																
BLOCK ISLAND	34	1010.5		24.4	17.2	20.6	0.0	31.1	26	13.3	10+	0	0			59	- 6	27	5	1	0	0						5	7	19	7.5	
PROVIDENCE	17	1008.8	1015.0	27.2	17.2	22.3	0.7	32.2	26	12.8	10+	1	0	16.7	75	70	- 8	23	9	5	0	0	4.2	S	13.4*	NW	2	7	13	11	6.3	56
SOUTH CAROLINA																																
CHARLESTON	12	1017.8	1018.2	32.2	22.2	27.0	0.3	35.0	31+	18.3	11	19	0	22.8	81	169	- 35	36	12	13	0	0	3.4	SSW	19.2Y	W	2	7	13	11	5.9	68
CHARLESTON U	3			31.7	23.9	27.8	0.3	36.1	31+	21.1	11+	16	0			50	-155	16	11		0	0	4.1		14.8	SW	17					
COLUMBIA	66	1004.9	1017.5	33.9	20.6	27.3	-0.1	37.8	31	4.4	11	26	0	20.6	72	145	- 22	68	12	13	0	0	2.6	SW	15.6	SW	12	8	14	9	5.5	54
FLORENCE	45	1011.4	1017.2	32.8	21.1	26.8	-0.3	36.1	31	16.7	11+	21	0	22.8	83	123	- 40	48	13	14	0	0	3.3	SSW	10.3*	SW	15	10	13	8	5.2	
GREENVILLE	308	981.0	1017.6	31.7	19.4	25.7	-0.1	35.6	31	6.1	11+	19	0	19.4	74	128	6	62	12	14	0	0	2.9	WSW	11.6	NW	16	9	9	13	5.8	66
SPARTANBURG	244	988.4	1018.0	31.1	19.4	25.2	-0.9	35.0	30	14.4	11+	13	0	18.9	75	141	21	36	14	13	0	0	2.6	SW	15.6*	NW	25	12	9	10	5.5	
SOUTH DAKOTA																																
HURON	391	967.4	1013.9	30.6	13.9	22.3	-1.8	37.8	3	8.9	14	9	0	15.0	69	58	5	15	14	15	0	0	4.1	SSE	29.1	SW	25	8	13	10	5.2	82
RAPID CITY	965	902.2	1014.3	30.6	15.6	22.8	0.4	38.3	17+	10.6	15	11	0	9.4	48	54	1	28	7	11	0	0	4.2	NNW	17.9	NW	9	10	12	9	5.2	53
SIOUX FALLS	433	963.2	1014.0	29.4	15.6	22.3	-1.4	35.0	4	11.1	9	4	0	14.4	66	55	- 21	24	10	11	0	0	3.3	NE	17.9*	WSW	20	8	14	9	5.5	
TENNESSEE																																
BRISTOL	459	964.3	1018.0	28.9	17.8	23.4	-0.4	32.2	31+	8.9	10	2	0	16.7	73	80	- 50	25	13	11	0	0	2.3	SW	17.9*	SW	15	2	13	16	7.3	
CHATTANOOGA	204	990.6	1017.9	31.7	20.6	26.1	0.3	35.0	31+	13.9	4	17	0	20.6	76	98	- 38	32	14	10	0	0	2.4	SSW	10.7	NW	15	6	13	12	6.5	64
KNOXVILLE	290	983.3	1018.5	28.9	18.3	23.6	-2.2	31.7	31+	10.6	10	0	0	18.9	79	89	- 31	29	14	10	0	0	3.2	WSW	32.6	SW	15	5	8	18	7.4	46
MEMPHIS	80	1002.1	1016.8	32.2	21.1	26.8	-0.6	35.0	20	15.6	10+	21	0	19.4	69	101	19	45	13	10	0	0	3.9	SSW	12.5	NW	25	5	15	11	6.3	63
MEMPHIS U	83			31.1	22.2	26.6	-0.8	33.9	1	17.8	10	14	0			76	- 3	17	12		0	0										
NASHVILLE	176	997.0	1017.0	31.1	19.4	25.2	-1.4	33.3	31+	12.2	10	12	0	19.4	74	136	35	48	15	11	0	0	3.2	S	18.8	W	21	7	12	12	6.3	72
OAK RIDGE	276	985.6		28.9	17.8	23.3	-1.6	32.8	30	10.6	10	2	0			179	44	40	16	18	0	0	1.6		22.4Y		17	5	13	13	6.7	
TEXAS																																
ABILENE	536	954.7	1014.5	32.2	20.6	26.2	-2.2	35.0	16	17.2	10	19	0	18.9	68	110	58	38	9	9	0	0	3.6	SSE	14.3	NE	16	15	9	7	4.6	74
AMARILLO	1099	890.5	1013.1	31.7	17.8	24.7	-0.8	35.6	18+	3.9	11	20	0	15.6	60	104	44	30	9	10	0	0	5.5	S	19.2	W	14	16	9	6	3.8	86
AUSTIN	182	994.7	1016.2	32.8	22.2	27.6	-1.4	34.4	8+	20.0	17+	25	0	21.7	74	213	158	139	8	7	0	0	3.4	S	10.3	NW	17+	3	17	11	6.6	54
BROWNSVILLE	5	1013.1	1015.7	33.3	23.9	28.6	-0.2	36.1	11	21.7	28+	28	0	22.8	75	23	- 27	10	7	3	0	0	5.5	SE	16.5	E	26	7	20	4	4.9	81
CORPUS CHRISTI	13	1014.9	1016.1	33.3	23.9	28.6	-0.2	35.6	9	21.1	11	28	0	22.8	74	111	54	95	6	4	0	0	4.8	SE	13.0	SE	15+	4	17	10	6.3	73
DALLAS	147	997.5	1015.9	33.3	23.3	28.2	-1.5	35.6	30+	19.4	10	25	0	20.0	64	33	- 17	13	5	3	0	0	5.0	S	16.1	S	24	13	10	8	4.7	74
DEL RIO U	292			33.9	22.8	28.4	-0.8	37.2	9	21.1	23	27	0			89	49	43	5	6	0	0										
EL PASO	1194	885.9	1010.9	35.0	21.1	28.2	0.8	38.9	20	18.3	5+	30	0	12.2	40	55	22	42	7	8	0	0	3.1	ESE	16.1	SE	31	15	13	3	4.4	86
FORT WORTH	166	995.5	1016.0	33.3	22.8	27.9	-1.6	35.6	30+	18.9	10	25	0	21.1	68	59	11	28	6	7	0	0	5.2	S	29.1*	N	7	12	12	7	4.7	
GALVESTON U	2			30.0	26.1	28.0	-0.3	31.7	18	0.6	12+	0	0			170	49	79	7		0	0	4.8		16.1	W	12					78
GALVESTON	2	1015.3	1017.6	31.1	25.6	28.4	-0.1	32.8	31+	0.6	12	12	0	21.7	70	187	67	81	6	11	0	0	4.1	S				3	18	10	6.3	
HOUSTON U	12			31.7	23.9	27.9	-0.8	35.0	18	20.0	3	21	0			221	108	81	16		0	0										
HOUSTON	15	1014.5	1017.1	32.2	23.9	28.1	0.0	33.9	19+	22.2	28	24	0	23.3	79	256	134	96	15	20	0	0	2.9	SSE				0	16	15	7.1	65
LAREDO	152	998.9	1014.1	36.7	23.9	30.3	-0.6	39.4	9	21.7	28+	30	0	19.4	58	31	- 5	9	6	5	0	0	6.2	SE	13.4*	E	27	9	12	10	5.2	
LUBBOCK	988	905.2	1014.6	31.1	18.3	24.6	-1.7	35.0	17	15.6	22+	13	0	16.7	64	103	55	31	9	8	0	0	5.9	SSE	15.6*	NNW	8+	19	5	7	3.9	
MIDLAND	870	916.3	1013.5	32.2	18.9	25.6	-2.2	36.1	21+	15.6	22	17	0	16.7	61	171	125	152	5	6	0	0	4.6	SE	4.3*	N	22	11	13	7	4.8	
PORT ARTHUR	5	1015.7	1017.2	32.2	22.8	27.6	-0.1	34.4	26	21.1	17+	25	0	23.3	83	155	- 18	80	14	18	0	0	3.2	S	20.1	SE	7	0	14	17	7.3	42
SAN ANGELO	580	948.3	1014.3	32.8	20.6	26.6	-1.6	35.6	21+	6.7	11	24	0	18.3	65	21	- 19	7	7	7	0	0	5.1	S	13.9*	E	16	15	10	6	4.4	
SAN ANTONIO	241	991.2	1015.8	33.3	22.8	28.1	-0.9	35.6	8	21.1	27+	26	0	21.7	73	179	130	99	8	5	0	0	4.4	SSE	15.2	NW	22	4	17	10	6.1	58
VICTORIA	32	1011.8		32.8	23.3	27.9		33.9	31+	21.7	13+	25	0			173		77	13	12	0	0	3.9		17.0Y	SSE	22	1	21	9	6.5	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

JULY 1961

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
TEXAS	M.	Mb	Mb.	C	C	C.	C	C		C.				C	%	Mm	Mm	Mm			Mm	Mm	M.p.s		M.p.s							
WACO	152	1000.8	1015.9	32.2	22.2	27.4	-2.0	34.4	26	20.0	17+	24	0	21.7	74	195	146	66	8	6	0	0	5.5	S	15.6*	NW	16	9	9	13	6.0	
WICHITA FALLS	303	978.0	1013.9	35.6	21.7	28.7	-0.1	38.3	19	14.4	10	28	0	18.9	59	31	- 25	17	6	5	0	0	5.2	SSW	13.0*	SW	16	17	9	5	4.0	
UTAH																																
MILFORD	1533	845.6		34.4	13.3	24.0	0.7	37.8	15+	8.9	21+	27	0			7	- 13	4	4	7	0	0						11	13	7	4.7	
SALT LAKE CITY	1286	867.9	1011.7	35.6	17.3	26.6	1.8	38.3	29+	11.1	1	30	0	7.2	32	14	- 2	12	4	3	0	0	4.3	S	15.2	W	28	14	11	6	4.2	74
WENDOVER	1291	870.6		35.0	21.1	28.0		38.9	23	15.0	5	29	0			1		1	2	7	0	0						19	8	4	3.5	
VERMONT																																
BURLINGTON	103	999.3	1013.8	26.1	13.9	20.1	-1.2	32.2	24	7.2	5	1	0	15.6	79	126	31	46	14	9	0	0	2.6	SSW	8.0	SW	25	1	16	14	7.1	50
VIRGINIA																																
LYNCHBURG	289	992.5		29.4	18.3	24.1	-0.3	33.9	31	11.7	10	7	0			58	- 47	19	12	12	0	0	1.0		11.6	SW	18	6	18	7	5.6	71
NORFOLK	8	1015.3	1016.7	32.2	21.7	27.0	1.7	37.2	31	5.0	11	21	0	21.1	75	43	-111	13	12	12	0	0	3.5	SW	15.2	NE	31	11	12	8	5.2	75
RICHMOND	69	1010.8	1017.0	32.2	19.4	25.8	0.6	36.1	31+	12.2	11	20	0	20.0	74	72	- 71	41	8	7	0	0	3.1	SW	15.2	N	8	6	15	10	5.8	72
ROANOKE	358	975.8	1017.4	31.1	18.3	24.8	0.4	35.0	23	10.0	10	12	0	17.2	68	40	- 84	11	12	12	0	0	3.5	SW				5	19	7	5.9	
WASHINGTON																																
OLYMPIA	58	1010.8	1017.9	26.7	9.4	17.9	0.8	37.8	12	5.0	3	3	0	11.7	70	20	2	19	3	0	0	0	2.9	WSW	8.9*	WSW	26	12	11	8	4.7	
SEATTLE TACOMA	122	1003.4	1017.6	26.1	13.3	19.5	1.8	36.1	12	11.1	30+	3	0	11.7	66	19	4	17	4	1	0	0	2.8	SSW	10.3*	SSW	5	11	14	6	4.5	
SEATTLE	4		1017.4											12.8	67								3.3	NW								
SEATTLE U	4			25.6	14.4	19.4	1.2	35.6	13+	12.2	7+	3	0			19	6	18	3		0	0			14.3	SW	5					65
SPOKANE	718	946.5	1014.3	30.6	13.9	22.2	1.3	36.1	22+	7.2	1	11	0	7.2	41	9	0	9	3	4	0	0	2.9	SW	14.3	SW	16	20	7	4	3.3	79
STAMPEDE PASS R	1206	882.8		20.0	9.4	14.7	3.8	28.9	13+	5.0	6	0	0			35	2	32	6	1	0	0						14	10	7	4.3	
TATOOSH ISLAND	31	1015.6	1018.7	16.7	11.7	14.0	1.7	25.6	12	8.9	3	0	0	12.2	89	21	- 30	16	6	5	0	0	4.8	SSW	17.9	E	12	7	7	17	7.0	35
WALLA WALLA U	389	978.0		33.3	18.3	25.8	1.2	39.4	13	17.8	8+	21	0			1	- 7	0	1	2	0	0	2.5	WW	8.5	SW	27	27	2	2	1.5	93
YAKIMA	323	975.6	1014.1	32.8	12.8	22.8	0.9	39.4	13	6.1	7	17	0	8.9	43	6	2	5	3	5	0	0	3.6	WNW	10.3*	NW	23+	25	5	1	1.5	
WEST INDIES																																
SAN JUAN P.R. U	14			28.9	23.9	26.4	-0.1	30.6	29+	2.2	22+	0	0			284	131	71	24		0	0										
SAN JUAN P.R.	5	1014.3	1017.3	30.6	23.3	26.9	0.2	31.7	31+	21.1	8	0	0	22.8	79	237	66	54	5	7	0	0	3.6	ENE	14.6	NE	22	2	21	3	6.3	62
SWAN ISLAND	9	1012.6		30.0	24.4	27.3	-0.7	32.2	4	21.7	28	1	0			142	33	32	17	11	0	0						1	11	19	8.0	
WEST VIRGINIA																																
CHARLESTON	286	982.1	1017.5	27.8	17.2	22.4	-1.7	32.2	2	7.8	10	1	0	18.3	81	344	205	142	19	12	0	0	2.2	SW	12.5*	WNW	19	1	11	19	7.8	
HUNTINGTON U	173			29.4	18.9	23.9	-1.0	33.3	31+	11.7	10	5	0			221	129	42	20		0	0										
PARKERSBURG U	189			29.4	18.3	23.9	-0.4	33.3	23+	9.4	10	7	0			146	41	61	13	8	0	0	2.1		10.3	W	31					40
WISCONSIN																																
GREEN BAY	210	992.0	1014.7	26.7	14.4	20.7	-0.4	32.2	29	7.2	4	1	0	15.0	74	125	59	41	12	7	0	0	4.0	SW	14.3	S	11	8	11	12	5.8	57
LA CROSSE	199	989.8		27.8	15.7	22.1	-1.2	32.8	29	11.7	9	2	0	16.1	72	70	- 12	23	10	9	0	0	3.5	S	23.2*	W	30	8	12	11	5.8	
MADISON	262	979.8	1014.6	27.2	15.0	21.1	-1.7	31.1	30+	7.2	8	2	0	16.7	76	93	9	27	12	6	0	0	3.4	SW	10.7	NW	23	8	11	10	6.3	66
MILWAUKEE	204	990.8	1015.7	26.7	15.6	21.1	-0.3	31.1	30+	7.2	4	0	0	15.6	75	74	32	30	10	6	0	0	3.7	NNE	10.7	N	30+	10	11	10	5.4	67
WYOMING																																
CASPER	1621	840.2	1013.1	29.4	13.3	21.3	-0.4	34.4	3	7.8	12	9	0	5.0	41	21	1	20	6	6	0	0	4.0	WSW	15.6*	NW	27	12	14	5	4.3	
CHEYENNE	1869	818.1	1014.9	28.9	12.8	20.6	0.6	33.3	17+	8.3	22	4	0	7.8	50	39	- 11	11	11	12	0	0	3.1	WNW	8.8	N	17	9	14	8	5.3	62
LANDER	1696	838.1		30.0	13.3	21.7	0.4	35.0	3	8.9	10	13	0	5.0	34	10	- 13	3	8	11	0	0	3.5	SW#	23.2	W	17	10	16	5	4.5	74
SHERIDAN	1202	886.2	1010.7	30.6	13.9	22.1	0.6	37.8	3	8.9	22+	14	0	7.2	42	33	- 2	25	6	8	0	0	3.6	NW	25.5	NW	9	15	13	3	3.7	72

Data from airport unless otherwise specified. U indicates Urban. R indicates Rural sites.

* Data entered in column 'Fastest Mile' is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

A Maximum hourly average.

\+ And also on an earlier date or dates.

⊙ Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

B Number of days maximum 21.1 C. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

Data in this table is obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	0	0	0
Huntsville	0	0	
Mobile	0	0	0
Montgomery	0	0	0
ALASKA			
Anchorage	221	221	239
Annette	116	116	262
Barrow	825	825	784
Barter Island	752	752	
Bethel	421	421	326
Cold Bay	470	470	465
Cordova	369	369	363
Fairbanks	179	179	149
Juneau	262	262	319
King Salmon	385	385	322
Kotzebue	420	420	384
McGrath	311	311	206
Nome	536	536	477
St. Paul	618	618	592
Shemya	625	625	
Yakutat	360	360	381
ARIZONA			
Flagstaff	21	21	49
Phoenix (U)	0	0	0
Phoenix	0	0	0
Prescott	0	0	0
Tucson	0	0	0
Winslow	0	0	0
Yuma	0	0	0
ARKANSAS			
Ft. Smith	0	0	0
Little Rock	0	0	0
Texarkana	0	0	0
CALIFORNIA			
Bakersfield	0	0	0
Bishop	0	0	0
Blue Canyon	32	32	36
Burbank	0	0	0
Eureka (U)	250	250	267
Fresno	0	0	0
Long Beach	0	0	
Los Angeles (U)	0	0	0
Los Angeles	0	0	31
Mt. Shasta (R)	24	24	37
Oakland	50	50	84
Point Arguello (R)	205	205	
Red Bluff	0	0	0
Sacramento (U)	0	0	0
Sacramento	0	0	0
Sandberg (R)	6	6	0
San Diego	0	0	11
San Francisco (U)	167	167	189
San Francisco	77	77	144
San Jose (U)	6	6	7
Santa Maria	59	59	98
COLORADO			
Alamosa	57	57	64
Colorado Springs	29	29	8
Denver	14	14	5
Grand Junction	0	0	0
Pueblo	4	4	0
CONNECTICUT			
Bridgeport	1	1	0
Hartford	5	5	0
Middletown			
New Haven	0	0	0
DELAWARE			
Wilmington	0	0	0
DIST. OF COLUMBIA			
Washington (U)	0	0	0
Washington	0	0	0
FLORIDA			
Apalachicola (U)	0	0	0
Daytona Beach	0	0	0
Fort Myers	0	0	0
Jacksonville	0	0	0
Key West	0	0	0
Lakeland (U)	0	0	0
Miami	0	0	0
Miami Beach	0	0	0
Orlando	0	0	0
Pensacola (U)	0	0	0
Tallahassee	0	0	0
Tampa	0	0	0
West Palm Beach	0	0	0
GEORGIA			
Athens	0	0	0
Atlanta	0	0	0
Augusta	0	0	0
Columbus	0	0	0
Macon	0	0	0
Rome	0	0	0
Savannah	0	0	0
Thomasville (U)	0	0	0
IDAHO			
Boise	0	0	0
Idaho Falls 46W (R)	8	8	16
IDAHO (Cont'd.)			
Idaho Falls 42NW(R)	10	10	22
Lewiston	0	0	0
Pocatello	2	2	0
ILLINOIS			
Cairo (U)	0	0	0
Chicago (Midway)	3	3	0
Chicago (O'Hare)	15	15	
Moline	1	1	0
Peoria	2	2	0
Rockford	9	9	
Springfield	0	0	0
INDIANA			
Evansville	0	0	0
Ft. Wayne	2	2	0
Indianapolis	0	0	0
South Bend	7	7	5
IOWA			
Burlington	0	0	0
Des Moines	0	0	5
Dubuque	10	10	8
Sioux City	0	0	8
Waterloo	0	0	11
KANSAS			
Concordia (U)	0	0	0
Dodge City	0	0	0
Goodland	0	0	0
Topeka	0	0	0
Wichita	0	0	0
KENTUCKY			
Lexington	0	0	0
Louisville	0	0	0
LOUISIANA			
Alexandria	0	0	
Baton Rouge	0	0	0
Lake Charles	0	0	0
New Orleans (U)	0	0	0
New Orleans	0	0	0
Shreveport	0	0	0
MAINE			
Caribou	61	61	85
Greenville (U)	90	90	
Portland	66	66	15
MARYLAND			
Baltimore (U)	0	0	0
Baltimore	0	0	0
Frederick	1	1	0
MASSACHUSETTS			
Blue Hill Obs. (R)	12	12	
Boston	6	6	0
Nantucket	21	21	22
Pittsfield	38	38	25
Worcester	24	24	
MICHIGAN			
Alpena	55	55	50
Detroit (City AP)	4	4	0
Detroit (M. Wayne Co.)	4	4	
Detroit (Willow Run)	2	2	0
Escanaba (U)	31	31	62
Flint	24	24	11
Grand Rapids	4	4	14
Lansing	17	17	
Marquette (U)	55	55	69
Muskegon	10	10	26
S. Ste. Marie	66	66	109
MINNESOTA			
Duluth	58	58	56
Internat. Falls	30	30	70
Minneapolis	0	0	8
Rochester	4	4	24
St. Cloud	8	8	32
MISSISSIPPI			
Jackson	0	0	0
Meridian	0	0	0
Vicksburg (U)	0	0	0
MISSOURI			
Columbia	0	0	0
Kansas City	0	0	0
St. Joseph	0	0	0
St. Louis (RFC)	0	0	0
St. Louis	0	0	0
Springfield	0	0	0
MONTANA			
Billings	2	2	8
Butte			115
Glasgow	0	0	14
Great Falls	4	4	24
Havre	4	4	20
Helena	1	1	36
Kalispell	11	11	47
Miles City	0	0	6
Missoula	6	6	22
NEBRASKA			
Grand Island	0	0	0
Lincoln (U)	0	0	0
Norfolk	0	0	0
North Platte	0	0	7
Omaha	0	0	0
Omaha N. Omaha AP	0	0	
Scottsbluff	1	1	0
Valentine	0	0	11
NEVADA			
Elko	0	0	6
Ely	6	6	22
Las Vegas	0	0	0
Reno	9	9	27
Tonopah	0	0	0
Winnemucca	3	3	0
NEW HAMPSHIRE			
Concord	21	21	11
Mt. Washington Obs. (R)	503	503	
NEW JERSEY			
Atlantic City	0	0	
Atlantic City (U)	0	0	0
Newark	0	0	0
Trenton (U)	0	0	0
NEW MEXICO			
Albuquerque	0	0	0
Clayton	2	2	0
Raton	9	9	17
Roswell	0	0	0
Silver City	0	0	
NEW YORK			
Albany	11	11	0
Binghamton	38	38	16
Buffalo	30	30	16
New York (U)	0	0	0
New York (LaGuardia)	0	0	0
Rochester	28	28	9
Schenectady	9	9	0
Syracuse	14	14	0
NORTH CAROLINA			
Asheville (U)	2	2	0
Cape Hatteras (R)	0	0	0
Charlotte	0	0	0
Greensboro	0	0	0
Raleigh	0	0	0
Wilmington	0	0	0
Winston-Salem	0	0	0
NORTH DAKOTA			
Bismarck	11	11	29
Devils Lake (U)	18	18	47
Fargo	2	2	25
Grand Forks CAA	13	13	
Pembina	24	24	
Williston (U)	8	8	29
OHIO			
Akron	14	14	0
Cincinnati (U)	0	0	0
Cincinnati	0	0	0
Cincinnati Obs.	0	0	0
Cleveland	19	19	0
Columbus	2	2	0
Columbus (U)	0	0	0
Dayton	0	0	0
Mansfield	15	15	
Sandusky (U)	1	1	0
Toledo	27	27	0
Youngstown	18	18	0
OKLAHOMA			
Oklahoma City	0	0	0
Tulsa	0	0	0
OREGON			
Astoria	105	105	138
Burns (U)	9	9	10
Eugene	35	35	33
Meacham	48	48	88
Medford	9	9	0
Pendleton	0	0	0
Portland (U)	8	8	13
Portland	11	11	25
Roseburg	21	21	29
Salem	26	26	21
Sexton Summit (R)	84	84	88
PENNSYLVANIA			
Allentown	0	0	0
Erie	23	23	7
Harrisburg	0	0	0
Philadelphia (U)	0	0	0
Philadelphia	0	0	0
Pittsburgh (U)	6	6	0
Pittsburgh	17	17	0
Reading (U)	0	0	0
Scranton	3	3	0
[illegible]	0	0	0
RHODE ISLAND			
Block Island	7	7	6
RHODE ISLAND (Cont'd.)			
Providence	0	0	0
SOUTH CAROLINA			
Charleston (U)	0	0	0
Charleston	0	0	0
Columbia	0	0	0
Florence	0	0	0
Greenville	0	0	0
Spartanburg	0	0	0
SOUTH DAKOTA			
Huron	0	0	10
Pierre	0	0	
Rapid City	2	2	32
Sioux Falls	0	0	16
TENNESSEE			
Bristol	2	2	0
Chattanooga	0	0	0
Knoxville	0	0	0
Memphis (U)	0	0	0
Memphis	0	0	0
Nashville	0	0	0
Oak Ridge	0	0	0
TEXAS			
Abilene	0	0	0
Amarillo	0	0	0
Austin	0	0	0
Brownsville	0	0	0
Corpus Christi	0	0	0
Dallas	0	0	0
Del Rio (U)	0	0	
El Paso	0	0	0
Ft. Worth	0	0	0
Galveston (U)	0	0	0
Galveston	0	0	0
Houston (U)	0	0	0
Houston	0	0	0
Laredo	0	0	0
Lubbock	0	0	0
Midland	0	0	0
Port Arthur	0	0	0
San Angelo	0	0	0
San Antonio	0	0	0
Victoria	0	0	0
Waco	0	0	0
Wichita Falls	0	0	0
UTAH			
Milford	0	0	0
Salt Lake City	0	0	0
Wendover	0	0	
VERMONT			
Burlington	34	34	19
VIRGINIA			
Lynchburg	0	0	0
Norfolk	0	0	0
Richmond	0	0	0
Roanoke	0	0	0
WASHINGTON			
Olympia	62	62	91
Seattle (U)	16	16	49
Seattle	8	8	52
Seattle-Tacoma	23	23	75
Spokane	1	1	17
Stampede Pass (R)	225	225	251
Tatoosh Island (R)	235	235	295
Walla Walla	0	0	
Walla Walla (U)	0	0	0
Yakima	6	6	0
WEST VIRGINIA			
Charleston	3	3	0
Huntington (U)	0	0	0
Parkersburg (U)	0	0	0
WISCONSIN			
Green Bay	14	14	32
La Crosse	1	1	11
Madison	11	11	13
Milwaukee	18	18	20
WYOMING			
Casper	24	24	13
Cheyenne	17	17	33
Lander	13	13	7
Sheridan	9	9	27

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

JULY 1961

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
Alabama														2	2	0	0												
Alaska *																													
Arizona	3	2	0	1	5	0	0	0	4	0	4	5	4	1	1	5	0									0	0	5	0
Arkansas						0	0	0	4	0	0	5	0													0	0	5	0
California										0	0	3	0	1	6	4	0												
Colorado	2	2	0	0	3	0	0	5	7	0	0	4	4	5	7	5	0									0	0	5	5
Connecticut						0	0	0	4					0	0	0	4									0	0	0	4
Delaware										0	0	4	0																
Florida	2	2	0	0	3									1	1	0	0												
Georgia	1	1	0	0	4	0	0	3	3	0	0	5	3	4	15	0	0												
Idaho	1	1	0	0	3	0	0	0	4					0	0	4	0												
Illinois	6	2	0	0	5	0	0	3	6	0	2	5	5	0	2	5	0									1	6	5	4
Indiana	9	3	0	5	5	0	0	3	4	0	3	5	3	0	3	5	0									0	0	4	3
Iowa						0	0	6	7	0	0	4	5	0	2	5	0									0	0	4	4
Kansas	7	4						5	6		9	5		1	3	4											1		
Kentucky									2			3	4	1														5	5
Louisiana						0	0	3	0	1	0	3	0	3	1	0	0												
Maine	1	1	0	0	4	0	0	2	4	0	0	4	3	0	3	4	0												
Maryland	1	1	0	0	4					0	0	4	C	0	0	4	0												
Massachusetts	3	3	0	0	6	0	0	0	3	0	0	5	3	0	9	5	0									0	0	4	0
Michigan						0	0	3	5	1	0	5	4	1	3	4	0												
Minnesota	1	1	0	0	3	0	0	5	6	0	0	5	4													1	0	3	0
Mississippi	1	1	0	0	3					0	0	°4	C																
Missouri	4	1	0	0	5	0	0	4	5	0	0	5	4	0	0	4													
Montana						0	0	6	6	0	0	5	5	1	0	0	0												
Nebraska	2	2	0	0	4	0	0	6	7	0	0	5	6													0	0	4	4
Nevada *																													
New Hampshire	3	2	0	1	5																								
New Jersey																										1	0	5	0
New Mexico	1	1	0	0	0	0	0	4	4	0	0	3	0	0	1	0	0									0	0	5	0
New York	1	1	0	0	5	0	0		4	0	0	°5	C	5	2	5										1	0	6	
North Carolina	1	1	0	0	4	0	0	5	6	0	0	4	4	9	1	4	0									0	0	5	6
North Dakota	3	2	0	0	0	0	0	4	5	0	1	5	4																
Ohio	4	1	0	24	6	0	0	3	3	0	1	4	3	4	0	0	0												
Oklahoma	3	3	0	0	4	0	0	6	5	0	0	5	0	1	3	5	0									0	0	5	5
Oregon						0	0	3	4					0	1	5	5												
Pennsylvania	2	2	0	2	6					0	0	4	0	1	0	6	0									0	0	4	0
Puerto Rico *																													
Rhode Island *																													
South Carolina	2	2	0	0	3					0	0	4	0	4	5	2	0												
South Dakota	1	1			4			5	6			4	4	1	2	4												4	
Tennessee														0	5	4	0									0	0	5	0
Texas	9	6	0	0	3	0	0	5	6	0	0	0	4	1	5	2	0									4	0	6	4
Utah *																													
Vermont	2	2	0	0	3	0	0	0	4	0	0	0	3	2	6	4	0									0	0	4	3
U.S. Virgin Is. *																													
Virginia	2	2	0	3	3	0	0	0	4	0	1	0	4	0	0	4	0									3	1	6	C
Washington N																													
West Virginia																3										F22	U	7	
Wisconsin						0	0	0	5					0	1	0	0												
Wyoming	1	1	0	0	2	0	0	3	C	0	2	3	0																

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
C Crop Damage.
° Includes crop damage.
F Flash flood - drownings.
U Unknown.
N No report received by printing deadline.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

JULY 1961

The most important flooding in the United States during the month was the frequent, severe flash floods in the Ohio Basin. Twenty-two persons lost their lives in the flash flood at Charleston, W. Va. This was one of the worst disasters to strike this city in its 167-year history. The destruction of property was heavy. Flooding along main streams was relatively minor.

Heavy rains over eastern Puerto Rico during the early hours of July 4 caused floods in the upper tributaries of the Rio Grande de Loiza and the smaller streams along the southeast coastal areas from Salinas to Maunabo. Many families had to be evacuated along the Valenciano River at San Lorenzo. Other towns affected were Las Piedras, Gurabo, and Juncos. The streams along the southeastern slopes of the central Cordillera were also at flood stage and inundated the roads between Salinas and Guayamo, including Arroyo. There was no loss of life and damage was confined to roads, bridges, and agriculture.

ATLANTIC SLOPE DRAINAGE

Heavy local rain through central New Jersey on several days from the 15th through the 31st resulted in some flash flooding of small streams. Assunpink Creek at Trenton, N. J., crested 1.6 feet and 0.5 foot above flood stage on the 16th and 29th, respectively. The Millstone River at Blackwells Mills, N. J., crested within 0.1 foot of flood stage on the 30th. Damage was negligible.

Locally heavy rains caused flash flooding of small creeks in Philadelphia, Pa., on 2 or 3 occasions during the last half of July.

Minor flooding occurred on the lower Neuse in eastern North Carolina during the first few days of July due to rainfall the latter part of June.

Heavy rain over the Waccamaw Basin in South Carolina during June and on July 7 caused the Waccamaw River at Conway to overflow its banks from June 29 to July 21. It crested 1.7 feet above flood stage on the 9th and 10th. Considerable lowland was flooded in this flat swampy area and secondary approach roads were impassable.

Light flooding occurred on the Savannah River at Clyo, Ga., from July 25 to August 1 due to general moderate showers above Clark Hill Dam from the 11th to the 18th. The accumulated precipitation averaged about 3.25 inches.

EAST GULF OF MEXICO DRAINAGE

Frequent moderate to heavy showers on the 7th and light showers from the 8th to the 15th caused the Pearl River to overflow at Edinburg and Jackson, Miss., and from above Bogalusa, La., to the confluence of the Bogue Chitto River from the 15th to the end of the month. Flooding was limited to timberlands along the Pearl River and to fields and pastures along tributary streams. Damage, if any, were probably small.

MISSISSIPPI SYSTEM

Upper Mississippi Basin. -- Heavy rains across west-central Illinois from the 19th to the 23d produced a marked rise on the La Moine River at Ripley, Ill., to a crest of 3.9 feet above flood stage on the 24th. Intense rainfall in central and southern Illinois on the 28th and 29th caused the Kaskaskia and Sangamon Rivers to rise a little above bankfull at Vandalia and Riverton, Ill., respectively. There was only limited flooding of crops in the low river bottoms. The duration of the flooding was rather short so no appreciable damage resulted to crops.

Minor flooding occurred on the Tarkio River at Fairfax, Mo., on the 2d from heavy rain on the 1st and 2d. Heavy rains in northwestern Missouri and northeastern Kansas on the 5th and 6th produced minor flooding on the Big Blue and the Little Blue Rivers in the Kansas City, Mo., area. The latter part of the month, from the 25th through the 30th, a nearly stationary polar front lay east and west across northern Missouri, with numerous squall lines moving from west to east across the area. Rains from this system resulted in some flooding on minor streams in central Missouri. The only flooding of consequence during the month was on the Blackwater River in Saline County, Mo., where the river at Blue Lick was out of its banks from the 25th to the 30th. Damage was confined to cropland on the left bank of the river.

Minor flooding occurred on Stranger Creek at Tonganoxie, Kans., in the Kansas River Valley on the 26th and 27th. Overflow stages were also reported along Paradise Creek near Natoma, Kans., in the outer Saline Basin on the 21st.

Ohio Basin. --July 1961 will long be remembered on account of the large amounts of rainfall in central West Virginia, eastern Kentucky, and southern Ohio. Flash floods were frequent, some severe, with a great loss of life. The total rainfall for the month was the highest of record for July in Huntington, W. Va., (1893 to 1961) and possibly at many other places.

Flash Flood, Charleston, W. Va. -- July 19, 1961. -- Twenty-two persons lost their lives in this flash flood. This was one of the worst disasters to hit the City of Charleston, W. Va., in its 167-year history. An estimated 500 families either temporarily or permanently lost their homes.

For several days prior to the heavy rains on the 19th and 20th, a large high pressure area persisted off the South Atlantic coast, with a low pressure trough persisting at the surface and aloft in the Great Lakes region and south-central Canada. The area throughout the Ohio Valley was covered with unstable, maritime, tropical air with frequent periods of locally heavy showers and thunderstorms for several days. From the 14th to the 19th the Huntington, W. Va., Weather Bureau Office had a total of 2.83 inches of rain. There had been considerable cloudiness and the ground was well saturated. On the morning of the 19th, the 7 a.m. surface map showed a high pressure area still off the South Atlantic coast and a low pressure area in the western Great Lakes region with a trough extending south-southwestward into Texas. A stationary front extended from central New York westward across southern Michigan to southwestern Wisconsin, and a cold front from there southward to northwestern Missouri, then westward across Kansas. A squall line was located in western Indiana south-southwestward to western Kentucky.

During the morning of the 19th from 8 a.m. to 10:30 a.m. heavy showers and thundershowers dumped 1.45 inches of rain in Huntington. By 1 p.m. on the 19th, the squall line had moved eastward to western Ohio and central Kentucky. The stationary front had moved northward slightly and the cold front had moved eastward to western Illinois. By 1 a.m. on the 20th, the frontal system had moved south-

ward and eastward and was located on a line across southern Pennsylvania, northern West Virginia, southwestward along the Ohio River and across northern Kentucky.

The recording rain gage at the Weather Bureau Airport Station, Charleston, W. Va., shows a heavy shower beginning about 8:25 p. m., e. s. t., with a total of 1. 10 inches of rainfall in 15 minutes. During the next 2 hours the showers were light and intermittent, but at 10:45 p. m., e. s. t., the rain became heavy again and continued until near midnight with a total of 3. 10 inches. The rainfall during this storm ranged from 3 to 7 inches over the Charleston area.

The long, steep, and narrow valleys were severely flooded. The heavy rains caused many slides, bringing trees and other large objects from hillsides down into the creek. These objects must have held the water back for a short period and then broke away, as many people reported seeing "walls of water" from 12 to 20 feet high rushing downstream, destroying almost everything in its path.

Flash Flood, Paint Creek--July 30, 1961.--A record breaking flash flood occurred on Paint Creek in Johnson County, Kentucky, in the Paintsville area early on Sunday morning, July 30, causing property damage in excess of $1 million. Hundreds of families were left homeless. Paint Creek rose with such suddenness that property was carried away while residents watched, too shocked to realize the extent of their losses. Older residents reported that it was the worst flood that they had ever experienced. Homes, businesses, barns, tobacco crops, grain crops, gardens as well as a high number of bridges were destroyed. One person drowned when he stepped off U. S. Route 23 into 12 feet of water in a drainage ditch.

The meteorological situation on July 30 at 1:00 a. m. was similar to that at the time of the Charleston, W. Va., flash flood. There was a large high pressure area off the Florida coast with a stationary front from a low pressure center in the Atlantic, 100 miles east of Salisbury, Md., through Norfolk and Richmond, Va., to about Parkersburg, W. Va., and westward into a low pressure center in the Central Plains.

Radar showed a large cell persisting over eastern Kentucky and southwestern West Virginia during the early morning hours. The Paint Creek Flash Flood Warning Network Control Center was alerted at 8:15 a. m. on July 30, and warnings were issued at 8:30 a. m. on the 30th and broadcast by the radio station at Paintsville, Ky. The rainfall reports in the Redbush, Oil Springs, Paintsville, and Volga, Ky., area ranged up to 4. 5 inches. The early warning undoubtedly saved some lives and considerable damage to moveable property.

Other Flash Floods.--Flash floods occurred in Elkhorn City, Ky., and Haysi, Va., early on the morning of July 31. The heavy rain began around midnight, July 30-31 at Elkhorn City and extended southward to the vicinity of Haysi, flooding portions of several creeks in that area. Elkhorn Creek which runs almost parallel to the Kentucky-Virginia border, and enters Russell Fork of Levisa Fork of the Big Sandy River at Elkhorn City, flooded a large portion of the Valley and at least 80 homes. Marrowbone Creek, a short distance northwest of Elkhorn City, flooded 10 homes. The rainfall at Elkhorn City totalled 3. 2 inches with most of it occurring between midnight and 6 a. m. on the 31st. Burdine, Ky., at the head of Elkhorn Creek reported only 0. 10 inch in the same period.

The heavy rain, which resulted in a flash flood at Haysi, Va., began at 4:15 a. m. with 3 inches of rain occurring in a 4-hour period. Bartlick Creek, near Haysi, reached a level as high as the 1957 flood which was the highest ever known. Russell Prater Creek, near Haysi, also reached the highest level ever known. Three persons were electrocuted by a 4, 400 volt electric line which fell in the flood area. Two hundred families fled from their homes. Many homes and stores were damaged with many smaller buildings destroyed. Within a 4-mile radius of Haysi, the damage was estimated to be over $1 million.

Flash flooding occurred on tributaries of the Licking River from West Liberty, Ky., to Farmers, Ky., on the 29th and 30th causing extensive damage.

Other Floods.--Locally heavy rains in southeastern Illinois on the 28th and 29th resulted in minor overflow along the Saline River at Harrisburg, Ill., on the 29th and 30th and on the Skillet Fork at Wayne City, Ill., from the 29th into August.

Arkansas Basin.--Moderate to heavy rains occurred over the Arkansas Basin during the middle of the month. Flash flooding occurred in the north portion of the city of Tulsa and in Muskogee, Okla., from heavy thundershowers during the night of the 14th. Another series of thunderstorms on the 16th produced flash flooding in several areas of southside Tulsa with 3. 9 inches of rain occurring in 1 hour. Liberal, Kans., experienced urban flash flooding on the 21st, when 3. 19 inches was reported, but with unofficial amounts of 5. 5 inches nearby.

Although significant rises were noted on all streams, the most intense flooding occurred on lower Bird Creek, north of Tulsa, Okla. The Poteau River overflowed at Panama, Okla., for 2 days. Minor overflows occurred along the Chikaskia River near Corbin, Kans., the Illinois River at Tahlequah, Okla., and the Verdigris River near Inola, Okla. These were rapid rises due to intense rainfalls at, or immediately above, the gages falling on high antecedent flows. Flood damages were extensive to urban homes and shopping centers.

Local heavy rains during the period from the 19th through the 22d produced local minor flooding in the Wichita to Hutchinson, Kans., area, especially northwestern Sedgwick County.

The flooding on the Deep Fork River at Dewar, Okla., on the 16th and 17th was due to heavy rainfall from the 14th to the 16th. The Dewar station reported a total of 6. 48 inches of precipitation in 48 hours.

The only flooding along the Arkansas River was at Arkansas City, Kans., where flood stage was exceeded by 0. 35 foot.

Red Basin.--There was some flash flooding in the Red Basin during July, but no flooding was experienced along any of the principal rivers in the basin. At Dierks, Ark., 10. 67 inches fell during the 24-hour period that ended at 7 a. m. on the 16th. Fulton, Ark., recorded 9. 04 inches at 7 a. m. on the 24th. Although some roads overflowed, no other losses were reported.

WEST GULF OF MEXICO DRAINAGE

Scattered thundershowers from the 8th to the 12th, ranging from 2. 5 to 5 inches, caused the Calcasieu River to rise 5 to 6 feet in the middle and upper portions to 0. 6

foot above flood stage at Hineston, La., and to bankfull stage in the middle portion. The Sabine River was at bankfull stage from the beginning of the month at Deweyville, Tex., and rose an additional foot by the 14th. The flooding at Hineston, La., was confined to lowlands near the river and no damages resulted.

Heavy rains of 2 to 3 inches over the upper portions of the Guadalupe and San Antonio Rivers during the afternoon and evening of the 9th caused moderate rises in both streams. Additional heavy rains on the 10th over the lower portion of the Guadalupe and throughout the Lavaca-Navidad Basins resulted in overflows in the lower Guadalupe on the 14th, near flood stages on the Lavaca, and slightly above flood stage on the Navidad at Ganado, Tex., from the 11th to the 14th.

Heavy rains over the upper Nueces Basin on the 22d to the 24th resulted in flash flooding on the West Nueces and upper Nueces Rivers in Texas. The heaviest rainfall reported was 6 inches, 28 miles southwest of Rocksprings in Edwards County on the Mayes Ranch. A 20-foot rise was reported on the West Nueces at Mayes Ranch. The rise on Cedar Creek, a tributary of the upper Nueces, was reported the highest in 20 years. A 10-foot rise was reported on the upper Nueces at Camp Wood. Minor flooding occurred downstream on the Nueces to below Tilden by August 7. Most of the flash flooding occurred in open ranch country so only minor damage was reported.

Locally heavy showers during the early morning hours of the 17th caused flooding of tributary creeks on the middle Frio in Texas. The heaviest rainfall reported was 4.95 inches in 3 hours at Pearsall in Frio County. No damage was reported.

Moderate to heavy showers in the Albuquerque, N. Mex., area in the late afternoon and evening on the 8th, resulted in considerable flooding of residential and business properties in the southeastern section of the city. Several arroyos between the mountains to the east and the Rio Grande carried heavy runoff for several hours. Rainfall amounts for this storm varied from 1.63 inches in 1 hour to as little as a trace in northern portions of the city. This storm produced the heaviest excessive precipitation on record at Albuquerque for 30-minute and 1-hour periods. The storm yielded 1.39 inches in 30 minutes and 1.63 inches in 1 hour.

GREAT BASIN

There were a few small flash floods in the Great Basin during July. The most important of these occurred in the mountains east of Fillmore, Utah, in the upper drainage of Chalk Creek. Damage was reported to the Chalk Creek road, the Forest Service Camp ground and to some homes.

FLOOD STAGE DATA

(All dates in July unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest*	
		From—	To—	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Neuse: Goldsboro, N. C.	14	1	3	14.8	1
Waccamaw: Conway, S. C.	7	June 29	21	8.7	9-10
Savannah: Clyo, Ga.	11	25	Aug. 1	11.4	27-Aug.1
EAST GULF OF MEXICO DRAINAGE					
Pearl: Edinburg, Miss.	20	15	19	21.2	17
Jackson, Miss.	18	15	26	22.6	22-23
Bogalusa, La.	15	15	31	16.4	28
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Sangamon: Riverton, Ill.	13	29	31	16.5	30
La Moine: Ripley, Ill.	22	22	28	26.0	24
Kaskaskia: Vandalia, Ill.	18	31	Aug. 1	19.3	31
Missouri Basin					
Tarkio: Fairfax, Mo.	17	2	2	17.4	2
Stranger Creek: Tonganoxie, Kans.	22	26	27	22.3	26-27
Blue: Kansas City (Bannister Bridge), Mo.	21	6	6	25.8	6
Little Blue: Lake City, Mo.	18	6 24	7 25	19.2 22.0	7 25
Wakenda: Carrollton, Mo.	15	25	26	18.8	25
Grand: Sumner, Mo.	26	26	26	30.0	26
Blackwater: Blue Lick, Mo.	25	25	30	30.2	28
Petite Saline: Boonville, Mo.	16	25	26	18.2	26
Ohio Basin					
Saline: Harrisburg, Ill.	13	29	30	18.4	29
Skillet Fork: Wayne City, Ill.	15	29	1/	18.5	30

River and station	Flood stage	Above flood stages -dates		Crest*	
		From—	To—	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Arkansas Basin					
Walnut: El Dorado, Kans.	18	23	23	19.6	23
Augusta, Kans.	23	22	24	29.7	23
Chikaskia: Corbin, Kans.	10	21	21	10.8	21
Bird Creek: Avant, Okla.	16	15	15	20.3	15
Sperry, Okla.	21	15	17	28.1	16
Owasso, Okla.	24	15	18	33.2	17
Verdigris: Inola, Okla.	41	16	16	42.0	16
Neosho: Burlington, Kans.	27	23	24	28.95	23
Illinois: Tahlequah, Okla.	11	15	15	11.3	15
Deep Fork: Dewar, Okla.	18	16	17	20.4	16
Poteau: Panama, Okla.	24	15	17	28.4	16
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	14	16	12.6	14
Guadalupe: Victoria, Tex.	21	14	14	22.8	14
Navidad: Ganado, Tex.	21	11	14	24.3	12
Nueces: Uvalde, Tex.	11	24	25	12.0	25
Asherton, Tex.	20	26	28	26.7	27
Turkey Creek: Crystal City, Tex.	8	26	28	10.5	26

* Provisional
1/ Continued at end of month

RAWINSONDE DATA

Average monthly values

JULY 1961

Standard pressure surface (mb)	ALBANY, N. Y. (1005 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ALBUQUERQUE, N. MEX. (841 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	AMARILLO, TEXAS (894 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ANCHORAGE, ALASKA (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ANNETTE, ALASKA (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	41	86	18.5	88	194	1.9	31	1,619	18.6	60	93	4.5	31	1,095	18.6	82	220	4.7	31	30	12.2	75	163	3.9	31	37	13.1	84	76	1.0
1,000--	31	128	18.4	86	207	2.5	31	101					31	120					31	142	11.9	73	174	4.7	31	174	13.3	80	5	1.4
950----	31	369	17.7	76	265	6.2	31	545					31	565					31	570	10.0	72	185	6.0	31	608	12.0	74	353	1.9
900----	31	1,030	15.5	74	276	8.5	31	1,024					31	1,038					31	1,018	7.3	74	185	7.0	31	1,058	10.4	70	247	1.6
850----	31	1,514	12.6	72	280	11.7	31	1,526					31	1,530	19.6	65	231	14.6	31	1,486	4.2	78	166	8.0	31	1,533	8.4	65	246	4.1
800----	31	2,021	9.2	71	276	13.8	31	2,049	18.5	51	137	4.3	31	2,051	17.1	58	244	9.1	31	1,977	1.4	78	157	8.8	31	2,032	5.8	58	246	4.7
750----	31	2,550	6.1	66	274	16.3	31	2,591	15.3	52	185	3.7	31	2,593	13.7	55	260	4.5	31	2,493	- 1.1	70	165	8.4	31	2,555	2.8	57	256	6.8
700----	31	3,118	3.5	54	274	18.3	31	3,183	11.5	52	261	3.1	31	3,178	9.7	56	322	2.7	31	3,042	- 3.8	66	177	7.6	31	3,115	.0	52	258	7.6
650----	31	3,711	.1	49	273	21.0	31	3,788	6.9	55	295	3.7	31	3,783	5.6	56	337	3.7	31	3,622	- 7.0	59	199	8.0	31	3,700	- 3.3	49	255	9.1
600----	31	4,355	- 3.1	39	271	25.8	31	4,450	1.8	60	345	4.1	31	4,439	1.2	52	357	4.3	31	4,245	-10.3	58	206	7.2	31	4,335	- 7.0	49	264	9.5
550----	31	5,029	- 7.1	37	271	24.7	31	5,137	- 3.7	60	360	6.2	31	5,128	- 2.7	42	356	5.1	31	4,906	-13.9	55	218	9.1	31	5,004	-10.7	45	272	10.3
500----	31	5,777	-11.8		273	27.6	30	5,891	- 8.7	50	357	7.4	31	5,885	- 7.2		336	6.2	31	5,629	-18.2	50	232	11.1	31	5,737	-15.5	44	270	11.8
450----	31	6,567	-17.0		270	29.9	30	6,696	-13.6	42	328	4.7	31	6,693	-12.6		329	6.4	31	6,401	-23.4	43	233	11.3	31	6,521	-21.1	42	276	12.2
400----	31	7,451	-23.3	36	269	32.3	30	7,587	-19.3		308	5.1	31	7,588	-19.2		314	6.0	31	7,260	-29.7	42	228	15.0	31	7,385	-27.4		278	13.0
350----	31	8,415	-30.4		268	34.4	30	8,566	-26.3		307	7.6	31	8,568	-26.2		313	6.4	31	8,198	-36.7		234	16.5	31	8,332	-34.6		279	14.4
300----	31	9,491	-38.3		268	39.6	30	9,661	-34.6		308	9.1	31	9,665	-34.3		322	9.3	31	9,248	-44.5		234	16.3	31	9,390	-42.9		282	16.5
250----	31	10,727	-45.8		269	42.7	30	10,910	-44.1		306	11.1	30	10,920	-43.9		307	9.5	31	10,454	-49.6		242	18.3	31	10,595	-51.4		285	17.3
200----	31	12,194	-51.8		270	44.7	30	12,374	-51.2		301	13.8	29	12,386	-54.1		298	12.4	31	11,915	-49.3		252	18.3	31	12,031	-52.8		273	15.5
175----	31	13,056	-54.2		270	42.8	30	13,220	-59.5		298	12.0	29	13,233	-59.3		307	12.2	30	12,793	-47.4		249	14.8	31	12,896	-51.6		269	14.4
150----	31	14,039	-56.7		269	39.4	30	14,174	-64.6		294	10.3	29	14,187	-64.2		316	11.7	30	13,813	-47.5		251	11.5	31	13,896	-51.5		263	12.4
125----	31	15,191	-58.2		271	33.8	30	15,276	-68.7		324	6.8	29	15,294	-67.5		333	8.9	30	15,017	-47.8		236	8.7	31	15,078	-51.8		262	9.7
100----	31	16,598	-57.2		273	23.9	30	16,615	-67.5		54	5.6	28	16,638	-67.1		35	7.2	29	16,495	-47.8		227	6.0	31	16,525	-51.4		257	6.4
80----	31	18,015	-55.3		284	4.7	30	17,972	-63.9		76	10.7	28	17,998	-62.8		73	12.4	28	17,966	-47.5		202	3.5	31	17,975	-50.9		248	1.2
70----	31	18,872	-54.2		33	3.3	29	20,907	-61.4		83	14.6	28	18,827	-60.6		77	17.1	28	18,847	-47.4		166	2.1	30	18,852	-50.7		93	1.6
60----	31	19,860	-52.7		97	6.8	29	19,754	-58.7		89	19.6	28	19,788	-58.1		86	19.8	28	19,867	-47.2		117	2.7	30	19,850	-50.3		92	4.7
50----	31	21,041	-51.1		95	11.1	29	20,907	-56.0		90	24.3	28	20,942	-55.4		91	22.2	28	21,074	-46.9		110	4.3	30	21,041	-49.7		94	7.0
40----	31	22,499	-49.2		91	15.7	28	22,333	-53.4		92	25.3	27	22,374	-52.8		91	23.9	27	22,552	-46.0		91	8.0	30	22,504	-48.6		92	9.7
30----	31	24,396	-46.7		91	22.2	26	24,195	-50.8		90	28.8	27	24,243	-49.4		88	29.1	27	24,471	-44.6		100	9.1	29	24,403	-47.0		87	12.4
25----	29	25,609	-45.2		89	25.3	25	25,389	-49.1		87	30.9	27	25,441	-48.1		88	32.3	26	25,696	-43.2		91	10.3	29	25,614	-45.5		83	14.8
20----	28	27,104	-43.2		87	27.8	25	26,862	-46.3		86	35.8	22	26,926	-41.4		86	34.8	24	27,106	-41.4		90	15.5	26	27,104	-43.4		82	16.5
15----	16	29,040	-40.4				19	28,780	-43.3		88	38.5	7	28,867	-42.5				21	29,170	-38.5		90	17.1	15	29,050	-40.6			
10----							7	31,516	-39.5										7	31,994	-34.1									

Standard pressure surface (mb)	ATHENS, GR. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BARROW, ALASKA (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BARTER IS., ALASKA (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BETHEL, ALASKA (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BISMARCK, N. DAK. (956 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	246	20.4	94	309	1.7	31	8	2.2	93	182	1.7	31	15	3.1	91	92	2.3	31	4	8.8	94	232	6.2	31	505	14.4	72	358	1.4
1,000--	31	165					31	88	2.5	88	202	2.9	31	95	3.6	84	158	1.2	31	114	8.8	91	221	6.8	31	122				
950----	31	605	22.1	76	283	7.6	31	506	3.9	80	234	7.0	31	515	6.8	74	257	6.6	31	541	7.3	82	207	8.4	31	559	15.5	69	46	.6
900----	31	1,080	19.4	74	275	8.5	31	944	3.0	76	243	8.2	31	958	5.7	71	270	11.3	31	983	5.7	78	193	5.1	31	1,020	17.3	56	279	2.1
850----	31	1,571	16.5	72	265	9.7	31	1,405	1.0	75	246	10.7	31	1,424	3.6	70	261	13.8	31	1,449	3.8	80	209	8.2	31	1,506	14.8	52	300	4.9
800----	31	2,086	13.4	68	256	11.3	31	1,891	- 1.1	72	251	12.6	31	1,914	1.1	69	257	17.7	31	1,941	1.7	77	206	7.0	31	2,018	11.8	52	306	6.6
750----	31	2,621	10.0	63	254	12.2	31	2,401	- 3.4	67	254	12.6	31	2,428	- 2.0	71	254	17.1	31	2,458	- .7	73	218	7.2	31	2,550	8.1	55	311	10.1
700----	31	3,199	6.1	52	251	12.0	31	2,947	- 5.9	63	255	14.8	31	2,976	- 5.2	70	251	18.1	31	3,009	- 3.4	68	222	8.0	31	3,121	4.4	52	310	12.6
650----	31	3,800	3.1	51	251	11.0	31	3,519	- 9.2	60	258	16.7	31	3,548	- 8.4	65	254	20.6	31	3,589	- 6.7	65	222	7.6	31	3,714	.5	54	305	14.4
600----	31	4,450	.3	47	249	16.7	31	4,139	-12.8	58	256	17.5	31	4,172	-12.2	64	254	21.0	31	4,213	-10.2	60	210	7.2	31	4,359	- 3.5	50	297	17.5
550----	31	5,137	- 4.1	43	250	15.9	31	4,793	-16.6	54	262	18.5	31	4,826	-16.5	61	257	22.7	31	4,874	-14.2	53	220	5.1	31	5,032	- 7.8	53	300	19.6
500----	31	5,829	- 8.4	40	251	16.7	31	5,509	-21.1	51	260	20.6	31	5,543	-20.9	53	255	24.7	31	5,598	-18.7	49	211	6.2	31	5,778	-12.6	47	296	21.8
450----	31	6,690	-13.3		246	15.5	31	6,270	-26.5	49	257	21.0	31	6,304	-26.2	50	256	26.8	31	6,368	-24.0	49	209	6.0	31	6,563	-18.1	46	295	26.0
400----	31	7,587	-19.2	33	251	14.2	31	7,120	-32.5	48	258	24.3	31	7,157	-33.0	49	258	27.0	31	7,225	-29.9	46	226	8.0	31	7,446	-24.1	44	296	29.0
350----	31	8,568	-26.1		248	12.6	31	8,049	-38.9		253	26.6	31	8,086	-38.9		264	28.8	31	8,163	-36.8	44	237	9.5	31	8,405	-31.2		294	32.6
300----	31	9,666	-34.3		252	12.0	31	9,091	-44.9		260	31.1	31	9,127	-45.7		264	31.1	31	9,213	-44.4		245	7.8	31	9,480	-39.1		289	40.8
250----	31	10,916	-44.3		264	11.7	31	10,300	-48.2		260	28.8	31	10,327	-49.7		266	28.8	31	10,418	-49.6		250	5.8	31	10,706	-46.7		287	45.7
200----	30	12,377	-55.3		273	11.5	31	11,780	-44.4		267	16.3	31	11,795	-46.0		261	21.6	31	11,884	-47.4		253	6.4	31	12,170	-51.0		285	47.4
175----	30	13,219	-60.5		273	10.9	31	12,676	-43.7		264	15.0	31	12,686	-45.0		258	18.3	30	12,767	-46.5		249	6.2	31	13,034	-53.2		285	39.4
150----	30	14,170	-64.9		281	7.8	31	13,712	-43.7		263	11.7	31	13,716	-45.2		258	15.7	30	13,790	-46.6		241	5.8	31	14,021	-55.3		290	34.6
125----	30	15,276	-66.8		301	2.1	31	14,937	-43.8		266	8.4	31	14,933	-45.0		255	13.4	30	14,998	-47.3		244	4.3	31	15,178	-56.9		294	23.7
100----	30	16,627	-66.1		22	3.5	31	16,437	-43.8		269	7.2	31	16,423	-44.9		257	11.3	30	16,475	-47.2		220	2.9	30	16,589	-57.1		312	10.9
80----	29	17,994	-62.1		69	10.5	30	17,933	-43.4		253	5.2	31	17,916	-44.4		251	7.0	27	17,953	-46.6		154	2.1	30	18,005	-56.0		10	5.6
70----	29	18,818	-59.7		82	16.1	30	18,829	-43.2		253	4.1	31	18,807	-44.3		252	4.7	27	18,838	-46.7		124	2.1	30	18,860	-54.8		38	6.2
60----	29	19,790	-57.4		85	21.8	30	19,870	-42.9		274	1.9	31	19,844	-44.0		209	2.5	27	19,861	-46.7		118	3.3	30	19,846	-53.0		62	8.5
50----	29	20,949	-54.8		91	26.4	30	21,100	-42.6		84	1.4	30	21,072	-43.8		97	2.7	27	21,071	-46.6		99	5.6	30	21,026	-51.5		76	11.3
40----	29	22,383	-52.4		93	28.6	30	22,607	-42.2		86	4.7	30	22,573	-43.3		105	4.3	27	22,554	-45.9		94	7.8	30	22,481	-49.7		81	15.9
30----	28	24,297	-49.1		90	29.3	29	24,555	-41.6		81	6.0	30	24,513	-42.5		82	7.4	24	24,468	-44.8		91	11.3	30	24,374	-47.3		82	17.7
25----	26	25,156	-47.3		90	31.9	28	25,791	-40.6		82	8.0	28	25,751	-41.2		86	9.3	23	25,694	-43.6		91	11.9	29	25,589	-45.4		82	18.8
20----	23	26,936	-45.9		86	34.8	24	27,312	-38.8		80	10.1	25	27,281	-39.7		88	9.9	20	27,205	-41.3		89	15.3	26	27,084	-43.5		81	17.1
15----	15	28,858	-43.2				15	29,287	-36.9		80	9.3	23	29,261	-36.6		92	11.5	11	29,135	-38.4				19	29,030	-41.7		83	21.8
10----													9	32,121	-30.9										5	31,798	-35.4			

Standard pressure surface (mb)	BOISE, IDAHO (915 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BROWNSVILLE, TEXAS (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BUFFALO, N. Y. (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BURRWOOD, LA. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CAPE HATTERAS, N. C. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	868	17.1	48	176	3.5	31	7	24.0	93	136	5.1	31	218	17.7	88	209	4.9	31	3	26.4	83	218	1.9	31	4	24.1	92	249	6.4
1,000--	31	94					31	136	24.9	84	150	10.3	31	131					31	158	25.9	80	191	2.7	31	147	24.1	83	251	9.7
950----	31	543					31	581	22.7	81	163	18.7	31	570	17.6	75	241	10.3	31	607	22.9	77	185	3.7	31	592	22.2	73	266	12.2
900----	31	1,011	20.5	37	206	1.9	31	1,057	20.1	73	166	19.4	31	1,036	15.4	72	262	11.3	31	1,079	19.8	72	186	4.5	31	1,065	19.2	71	268	12.6
850----	31	1,506	22.2	24	319	2.5	31	1,550	17.7	62	165	18.7	31	1,519	12.4	71	269	12.6	31	1,570	16.7	67	186	5.2	31	1,554	16.0	70	266	13.4
800----	31	2,029	18.8	23	305	3.9	31	2,067	15.0	54	164	16.5	31	2,026	9.2	73	267	14.0	31	2,084	13.6	63	195	5.2	31	2,068	12.8	67	261	15.0
750----	31	2,577	14.7	27	272	5.2	31	2,606	11.8	51	160	14.0	31	2,553	5.9	71	270	15.3	31	2,623	10.5	60	210	5.2	31	2,601	9.8	63	264	16.9
700----	31	3,158	9.9	32	253	10.5	31	3,186	8.3	50	158	11.3	31	3,122	2.8	61	272	16.7	31	3,198	7.1	57	221	5.6	31	3,178	6.6	59	265	18.7
650----	31	3,764	5.2	35	240	13.0	31	3,787	4.6	48	151	9.7	31	3,714	- .4	54	270	19.6	31	3,802	3.4	57	224	6.2	31	3,779	3.4	54	263	18.1
600----	31	4,417	.4	35	236	19.0	31	4,443	.7	46	149	7.2	31	4,356	- 3.8	44	267	20.8	31	4,448	- .5	55	226	6.4	31	4,429	- .3	53	262	20.4
550----	31	5,101	- 4.9	34	233	23.9	31	5,127	- 3.6	47	145	4.5	31	5,032	- 7.5	37	266	22.9	31	5,130	- 4.5	52	229	6.4	31	5,113	- 3.9	48	261	20.4
500----	31	5,851	10.5		238	24.9	31	5,884	- 8.5	44	150	1.2	31	5,776	-11.9		270	25.3	31	5,884	- 8.9	51	226	5.6	31	5,869	- 8.1	42	255	21.6
450----	31	6,652	-16.2		243	26.2	31	6,691	-13.5	44	59	.6	31	6,567	-17.4		272	27.4	31	6,692	-13.8	49	220	6.0	31	6,673	-13.1	38	258	22.3
400----	31	7,531	-22.5		244	30.5	31	7,582	-19.0	35	3	1.9	31	7,449	-23.3		275	29.3	31	7,579	-19.6	43	215	5.2	31	7,569	-19.0	36	257	19.8
350----	30	8,497	-29.9		242	35.0	31	8,562	-25.8		340	4.9	31	8,413	-30.3		274	34.6	31	8,557	-26.5	38	214	3.5	31	8,550	-25.8	33	255	21.0
300----	29	9,578	-37.7		243	37.3	31	9,660	-34.2		342	8.0	31	9,492	-38.3		272	38.3	31	9,652	-34.9	37	204	4.1	31	9,648	-34.2		255	21.8
250----	29	10,813	-46.0		245	44.5	30	10,910	-43.9		345	11.1	31	10,725	-46.2		274	48.2	31	10,898	-44.5		209	3.5	31	10,897	-44.2		260	22.3
200----	29	12,273	-53.4		230	48.0	30	12,372	-54.8		7	11.5	31	12,190	-51.9		273	46.2	31	12,358	-55.0		167	.6	31	12,356	-55.5		270	21.2
175----	29	13,126	-56.4		237	44.7	30	13,215	-60.5		16	12.8	31	13,050	-54.6		272	42.4	31	13,202	-59.8		53	4.9	31	13,196	-60.9		275	21.2
150----	29	14,098	-59.6		260	30.9	28	14,163	-65.9		30	13.8	31	14,032	-56.8		273	33.8	31	14,155	-64.2		41	8.9	31	14,146	-64.5		274	15.7
125----	29	15,234	-64.0		257	20.4	28	15,260	-69.3		48	17.9	31	15,184	-58.3		273	24.3	31	15,260	-67.6		54	11.5	31	15,253	-66.1		270	9.5
100----	29	16,617	-61.0		268	8.0	27	16,590	-69.7		73	18.8	30	16,589	-57.3		276	13.0	31	16,601	-67.9		75	13.4	31	16,610	-64.3		296	1.4
80----	28	18,013	-58.4		96	2.1	27	17,934	-65.4		87	21.2	30	18,004	-56.1		295	4.5	31	17,955	-64.1		79	17.1	31	17,987	-60.5		82	6.8
70----	28	18,866	56.7		85	7.0	27	18,759	-62.4		84	23.9	30	18,858	-54.7		61	1.2	31	18,788	-61.6		78	21.4	31	18,822	-58.6		85	12.0
60----	28	19,836	-55.2		87	10.5	26	19,707	-59.9		81	28.6	30	19,846	-53.3		78	5.8	31	19,741	-58.8		84	27.6	31	19,795	-56.6		85	17.7
50----	28	21,004	-53.1		87	13.0	25	20,854	-57.6		87	31.5	30	21,024	-51.5		85	10.3	31	20,893	-56.2		89	31.5	31	20,956	-54.4		88	22.5
40----	27	22,448	5.2		86	15.0	25	22,276	-54.5		90	35.6	30	22,478	-49.7		86	14.2	31	22,320	-53.4		92	33.4	30	22,394	-51.5		92	27.8
30----	27	24,130	48.1		89	20.4	24	24,131	-50.8		91	33.4	27	24,371	-47.4		83	17.7	30	24,187	-49.8		89	34.0	27	24,276	-48.1		96	29.5
25----	27	25,534	-46.5		86	22.0	24	25,325	-48.2		88	36.9	27	25,582	-45.5		87	22.0	30	25,385	-48.0		85	37.3	24	25,482	-46.3		89	30.7
20----	27	27,023	-41.4		88	23.7	23	26,810	-44.8		88	35.9	24	27,075	-43.6		83	25.5	26	26,855	-45.1		85	38.5	19	26,975	-44.1		87	32.3
15----	27	28,962	-1.2		86	26.6	8	28,752	-41.7				17	29,015	-40.9		89	26.4	22	28,790	-42.2		84	42.7	5	28,890	-41.6			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JULY 1967

Standard pressure surface (mb.)	CARIBOU, ME. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CHARLESTON, S. C. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	191	15.4	86	210	2.9	31	13	23.5	92	221	3.1
1,000--	31	115					31	160	24.1	84	240	7.8
950----	31	546	14.1	77	257	7.2	31	607	22.9	74	252	10.3
900----	31	1,007	12.2	71	275	10.7	31	1,081	19.7	73	254	9.7
850----	31	1,484	9.4	72	271	10.3	31	1,572	16.9	73	251	11.3
800----	31	1,985	6.6	69	273	12.4	31	2,087	13.8	68	250	11.5
750----	31	2,509	3.[illegible]	61	274	13.8	31	2,624	10.8	63	253	14.0
700----	31	3,071	.6	60	273	15.2	31	3,202	7.3	59	250	13.2
650----	31	3,659	- 2.8	57	272	16.5	31	3,803	3.7	58	252	14.8
600----	31	4,294	- 5.9	44	270	18.5	31	4,456	.1	52	255	15.2
550----	31	4,959	- 9.9	38	268	19.6	31	5,144	- 3.8	49	254	15.3
500----	31	5,700	-14.[illegible]	35	268	21.0	31	5,896	- 8.1	41	251	15.3
450----	31	6,481	-20.0	34	270	23.9	31	6,700	-13.0	35	247	16.5
400----	31	7,353	-26.5	34	268	27.2	31	7,597	-19.0	32	242	15.3
350----	31	8,305	-33.1		262	32.8	31	8,578	-26.0		241	13.2
300----	31	9,372	-40.8		262	40.0	31	9,676	-34.3		240	12.0
250----	30	10,589	-47.[illegible]		263	45.3	31	10,926	-44.4		239	12.2
200----	30	12,049	-50.7		265	48.8	31	12,385	-55.7		263	8.4
175----	30	12,919	-51.0		267	38.5	31	13,226	-61.1		280	5.6
150----	30	13,918	-52.5		266	33.6	31	14,173	-65.7		279	4.9
125----	29	15,096	-53.5		262	21.[illegible]	31	15,275	-67.7		246	1.6
100----	29	16,531	-53.5		265	11.1	31	16,623	-65.8		34	4.3
80-----	29	17,971	-52.4		246	4.3	31	17,990	-62.1		76	13.2
70-----	29	18,832	-51.8		146	2.5	31	18,824	-59.9		82	18.8
60-----	29	19,838	-50.4		117	6.4	31	19,787	-57.5		87	23.1
50-----	29	21,032	-49.1		97	9.5	31	20,945	-54.9		90	26.0
40-----	29	22,502	-47.7		93	12.8	31	22,380	-52.2		94	30.7
30-----	29	24,411	-45.5		91	17.9	31	24,256	-48.6		89	31.3
25-----	26	25,626	-44.2		89	19.[illegible]	31	25,460	-46.5		85	32.4
20-----	23	27,126	-42.3		82	21.8	29	26,946	-44.9		87	33.6
15-----	12	29,077	-39.7				13	28,874	-42.3			

Standard pressure surface (mb.)	COLD BAY, ALASKA (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	COLUMBIA, MO. (987 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	27	8.5	93	184	4.5	31	238	19.9	90	187	2.7
1,000--	31	144	8.6	90	192	5.6	31	123				
950----	31	567	6.8	85	213	5.2	31	570	21.[illegible]	72	241	10.9
900----	31	1,011	5.6	79	226	6.0	31	1,037	19.[illegible]	69	261	13.8
850----	31	1,478	4.4	71	234	9.7	31	1,527	16.4	67	262	12.6
800----	31	1,970	2.3	70	246	9.5	31	2,042	13.4	63	267	11.3
750----	31	2,488	.0	67	238	13.8	31	2,580	10.3	60	274	11.7
700----	31	3,039	- 2.8	67	246	16.9	31	3,135	7.0	55	280	11.7
650----	31	3,621	- 5.7	63	244	17.7	31	3,755	3.2	56	279	13.2
600----	31	4,248	- 9.0	56	241	18.5	31	4,405	- 1.0	55	283	14.4
550----	31	4,913	-13.0	52	244	18.5	31	5,088	- 5.0	51	286	15.2
500----	31	5,637	-17.3	48	247	20.0	31	5,805	- 9.3	37	288	15.7
450----	31	6,413	-22.5	49	250	18.8	31	6,642	-14.3		290	19.8
400----	31	7,274	-28.7	46	255	22.3	31	7,531	-20.0		295	20.8
350----	31	8,215	-35.8		255	22.0	31	8,508	-26.8		29[illegible]	24.3
300----	31	9,270	-42.6		254	23.3	31	9,603	-34.8		29[illegible]	2[illegible] 2
250----	31	10,486	-47.4		251	29.5	31	10,849	-44.4		288	2[illegible].6
200----	31	11,948	-50.0		257	28.6	31	12,310	-54.6		283	28.6
175----	31	12,821	-49.9		255	20.2	31	13,156	-58.6		285	29.5
150----	31	13,830	-49.7		259	16.9	31	14,117	-61.4		293	23.3
125----	30	15,020	-50.0		253	9.9	31	15,243	-63.1		302	15.7
100----	29	16,474	-49.6		251	4.7	31	16,617	-62.4		313	7.0
80-----	29	17,936	-49.1		133	.6	31	18,000	-60.3		3[illegible]	6.8
70-----	29	18,819	-48.9		95	2.1	31	18,842	-58.4		58	8.4
60-----	29	19,825	-48.7		101	2.9	30	19,807	-56.3		75	11.9
50-----	29	21,024	-48.5		88	4.1	30	20,972	-53.9		82	15.2
40-----	28	22,494	-47.7		86	7.6	29	22,411	-51.9		86	19.0
30-----	26	24,396	-46.5		88	8.9	27	24,287	-49.5		89	22.0
25-----	24	25,610	-45.1		89	10.5	21	25,492	-47.7		87	23.5
20-----	23	27,106	-43.0		87	8.9	12	26,967	-45.7			
15-----	11	29,030	-40.8									

Standard pressure surface (mb.)	DAYTON, OHIO (982 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DENVER, COLO. (841 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	297	18.7	92	190	1.4	31	1,611	13.9	73	211	2.9
1,000--	31	142					31	120				
950----	31	587	19.9	74	254	8.2	31	564				
900----	31	1,052	17.4	69	269	10.7	31	1,031				
850----	31	1,539	14.2	69	269	11.7	31	1,521				
800----	31	2,049	11.0	66	266	13.6	31	2,039	18.0	51	285	4.5
750----	31	2,585	8.2	55	268	17.5	31	2,586	15.4	45	305	4.9
700----	31	3,153	5.0	53	271	19.4	31	3,171	11.5	44	298	6.2
650----	31	3,754	1.9	45	269	20.6	31	3,778	6.8	48	311	7.8
600----	31	4,397	- 1.6	37	268	19.8	31	4,438	1.7	51	308	9.9
550----	31	5,080	- 5.3		267	21.0	31	5,122	- 3.7	51	315	12.4
500----	31	5,829	- 9.8		267	22.2	31	5,879	- 9.1	51	303	16.1
450----	31	6,628	-15.0		271	22.9	31	6,[illegible]	-14.4	44	297	15.5
400----	31	7,517	-21.3		274	23.9	31	7,570	-20.3	39	292	17.5
350----	31	8,489	-28.0		275	29.2	31	8,546	-27.3	39	288	20.0
300----	31	9,579	-35.0		278	31	31	9,637	-35.7		289	24.9
250----	31	10,823	-44.0		281	[illegible].4	31	10,880	-45.1		285	26.[illegible]
200----	31	12,281	-53.0		282	5.2	31	12,340	-54.2		287	28.8
175----	31	13,136	-57.5		283	34.6	31	13,189	-58.0		287	28.0
150----	31	14,103	-60.7		284	26.0	31	15,095	-53.5		262	21.[illegible]
125----	31	15,232	-62.3		284	18.5	31	15,781	-51.4		265	17.7
100----	31	16,612	-61.2		291	9.5	31	16,617	-62.4		313	7.0
80-----	31	18,006	-58.1		356	5.2	31	18,000	-60.3		3[illegible]	6.8
70-----	31	18,852	-56.4		48	5.8	31	18,842	-58.4		58	8.4
60-----	31	19,831	-54.7		71	8.4	30	19,807	-56.3		75	11.9
50-----	31	21,003	-52.5		82	13.0	30	20,972	-53.9		82	15.2
40-----	31	22,450	-50.9		86	17.9	29	22,411	-51.9		86	19.0
30-----	29	24,332	-48.5		87	22.2	27	24,287	-49.5		89	22.0
25-----	28	25,537	-46.4		86	24.7	21	25,492	-47.7		87	23.5
20-----	25	27,014	-44.1		85	29.6	12	26,967	-45.7			
15-----	19	28,964	-41.4		90	29.4						

Standard pressure surface (mb.)	DODGE CITY, KANS. (925 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	EL PASO, TEXAS (883 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	792	19.5	79	216	3.5	31	1,197	22.0	57	138	2.1
1,000--	31	115					31	96				
950----	31	563					31	555				
900----	31	1,030	21.2	65	231	11.7	31	1,036				
850----	31	1,525	20.2	52	233	13.0	31	1,528	21.0	50	152	5.6
800----	31	2,046	17.2	50	237	8.4	31	2,051	18.0	50	165	6.2
750----	31	2,590	13.[illegible]	50	243	3.9	31	2,599	14.6	49	157	3.9
700----	31	3,171	9.3	51	230	2.3	31	3,181	10.4	52	79	2.1
650----	31	3,775	4.9	51	248	2.7	31	3,790	5.8	57	44	5.6
600----	31	4,429	.5	47	299	5.2	31	4,444	1.0	57	47	9.5
550----	31	5,115	- 4.0	45	299	7.0	31	5,128	- 3.9	53	56	11.1
500----	31	5,867	- 8.7	40	305	10.5	31	5,885	- 8.8	51	58	9.3
450----	31	6,673	-13.6	34	303	11.7	31	6,694	-13.3	40	73	6.8
400----	31	7,564	-19.6		300	12.8	31	7,585	-19.1		70	6.6
350----	31	[illegible],542	-26.5		300	16.1	31	8,566	-26.0		40	5.4
300----	31	9,637	-35.1		301	17.3	31	9,663	-34.3		1	5.[illegible]
250----	31	10,880	-44.7		280	16.9	31	10,915	-43.7		336	7.0
200----	31	12,342	-54.8		282	21.4	30	12,380	-54.5		337	11.9
175----	31	13,188	-59.0		290	22.7	30	13,225	-60.2		338	10.9
150----	31	14,147	-62.4		301	18.1	30	14,175	-65.4		351	8.5
125----	31	15,264	-65.4		307	15.[illegible]	30	15,273	-69.6		31	8.7
100----	31	16,624	-64.1		357	6.0	30	16,601	-69.5		68	8.7
80-----	31	17,998	-61.4		65	7.6	30	17,944	-65.5		83	14.2
70-----	31	18,840	-59.4		71	11.1	30	18,761	-62.9		82	19.2
60-----	31	19,800	-57.0		80	14.8	30	19,715	-59.9		85	26.0
50-----	31	20,961	-54.6		89	19.0	29	20,861	-57.1		90	30.3
40-----	31	22,397	-52.3		87	21.4	29	22,281	-54.[illegible]		91	30.9
30-----	28	24,271	-49.4		88	25.5	29	24,132	-51.8		87	33.8
25-----	25	25,467	-47.7		89	28.6	28	25,322	-49.5		86	34.8
20-----	21	26,949	-44.9		85	32.3	28	26,791	-46.7		85	37.3
15-----	8	28,873	-42.1				25	28,704	-43.9		86	41.2
10-----							14	31,413	-39.2			

Standard pressure surface (mb.)	ELY, NEV. (812 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FAIRBANKS, ALASKA (998 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,908	11.4	46	177	9.7	31	135	11.5	85	272	1.4
1,000--	31	121					31	115			276	2.4
950----	31	563					31	541	12.0	68	248	10.9
900----	31	1,030					31	997	9.2	68	248	12.0
850----	31	1,522					31	1,468	5.9	72	244	11.5
800----	31	2,035	17.9	39	181	7.6	31	1,961	2.5	78	240	11.1
750----	31	2,584	16.9	33	181	3.3	31	2,478	- .8	79	232	12.0
700----	31	3,171	12.5	37	236	5.1	31	3,029	- 3.9	77	232	13.2
650----	31	3,780	7.5	43	238	7.4	31	3,605	- 7.3	72	235	13.4
600----	31	4,440	2.2	47	234	9.3	31	4,231	-10.8	61	233	15.2
550----	31	5,127	- 3.2	50	221	10.7	31	4,886	-14.8	54	234	14.2
500----	31	5,883	- 8.7	46	233	11.5	31	5,611	-19.3	56	235	14.0
450----	31	6,684	-14.1		241	15.2	31	6,379	-24.3	53	237	14.2
400----	31	7,575	-20.6		250	16.5	31	7,235	-30.4	50	241	15.0
350----	31	8,550	-27.5		252	20.2	31	8,171	-37.3	50	239	16.1
300----	31	9,642	-35.6		255	22.2	31	9,219	-44.9		241	17.9
250----	31	10,886	-44.5		252	26.0	30	10,431	-50.3		245	20.6
200----	31	12,351	-53.8		255	28.4	30	11,890	-47.8		252	15.3
175----	31	13,200	-58.[illegible]		261	24.7	30	12,775	-46.3		254	14.0
150----	31	14,159	-62.9		270	22.3	30	13,800	-46.4		25[illegible]	11.7
125----	31	15,273	-65.8		260	14.6	30	15,010	-46.7		244	9.7
100----	31	16,635	-64.0		219	2.9	30	16,492	-46.5		242	7.6
80-----	31	18,010	-61.0		90	6.0	30	17,973	-46.[illegible]		233	3.9
70-----	31	18,849	-58.7		89	11.1	30	18,866	-46.0		220	2.5
60-----	31	19,817	-56.6		87	14.2	30	19,887	-45.7		143	1.7
50-----	31	20,981	-54.1		90	18.5	30	21,102	-45.4		93	3.3
40-----	29	22,420	-51.7		87	20.6	29	22,590	-45.0		109	7.6
30-----	28	24,298	-48.9		86	25.1	28	24,518	-43.7		87	8.2
25-----	27	25,498	-47.2		87	25.6	27	25,743	-42.5		79	11.1
20-----	26	26,985	-44.7		85	30.5	26	27,258	-40.8		84	12.2
15-----	20	28,279	-41.7		88	33.2	19	29,234	-37.8		89	14.4
10-----	7	31,692	-35.7				17	32,064	-32.7		90	19.4
7------							7	34,671	-27.1			

Standard pressure surface (mb.)	FLINT, MICH. (988 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FORT WORTH, TEXAS (996 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	234	17.[illegible]	89	231	1.9	31	180	23.0	88	195	3.3
1,000--	31	133					31	140				
950----	31	575	18.3	74	262	8.4	31	594	22.7	78	212	16.1
900----	31	1,036	15.7	68	275	10.5	31	1,061	21.0	69	218	15.2
850----	31	1,519	12.6	67	270	12.4	31	1,554	18.0	68	227	10.5
800----	31	2,026	9.4	65	274	13.6	31	2,072	14.6	69	234	8.0
750----	31	2,558	6.2	61	272	15.5	31	2,610	11.1	62	232	7.0
700----	31	3,122	3.4	50	271	16.1	31	3,188	7.7	54	227	4.9
650----	31	3,720	.3	43	275	18.8	31	3,791	4.3	47	229	4.1
600----	31	4,359	- 3.0	33	275	19.4	31	4,443	.6	44	196	2.7
550----	31	5,039	- 7.1	33	276	21.4	31	5,133	- 3.4	38	168	1.2
500----	31	5,781	-11.4		276	23.1	31	5,884	- 8.1	35	60	.8
450----	31	6,576	-16.8		276	26.4	31	6,691	-13.2		25	2.7
400----	31	7,457	-22.9		277	28.6	31	7,853	-18.7		29	5.6
350----	31	8,423	-29.7		277	34.2	31	8,565	-25.[illegible]		23	8.5
300----	31	9,506	-37.5		280	42.2	31	9,664	-33.9		23	8.9
250----	31	10,741	-45.6		280	45.7	31	10,917	-43.5		3	9.5
200----	31	12,204	-52.[illegible]		281	46.[illegible]	30	12,381	-54.4		1	12.6
175----	31	13,062	-55.3		285	40.6	30	13,226	-59.6		4	12.0
150----	31	14,040	-57.2		284	31.9	30	14,179	-64.5		359	11.3
125----	31	15,189	-58.8		286	22.7	30	15,284	-67.5		8	9.1
100----	31	16,590	-57.9		289	11.7	30	16,627	-67.0		47	7.6
80-----	31	18,004	-56.1		338	6.[illegible]	30	17,986	-63.2		73	14.4
70-----	31	18,860	-54.8		37	5.8	30	18,813	-60.9		80	18.3
60-----	31	19,846	-53.0		65	7.2	30	19,775	-58.8		84	22.3
50-----	31	21,027	-51.2		77	10.9	30	20,927	-55.7		90	26.0
40-----	31	22,484	-49.4		84	15.0	30	22,358	-53.0		93	29.0
30-----	29	24,380	-47.2		86	18.7	30	24,225	-50.2		88	31.1
25-----	29	25,591	-45.5		84	22.5	28	25,420	-47.8		89	35.2
20-----	24	27,088	-43.6		82	23.7	21	26,904	-45.3		90	36.7
15-----	20	29,035	-40.8		84	[illegible].8	5	28,868	-42.1			
10-----	5	31,759	-38.[illegible]									

Standard pressure surface (mb.)	GLASGOW, MONT. (935 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GRAND JUNCTION, COLO. (854 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	696	16.2	57	64	5.6	31	1,474	19.9	37	116	6.8
1,000--	31	119					31	82				
950----	31	560					31	531				
900----	31	1,025	18.4	50	76	5.1	31	1,011				
850----	31	1,514	16.6	42	296	3.9	31	1,512	20.3	36	118	7.0
800----	31	2,027	13.1	44	311	7.6	31	2,036	20.0	35	131	6.4
750----	31	2,562	9.2	47	304	12.0	31	2,589	16.8	36	165	2.9
700----	31	3,134	5.2	52	297	15.2	31	3,173	12.4	41	283	2.9
650----	31	3,728	.7	58	297	16.7	31	3,786	7.5	47	293	5.1
600----	31	4,373	- 3.6	58	287	20.2	31	4,443	2.2	53	296	8.0
550----	31	5,045	- 8.4	52	283	23.7	31	5,133	- 3.3	57	291	10.7
500----	31	5,788	-13.0	41	283	24.7	31	5,887	- 8.6	55	287	12.8
450----	31	6,575	-18.5	38	284	26.0	31	6,695	-14.1	50	285	12.8
400----	31	7,451	-24.7		284	26.2	31	7,581	-20.2	43	282	15.5
350----	31	8,408	-32.1		283	29.9	31	8,557	-27.0		280	20.0
300----	31	9,478	-40.3		282	34.0	31	9,650	-35.3		280	23.9
250----	31	10,700	-47.9		280	42.4	31	10,895	-44.6		281	27.0
200----	30	12,158	-51.2		282	45.1	31	12,357	-53.9		279	29.3
175----	30	13,024	-52.8		284	37.5	31	13,205	-58.4		284	28.2
150----	30	14,014	-54.8		284	29.7	31	14,164	-62.9		288	23.[illegible]
125----	29	15,176	-56.7		290	19.6	31	15,279	-65.7		288	14.8
100----	29	16,591	-56.8		306	10.7	31	16,636	-64.3		313	6.4
80-----	29	18,007	-55.6		349	4.1	31	18,010	-61.3		72	7.0
70-----	29	18,868	-54.6		42	5.6	31	18,852	-59.7		85	11.3
60-----	29	19,848	-53.2		63	7.6	30	19,811	-57.4		85	15.7
50-----	29	21,027	-51.[illegible]		76	12.4	30	20,969	-55.0		87	19.0
40-----	28	22,480	-50.1		89	14.8	30	22,404	-52.1		88	22.5
30-----	28	24,369	-47.6		84	18.7	28	24,278	-49.3		90	26.0
25-----	28	25,578	-45.7		86	19.6	26	25,478	-47.6		87	27.6
20-----	27	27,069	-43.4		88	20.8	23	26,963	-45.4		88	31.9
15-----	24	29,014	-40.4		87	24.5	19	28,898	-42.2		87	34.8
10-----							10	31,644	-38.4			

Standard pressure surface (mb.)	GREAT FALLS, MONT. (890 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,123	14.2	68	263	3.5
1,000--	31	124				
950----	31	569				
900----	31	1,032				
850----	31	1,516	13.7	49	274	4.1
800----	31	2,029	12.[illegible]	50	274	1.7
750----	31	2,568	9.[illegible]	52	268	3.7
700----	31	3,138	5.9	53	257	7.0
650----	31	3,735	1.5	54	264	12.2
600----	31	4,38[illegible]	- 3.2	54	266	15.[illegible]
550----	31	5,058	- 7.6	47	261	20.8
500----	31	5,803	-12.6	39	262	25.3
450----	31	6,591	-17.9		266	26.4
400----	31	7,473	-24.0		268	27.8
350----	30	8,433	-31.0		267	34.4
300----	30	9,508	-39.0		268	41.2
250----	30	10,736	-47.3		267	50.[illegible]
200----	29	12,193	-52.0		262	54.4
175----	29	13,055	-53.4		265	46.8
150----	29	14,042	-55.8		269	35.6
125----	29	15,199	-57.4		269	23.7
100----	29	16,608	-56.7		275	10.7
80-----	29	18,023	-56.5		47	3.3
70-----	29	18,881	-54.8		69	5.8
60-----	29	19,862	-53.3		77	8.[illegible]
50-----	28	21,041	-51.4		81	14.[illegible]
40-----	26	22,494	-50.0		80	15.2
30-----	26	24,387	-47.6		86	20.2
25-----	25	25,589	-46.0		82	20.8
20-----	23	27,079	-44.1		84	23.3
15-----	15	29,923	-41.2		84	27.8

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JULY 1961

GREEN BAY, WIS. (989 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	210	15.8	88	277	2.5
1,000	31	118				
950	31	558	17.7	67	270	4.5
900	31	1,018	15.3	66	281	5.6
850	31	1,500	12.3	67	276	7.2
800	31	2,007	9.1	65	277	8.2
750	31	2,536	6.1	55	280	9.9
700	31	3,101	3.0	49	285	11.3
650	31	3,696	-.4	43	283	13.0
600	31	4,334	-4.1	38	283	16.1
550	31	5,012	-7.7	32	285	16.5
500	31	5,751	-12.3	33	286	17.9
450	31	6,546	-17.6		289	21.8
400	31	7,420	-23.6		291	27.6
350	31	8,382	-30.6		291	31.3
300	31	9,460	-38.4		284	37.1
250	31	10,691	-46.4		281	43.7
200	31	12,152	-52.7		281	43.9
175	31	13,010	-54.7		284	40.6
150	31	13,993	-56.2		285	32.1
125	31	15,147	-57.7		291	22.2
100	31	16,555	-57.5		305	12.8
80	31	17,969	-56.1		338	7.0
70	31	18,828	-55.0		26	5.8
60	31	19,808	-53.4		55	7.8
50	31	20,986	-51.7		71	11.3
40	30	22,439	-49.6		79	14.6
30	29	24,332	-47.2		83	17.5
25	27	25,548	-45.6		88	19.8
20	23	27,044	-43.6		85	21.6
15	14	29,008	-40.1		79	27.8
10						

GREENSBORO, N. C. (986 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	273	19.5	91	246	3.3
1,000	31	153				
950	31	596	21.2	72	277	7.2
900	31	1,065	19.2	66	289	8.7
850	31	1,555	16.3	65	276	10.5
800	31	2,069	13.0	63	272	12.4
750	31	2,607	9.9	61	267	14.8
700	31	3,181	6.6	58	262	16.3
650	31	3,782	3.0	55	262	16.9
600	31	4,432	-.5	47	262	18.7
550	31	5,118	-4.3	43	258	20.2
500	31	5,869	-8.6	32	259	19.6
450	31	6,674	-12.8	30	259	20.4
400	31	7,566	-19.7	33	263	21.4
350	31	8,544	-26.6		265	23.3
300	31	9,639	-34.8		264	23.5
250	31	10,887	-44.4		271	23.5
200	31	12,348	-55.1		276	22.7
175	31	13,191	-60.2		282	22.2
150	31	14,143	-64.2		277	18.3
125	31	15,253	-66.1		273	10.9
100	31	16,608	-64.8		293	5.6
80	31	17,982	-60.9		63	5.8
70	31	18,820	-59.0		79	10.7
60	31	19,787	-56.7		82	16.5
50	30	20,948	-54.6		88	22.0
40	30	22,385	-52.0		91	26.0
30	29	24,261	-49.1		94	27.0
25	28	25,462	-47.1		90	28.8
20	27	26,945	-45.3		85	32.4
15	18	28,867	-42.6		91	37.7
10	6	31,661	-37.8			

HILO, HAWAII (1016 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	11	20.8	86	240	5.4
1,000	31	147	22.4	79	254	2.7
950	31	595	19.4	82	67	1.9
900	31	1,057	16.1	86	78	6.0
850	31	1,541	13.0	87	78	8.0
800	31	2,050	10.5	79	78	7.2
750	31	2,592	9.3	47	79	6.8
700	31	3,159	8.3		75	5.8
650	31	3,773	6.0		63	4.9
600	31	4,420	2.5		35	3.7
550	31	5,114	-1.7		4	1.9
500	31	5,872	-7.0		283	2.5
450	31	6,681	-12.8		282	6.4
400	31	7,575	-19.7		266	10.5
350	31	8,552	-26.8		263	16.1
300	31	9,646	-35.3		264	19.8
250	31	10,890	-45.1		270	27.8
200	31	12,344	-56.3		267	36.9
175	31	13,181	-61.8		259	37.5
150	31	14,124	-66.9		257	33.4
125	31	15,215	-69.8		239	20.2
100	31	16,539	-70.1		153	4.3
80	31	17,875	-67.2		98	16.5
70	31	18,684	-64.4		97	21.8
60	31	19,631	-62.1		89	25.6
50	31	20,766	-59.5		89	30.5
40	31	22,174	-56.2		94	30.7
30	30	24,022	-52.0		89	33.4
25	29	25,210	-49.6		94	30.7
20	28	26,682	-47.4		93	29.5
15	24	28,601	-44.3		91	30.7
10	5	31,323	-42.6			

INTERNAT. FALLS, MINN. (972 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	360	13.5	90	289	1.0
1,000	31	117				
950	31	554	17.0	72	286	3.7
900	31	1,014	15.5	66	306	5.4
850	31	1,497	12.7	64	309	5.1
800	31	2,003	9.2	64	316	6.6
750	31	2,538	6.1	61	306	8.4
700	31	3,098	2.7	57	299	10.5
650	31	3,688	-1.0	54	307	11.7
600	31	4,329	-4.4	45	303	15.0
550	31	4,998	-8.5	42	303	16.9
500	31	5,743	-13.1	33	299	16.5
450	31	6,529	-18.6	32	297	18.8
400	31	7,407	-25.0	30	299	22.3
350	31	8,363	-32.1		299	29.3
300	31	9,433	-40.2		297	34.4
250	31	10,656	-47.7		295	38.7
200	31	12,118	-50.4		292	38.3
175	31	12,988	-50.9		293	34.4
150	31	13,988	-52.5		294	29.0
125	31	15,161	-54.2		303	23.1
100	31	16,590	-54.4		317	11.9
80	31	18,024	-53.2		346	5.8
70	31	18,892	-52.4		32	4.9
60	30	19,883	-51.4		39	6.8
50	29	21,074	-49.8		60	8.2
40	28	22,535	-48.3		82	11.7
30	25	24,439	-46.0		86	17.1
25	23	25,655	-44.4		85	16.7
20	21	27,163	-42.1		87	23.5
15	14	29,121	-39.3		97	20.0
10						

JACKASS FLATS, NEV. (890 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,100	23.7	27	27	4.5
1,000	31	71				
950	31	521				
900	31	1,004				
850	31	1,512	26.3	24	161	4.3
800	31	2,042	22.5	25	183	7.8
750	31	2,593	18.2	27	200	7.8
700	31	3,184	13.5	31	191	7.6
650	31	3,792	8.2	37	182	8.5
600	31	4,456	2.8	44	177	9.9
550	31	5,142	-2.7	43	184	10.3
500	31	5,901	-7.7	36	204	9.9
450	31	6,705	-13.0		220	10.3
400	31	7,601	-19.4		235	10.9
350	31	8,580	-26.4		245	13.0
300	31	9,676	-34.5		246	15.2
250	31	10,926	-43.7		241	18.1
200	31	12,393	-53.8		245	21.2
175	30	13,240	-58.8		241	21.4
150	30	14,197	-63.6		245	17.1
125	30	15,303	-67.9		241	12.0
100	30	16,648	-66.7		189	5.4
80	29	18,009	-63.6		96	7.2
70	29	18,839	-61.1		91	12.6
60	29	19,795	-58.5		92	16.9
50	29	20,949	-56.0		91	18.8
40	29	22,375	-54.0		86	21.8
30	25	24,225	-51.3		92	26.6
25	23	25,415	-49.7		92	28.4
20	20	26,878	-47.8		88	31.3
15	17	28,786	-44.9		91	35.8
10	5	31,555	-40.6			

JACKSON, MISS. (1007 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	101	21.7	93	203	1.2
1,000	31	151	22.1	90	209	2.5
950	31	598	22.0	80	244	9.9
900	31	1,069	19.4	76	243	8.9
850	31	1,559	16.4	71	243	8.5
800	31	2,074	13.6	62	247	8.0
750	31	2,615	10.3	61	247	8.5
700	31	3,187	6.7	61	241	9.5
650	31	3,793	3.0	60	241	9.7
600	31	4,436	-.9	59	244	8.9
550	31	5,124	-4.7	55	246	8.5
500	31	5,871	-8.6	43	242	7.2
450	31	6,680	-13.5	42	239	5.4
400	31	7,568	-19.2	44	239	2.5
350	31	8,547	-26.2	39	224	1.2
300	31	9,645	-34.3	35	352	1.0
250	31	10,895	-44.0		38	2.3
200	31	12,359	-54.6		11	7.8
175	31	13,204	-59.8		21	8.7
150	31	14,156	-64.3		37	9.9
125	31	15,263	-67.0		35	6.0
100	31	16,610	-66.7		61	7.4
80	31	17,971	-63.1		73	12.8
70	31	18,809	-60.6		81	15.7
60	31	19,762	-58.3		86	21.0
50	31	20,915	-56.1		88	30.3
40	31	22,342	-53.6		92	28.8
30	30	24,204	-50.2		90	32.4
25	26	25,395	-48.9		90	34.2
20	20	26,859	-47.0		88	36.9
15	10	28,786	-42.6			

JACKSONVILLE, FLA. (1019 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	6	23.[illegible]	93	225	3.3
1,000	31	170	24.2	85	233	5.2
950	31	617	22.9	75	237	6.6
900	31	1,091	20.0	74	230	6.2
850	31	1,582	17.0	74	227	6.2
800	31	2,098	13.7	72	226	6.4
750	31	2,635	10.4	69	228	7.2
700	31	3,212	7.1	63	229	8.0
650	31	3,814	3.6	57	236	9.3
600	31	4,465	.1	50	246	9.1
550	31	5,149	-3.9	48	234	9.1
500	31	5,905	-8.3	43	234	10.3
450	31	6,708	-13.2	40	226	9.7
400	31	7,604	-19.1	40	225	9.1
350	31	8,583	-26.2	34	219	8.4
300	31	9,679	-34.7	34	221	8.5
250	31	10,926	-44.7		215	6.4
200	31	12,382	-56.0		216	6.4
175	31	13,220	-61.3		232	1.7
150	31	14,166	-66.0		59	2.5
125	31	15,264	-68.7		80	5.8
100	30	16,605	-66.4		72	9.5
80	30	17,967	-62.9		81	15.5
70	30	18,793	-60.9		81	21.6
60	30	19,756	-58.6		85	28.6
50	30	20,909	-55.8		93	33.0
40	29	22,342	-52.6		96	34.0
30	28	24,218	-49.0		90	31.7
25	26	25,421	-47.2		87	35.2
20	17	26,912	-44.1		84	36.9
15	5	28,847	-40.2			

JOHNSTON IS., PACIFIC AREA (1014 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	3	26.4	79	92	16.7
1,000	31	127	25.3	79	89	14.6
950	31	572	21.7	79	91	17.3
900	31	1,046	18.4	77	93	18.1
850	31	1,534	15.4	73	91	15.5
800	31	2,047	12.6	64	93	14.4
750	31	2,581	10.8	48	90	11.9
700	31	3,160	9.1	28	95	9.5
650	31	3,762	6.1		105	9.3
600	31	4,422	2.2		117	8.0
550	31	5,110	-2.3		136	6.0
500	31	5,869	-7.4	29	172	4.1
450	31	6,675	-12.[illegible]	31	236	5.2
400	31	7,570	-18.9		249	6.8
350	31	8,552	-25.8		263	13.6
300	31	9,651	-34.1		264	21.2
250	31	10,903	-44.0		268	25.6
200	31	12,364	-55.8		270	31.7
175	31	13,203	-62.1		270	35.8
150	31	14,143	-68.5		266	32.8
125	30	15,224	-72.8		257	24.3
100	25	16,544	-70.8		259	2.9
80	23	17,869	-68.1		86	16.3
70	22	18,676	-65.0		88	21.2
60	22	19,621	-62.3		89	24.1
50	19	20,756	-59.6		87	28.5
40	15	22,171	-55.9		89	25.6
30	14	24,025	-51.7		93	25.6
25	10	25,201	-49.7			
20	[illegible]	26,696	-47.6			

KING SALMON, ALASKA (1014 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	15	9.3	89	189	4.7
1,000	31	132	9.0	87	201	6.4
950	31	555	7.7	83	214	8.4
900	31	1,002	5.6	81	226	7.8
850	31	1,467	3.8	78	240	7.0
800	31	1,958	1.6	74	245	7.6
750	31	2,477	-.8	68	244	6.4
700	31	3,026	-3.4	63	241	6.2
650	31	3,603	-6.3	54	252	7.2
600	31	4,231	-9.9	53	264	10.7
550	31	4,891	-14.0	53	262	10.1
500	31	5,616	-18.7	49	254	10.9
450	31	6,385	-23.[illegible]	48	254	14.8
400	31	7,243	-29.7	47	257	15.5
350	31	8,184	-36.4		259	17.5
300	31	9,239	-42.9		259	20.2
250	31	10,455	-47.9		262	23.5
200	31	11,923	-48.9		255	20.8
175	30	12,809	-47.9		255	17.7
150	30	13,826	-48.1		245	11.9
125	30	15,027	-48.3		235	8.0
100	28	16,491	-48.1		221	5.6
80	26	17,962	-47.8		199	3.3
70	23	18,845	-47.9		172	2.1
60	21	19,857	-47.6		128	2.1
50	18	21,062	-47.4		103	5.6
40	18	22,539	-46.7		94	7.6
30	16	24,449	-45.4		89	10.9
25	16	25,667	-44.2		85	11.1
20	13	27,164	-42.3		88	14.8
15	6	29,130	-39.8			

KOTZEBUE, ALASKA (1011 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	9.4	92	252	5.1
1,000	31	95	9.6	85	248	5.8
950	31	517	8.1	78	225	7.8
900	31	964	6.0	77	222	8.9
850	31	1,431	3.9	74	222	9.5
800	31	1,921	1.3	74	227	9.1
750	31	2,436	-1.3	67	232	9.5
700	31	2,986	-4.4	62	234	10.1
650	31	3,563	-7.6	56	234	11.1
600	31	4,185	-11.4	55	238	12.2
550	31	4,842	-15.3	52	235	13.0
500	31	5,562	-19.9	50	237	13.4
450	31	6,326	-25.4	48	239	14.0
400	31	7,180	-31.4	44	242	13.6
350	31	8,111	-38.1		240	16.7
300	31	9,157	-44.6		249	17.7
250	31	10,362	-49.3		249	12.2
200	31	11,829	-46.5		258	12.8
175	31	12,719	-45.3		259	11.7
150	31	13,746	-45.5		256	9.7
125	31	14,961	-45.7		255	7.8
100	31	16,447	-45.5		242	5.4
80	31	17,936	-45.3		233	2.7
70	30	18,830	-45.2		209	2.1
60	30	19,860	-44.9		109	1.7
50	28	21,084	-44.5		92	3.7
40	25	22,580	-44.2		83	6.6
30	23	24,511	-43.1		89	9.5
25	19	25,740	-41.9		81	10.5
20	18	27,261	-40.3		79	13.0
15	8	29,230	-37.5			

LAKE CHARLES, LA. (1017 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	5	23.7	92	93	1.2
1,000	31	154	24.7	84	180	3.7
950	31	602	22.6	81	215	8.7
900	31	1,075	19.8	75	208	9.5
850	31	1,567	16.8	68	209	8.5
800	31	2,082	13.7	63	217	8.2
750	31	2,621	10.6	61	225	7.2
700	31	3,196	7.0	62	237	7.2
650	31	3,805	3.2	61	239	6.4
600	31	4,447	-.5	57	246	6.6
550	31	5,133	-4.3	47	249	4.7
500	31	5,883	-8.7	46	243	3.9
450	31	6,690	-13.8	43	224	2.1
400	31	7,579	-19.4	37		.0
350	31	8,559	-26.0	36	89	2.7
300	31	9,656	-34.3		54	4.5
250	31	10,907	-43.7		46	7.6
200	31	12,373	-54.0		28	9.5
175	31	13,220	-59.3		27	11.9
150	31	14,173	-64.3		36	12.8
125	31	15,278	-67.4		46	9.5
100	31	16,618	-67.5		65	10.3
80	31	17,970	-64.5		74	15.7
70	31	18,801	-61.9		76	18.8
60	31	19,751	-59.4		83	23.9
50	31	20,900	-56.8		88	28.8
40	30	22,324	-54.6		93	30.9
30	30	24,181	-51.2		91	34.0
25	27	25,374	-49.3		86	36.9
20	26	26,846	-46.4		87	36.5
15	22	28,766	-43.4		87	39.4
10	9	31,528	-38.1			

LANDER, WYO. (832 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,696	15.4	50	255	6.4
1,000	31	106				
950	31	553				
900	31	1,018				
850	31	1,517				
800	31	2,034	17.1	38	295	4.3
750	31	2,577	14.1	38	285	4.1
700	31	3,161	10.3	40	279	8.2
650	31	3,765	5.6	43	280	11.3
600	31	4,422	.5	47	280	14.4
550	31	5,102	-5.0	49	280	18.5
500	31	5,856	-10.6	48	283	21.6
450	31	6,655	-16.0	38	283	21.0
400	31	7,538	-22.3		279	23.3
350	31	8,506	-29.3		277	26.6
300	31	9,589	-37.6		276	31.7
250	31	10,823	-46.3		276	37.9
200	31	12,277	-54.2		277	41.8
175	31	13,128	-57.1		281	35.6
150	31	14,096	-60.6		279	25.5
125	31	15,224	-62.9		286	16.3
100	31	16,602	-61.1		303	7.2
80	31	17,994	-59.1		74	4.5
70	31	18,833	-57.6		83	8.0
60	31	19,810	-55.8		82	11.5
50	31	20,976	-53.8		88	14.4
40	31	22,419	-51.4		87	18.1
30	30	24,299	-48.4		88	20.2
25	26	25,500	-46.8		87	23.9
20	22	26,983	-44.2		84	26.4
15	17	28,919	-41.1		86	28.4
10						

LAS VEGAS, NEV. (935 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	660	27.4	30	219	4.7
1,000	31	57				
950	31	512				
900	31	1,001	29.9	24	220	6.0
850	31	1,507	26.6	26	227	5.8
800	31	2,038	22.5	29	209	5.6
750	31	2,589	17.9	33	195	5.8
700	31	3,179	13.1	37	177	6.6
650	31	3,789	8.0	43	168	7.2
600	31	4,451	2.6	47	172	8.5
550	31	5,139	-3.0	51	182	9.5
500	31	5,896	-8.1	43	200	9.7
450	31	6,698	-13.2		213	9.1
400	31	7,594	-19.5		228	10.1
350	31	8,572	-26.5		235	12.0
300	31	9,668	-34.6		239	13.0
250	31	10,917	-43.8		242	17.7
200	30	12,384	-53.9		246	19.2
175	30	13,231	-59.0		249	18.1
150	29	14,188	-64.1		250	13.4
125	29	15,291	-68.4		243	5.6
100	28	16,633	-66.5		129	2.1
80	28	17,994	-62.9		88	9.7
70	28	18,822	-60.3		89	15.0
60	27	19,788	-57.8		89	18.8
50	27	20,943	-55.4		92	21.6
40	27	22,371	-53.4		89	24.5
30	26	24,237	-50.1		86	27.0
25	23	25,427	-48.6		87	29.5
20	18	26,900	-46.1		85	32.8
15	12	28,851	-42.4			

LIHUE, HAWAII (1014 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	36	24.2	79	52	9.7
1,000	31	154	23.3	80	57	12.2
950	31	600	19.4	84	70	15.2
900	31	1,064	16.0	85	73	14.8
850	31	1,548	13.0	83	73	13.6
800	31	2,056	10.7	71	77	14.2
750	31	2,595	10.2	42	80	12.6
700	31	3,166	7.8	31	76	7.6
650	31	3,770	4.8		75	3.5
600	31	4,422	1.3		47	1.4
550	31	5,112	-3.1		285	5.1
500	31	5,865	-8.5		274	8.0
450	31	6,669	-14.2	31	265	13.0
400	31	7,558	-20.7	34	262	17.3
350	31	8,530	-28.1		262	21.1
300	31	9,618	-36.4		261	25.5
250	31	10,857	-46.1		266	33.2
200	31	12,305	-57.1		264	42.4
175	31	13,139	-62.5		260	43.9
150	31	14,082	-65.8		253	36.9
125	31	15,185	-66.6		244	20.4
100	31	16,533	-67.6		162	4.7
80	30	17,884	-65.8		91	16.3
70	30	18,698	-63.8		87	22.3
60	28	19,646	-61.6		86	27.8
50	27	20,784	-58.6		89	32.1
40	27	22,198	-55.5		90	33.4
30	27	24,049	-52.3		88	35.2
25	27	25,236	-49.9		91	35.6
20	26	26,705	-47.4		88	35.0
15	19	28,619	-44.8		86	38.1

LITTLE ROCK, ARK. (1008 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	79	21.3	89	227	2.9
1,000	31	146	21.9	84	236	4.3
950	31	590	22.3	70	253	12.8
900	31	1,063	19.7	67	253	11.1
850	31	1,553	16.4	67	246	8.9
800	31	2,067	13.4	59	235	7.6
750	31	2,602	10.0	57	246	9.1
700	31	3,179	6.4	55	254	7.8
650	31	3,776	[illegible].3	48	247	7.0
600	31	4,429	-.6	44	251	5.6
550	31	5,111	-4.4	37	249	5.6
500	31	5,865	-8.4		270	6.6
450	31	6,671	-13.5		287	6.0
400	31	7,563	-19.4		289	6.2
350	31	8,543	-26.2		319	6.8
300	31	9,641	-34.0		335	7.2
250	31	10,893	-43.6		327	8.0
200	31	12,358	-54.8		326	10.5
175	31	13,202	-59.7		330	9.1
150	30	14,160	-63.7		340	8.4
125	30	15,271	-66.1		350	6.8
100	30	16,623	-65.3		35	5.1
80	30	17,990	-62.1		72	10.1
70	30	18,819	-59.9		78	14.2
60	30	19,788	-57.2		80	17.7
50	29	20,941	-55.3		87	23.1
40	28	22,371	-53.0		91	25.5
30	27	24,234	-49.9		90	28.4
25	25	25,432	-48.0		87	34.0
20	20	26,924	-45.4		88	35.8
15	18	28,857	-42.3		90	35.4

See reference note at end of table

RAWINSONDE DATA

Average monthly values

McGRATH, ALASKA (1002 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	103	9.8	85	211	3.3
1,000--	31	122			198	5.2
950----	31	555	9.9	75	214	9.9
900----	31	998	7.2	77	215	10.5
850----	31	1,465	4.3	78	210	11.1
800----	31	1,957	1.7	79	200	12.6
750----	31	2,478	- 1.6	79	207	11.5
700----	31	3,022	- 4.4	71	206	11.3
650----	31	3,604	- 7.3	69	215	11.5
600----	31	4,222	-10.8	64	224	11.9
550----	31	4,886	-14.6	55	228	11.5
500----	31	5,603	-19.0	50	234	12.4
450----	31	6,378	-24.2	48	233	11.3
400----	31	7,229	-30.3	46	233	11.1
350----	31	8,165	-37.3		237	13.4
300----	31	9,214	-44.4		244	15.2
250----	31	10,420	-49.6		239	18.3
200----	31	11,883	-48.0		241	15.0
175----	31	12,768	-46.6		244	14.[illegible]
150----	31	13,791	-46.9		243	10.9
125----	31	14,999	-47.1		236	7.8
100----	31	16,477	-47.0		222	6.2
80-----	31	17,955	-46.8		214	2.7
70-----	30	18,843	-46.[illegible]		152	1.9
60-----	29	19,857	-46.4		134	2.9
50-----	29	21,069	-46.1		101	3.7
40-----	28	22,553	-45.5		95	5.6
30-----	26	24,476	-43.3		87	8.5
25-----	25	25,[illegible]	-43.0		85	[illegible].5
20-----	21	27,211	-41.0		82	11.7
15-----	12	29,219	-37.7		85	15.5
10-----						

MEDFORD, OREG. (970 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	401	13.7	72	220	1.0
1,000--	31	137				
950----	31	578	17.2	57	265	[illegible].9
900----	31	1,035	16.6	54	266	2.1
850----	31	1,521	14.8	53		.0
800----	31	2,033	13.5	38	121	2.7
750----	31	2,570	10.6	33	200	7.4
700----	31	3,145	[illegible]	34	204	11.5
650----	31	3,744	2.6	27	213	15.0
600----	31	4,391	- 1.5		216	17.3
550----	31	5,070	- 5.[illegible]		220	19.4
500----	31	5,818	-10.9		223	22.0
450----	31	6,612	-16.6		226	23.9
400----	31	7,494	-23.1		226	28.0
350----	31	8,460	-30.2		226	32.6
300----	31	9,541	-37.9		229	39.8
250----	31	10,779	-45.2		232	48.4
200----	30	12,254	-51.6		236	50.5
175----	30	13,115	-54.9		236	45.5
150----	29	14,098	-58.4		241	36.3
125----	29	15,240	-61.1		237	21.4
100----	29	16,628	-60.6		233	10.9
80-----	29	18,022	-58.6		130	3.7
70-----	29	18,866	-57.4		94	9.1
60-----	29	19,840	-55.7		94	10.5
50-----	28	21,006	-54.0		89	13.2
40-----	28	22,445	-51.8		90	15.9
30-----	28	24,321	-49.1		88	21.6
25-----	25	25,523	-47.3		89	23.3
20-----	25	27,004	-44.8		90	25.8
15-----	18	28,935	-42.1		89	29.0
10-----	6	31,723	-36.7			

MIAMI, FLA. (1018 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	26.4	81	95	3.7
1,000--	31	163	25.9	78	105	6.6
950----	31	608	22.6	79	123	11.3
900----	31	1,084	19.[illegible]	77	123	10.7
850----	31	1,576	16.6	71	117	9.5
800----	31	2,091	13.7	64	116	8.4
750----	31	2,630	11.1	53	109	7.4
700----	31	3,207	8.0	45	109	7.6
650----	31	3,809	4.5	44	110	7.0
600----	31	4,464	.7	40	116	8.4
550----	31	5,151	- 3.4	32	127	7.6
500----	31	5,906	- 8.1	28	133	7.0
450----	31	6,711	-13.7	31	133	7.6
400----	31	7,604	-19.7	33	124	7.2
350----	31	8,581	-26.7	35	119	6.8
300----	31	9,675	-35.1	33	99	7.0
250----	31	10,920	-45.2		87	5.8
200----	31	12,371	-57.1		27	4.3
175----	31	13,204	-62.8		19	5.1
150----	31	14,142	-67.6		57	9.1
125----	31	15,233	-69.5		77	13.0
100----	31	16,566	-68.7		86	14.6
80-----	31	17,909	-66.1		80	19.8
70-----	31	18,725	-63.6		78	26.0
60-----	31	19,675	-60.6		86	32.4
50-----	30	20,819	-57.7		92	35.4
40-----	30	22,238	-53.9		97	35.9
30-----	27	24,098	-49.9		95	33.0
25-----	22	25,298	-47.5		89	33.6
20-----	11	26,803	-44.4			
15-----						
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MIDLAND, TEXAS (917 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	871	19.6	84	134	4.5
1,000--	31	120				
950----	31	572				
900----	31	1,038	20.1	75	156	10.7
850----	31	1,531	18.9	66	186	16.1
800----	31	2,051	16.3	58	192	8.5
750----	31	2,594	13.1	53	163	2.9
700----	31	3,175	9.4	49	86	2.5
650----	30	3,787	5.2	49	61	6.6
600----	30	4,438	1.5	43	55	5.8
550----	30	5,127	- 2.7	37	53	6.4
500----	30	5,885	- 7.5	38	51	7.0
450----	30	6,692	-12.5	31	56	5.8
400----	30	7,589	-18.5		48	7.6
350----	30	8,572	-25.2		39	8.5
300----	30	9,673	-33.6		37	8.5
250----	30	10,927	-43.1		29	7.0
200----	30	12,396	-53.9		351	8.5
175----	30	13,243	-59.3		349	8.9
150----	29	14,198	-64.6		9	10.3
125----	29	15,300	-68.7		21	9.5
100----	28	16,635	-68.1		60	9.5
80-----	28	17,987	-64.2		80	14.2
70-----	28	18,820	-62.1		82	17.3
60-----	28	19,765	-59.5		86	22.2
50-----	28	20,913	-56.8		89	26.8
40-----	24	22,339	-54.6		91	30.1
30-----	21	24,197	-50.3		88	33.6
25-----	20	25,391	-48.1		89	33.2
20-----	19	26,859	-46.5		85	34.2
15-----	14	28,784	-43.4			
10-----						

MONTGOMERY, ALA. (1012 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	61	21.7	94	268	1.7
1,000--	31	164	22.4	88	261	3.7
950----	31	608	22.2	78	257	7.6
900----	31	1,081	19.4	77	250	7.6
850----	31	1,572	16.4	73	239	8.7
800----	31	2,085	13.3	70	238	8.7
750----	31	2,622	10.2	64	239	9.7
700----	31	3,198	6.9	59	240	9.7
650----	31	3,799	3.2	59	243	10.1
600----	31	4,448	- .7	51	243	9.9
550----	31	5,133	- 4.3	47	245	12.0
500----	31	5,885	- 8.6	46	242	11.7
450----	31	6,693	-13.4	40	236	11.5
400----	31	7,583	-19.0	34	240	8.9
350----	31	8,563	-26.1		240	7.4
300----	31	9,661	-34.1		236	5.4
250----	31	10,912	-43.8		222	2.5
200----	31	12,374	-54.9		304	1.4
175----	31	13,217	-60.3		337	2.9
150----	31	14,168	-64.7		2	4.5
125----	31	15,272	-67.2		50	5.8
100----	30	16,614	-67.0		65	8.4
80-----	30	17,976	-62.7		73	12.6
70-----	30	18,814	-60.6		81	15.7
60-----	30	19,767	-58.1		87	22.2
50-----	30	20,922	-55.2		89	27.8
40-----	30	22,354	-52.9		91	29.7
30-----	29	24,219	-49.9		90	31.1
25-----	29	25,415	-48.4		88	33.4
20-----	28	26,887	-46.4		88	38.3
15-----	23	28,815	-42.9		89	42.6
10-----						

NANTUCKET, MASS. (1014 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	14	18.1	92	229	1.7
1,000--	31	134	18.7	[illegible]	242	4.5
950----	31	574	18.7	72	266	6.2
900----	31	1,039	16.3	[illegible]	267	8.5
850----	31	1,523	13.6	66	270	11.1
800----	31	2,032	10.7	64	271	14.2
750----	31	2,562	7.4	64	274	16.7
700----	31	3,133	4.1	58	271	18.8
650----	31	3,729	1.2	49	268	21.2
600----	31	4,374	- 2.2	40	269	23.9
550----	31	5,053	- 6.1	38	270	26.4
500----	31	5,800	-10.3	35	264	29.[illegible]
450----	31	6,597	-15.5	37	263	33.8
400----	31	7,484	-21.5	39	266	37.7
350----	31	8,456	-28.5	38	261	40.6
300----	31	9,542	-36.8	37	262	42.9
250----	31	10,780	-46.0		261	47.8
200----	31	12,240	-53.3		268	47.0
175----	31	13,093	-57.0		270	41.0
150----	31	14,063	-59.8		267	33.0
125----	31	15,200	-60.0		270	23.5
100----	31	16,598	-58.5		273	11.5
80-----	31	18,008	-56.1		231	1.9
70-----	31	18,864	-54.9		89	3.[illegible]
60-----	31	19,846	-53.5		89	8.4
50-----	31	21,023	-51.9		94	12.6
40-----	30	22,474	-49.8		93	17.5
30-----	29	24,365	-47.1		92	21.2
25-----	24	25,571	-45.5		88	24.3
20-----	21	27,064	-43.0		90	29.0
15-----	13	29,005	-40.0		91	31.7

NASHVILLE, TENN. (997 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	177	20.5	91	202	3.1
1,000--	31	148				
950----	31	591	20.9	75	254	9.3
900----	31	1,062	18.[illegible]	72	258	10.3
850----	31	1,551	15.3	70	264	9.1
800----	31	2,063	12.3	65	262	9.1
750----	31	2,600	[illegible].3	62	261	9.5
700----	31	3,172	5.9	59	259	10.5
650----	31	3,773	[illegible].4	56	265	11.1
600----	31	4,419	- 1.2	52	256	13.6
550----	31	5,103	- 4.[illegible]	48	263	12.6
500----	31	5,853	- 8.8	41	261	13.2
450----	31	6,661	-14.0	38	261	14.0
400----	31	7,547	-19.5	39	276	12.4
350----	31	8,526	-26.5		279	13.4
300----	31	9,622	-34.8	34	284	14.8
250----	31	10,869	-44.4		289	17.3
200----	31	12,329	-55.[illegible]		285	19.[illegible]
175----	31	13,171	-60.3		292	17.5
150----	31	14,124	-63.8		299	11.7
125----	31	15,233	-65.9		299	7.[illegible]
100----	31	16,590	-64.[illegible]		334	4.1
80-----	31	17,962	-61.4		52	[illegible].5
70-----	31	18,801	-59.5		76	11.1
60-----	31	19,763	-57.0		84	14.[illegible]
50-----	31	20,923	-54.7		[illegible]	19.4
40-----	30	22,358	-52.4		93	21.8
30-----	30	24,230	-49.5		89	25.1
25-----	23	25,412	-48.1		86	27.0
20-----	18	26,887	-46.4		89	29.9
15-----	6	28,809	-43.2			

N. Y. INT. AP, IDLEWILD (1015 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	21.5	83	301	3.1
1,000--	31	137	20.[illegible]	77	309	2.9
950----	31	581	19.5	69	299	4.3
900----	31	1,045	16.9	67	283	7.4
850----	31	1,530	13.8	67	273	10.7
800----	31	2,039	10.5	67	273	13.6
750----	31	2,574	7.1	66	268	17.1
700----	31	3,139	4.0	61	269	19.6
650----	31	3,736	.7	50	271	23.5
600----	31	4,378	- 2.3	45	271	26.4
550----	31	5,058	- 6.4	40	271	26.8
500----	31	5,803	-10.7	39	269	28.4
450----	31	6,599	-15.9		271	32.4
400----	31	7,484	-22.1	33	270	34.8
350----	31	8,452	-29.0	32	266	39.[illegible]
300----	31	9,537	-36.7		266	44.5
250----	31	10,776	-45.4		267	48.4
200----	31	12,237	-53.1		272	47.4
175----	31	13,090	-56.7		272	42.2
150----	31	14,060	-60.1		274	34.4
125----	31	15,194	-61.1		272	25.[illegible]
100----	31	16,584	-59.8		282	14.0
80-----	31	17,985	-57.5		313	2.9
70-----	31	18,838	-55.8		65	3.5
60-----	31	19,816	-53.9		87	9.1
50-----	29	20,993	-52.1		91	13.0
40-----	28	22,443	-50.3		92	15.7
30-----	26	24,332	-48.1		93	21.0
25-----	24	25,534	-46.7		90	24.3
20-----	23	27,020	-44.2		88	27.2
15-----	15	28,952	-40.7			

NOME, ALASKA (1011 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	7	7.4	90	195	0.6
1,000--	28	102	7.8	86	188	1.4
950----	28	524	6.5	78	184	4.7
900----	28	968	6.0	68	194	7.2
850----	28	1,435	4.1	64	199	6.2
800----	28	1,926	2.0	60	208	7.8
750----	28	2,445	- .[illegible]	57	221	8.9
700----	28	2,995	- 3.1	58	222	8.9
650----	28	3,577	- 6.1	51	217	8.7
600----	28	4,201	- 9.9	48	224	8.4
550----	28	4,864	-13.9	48	231	9.9
500----	28	5,586	-18.7	50	235	10.3
450----	28	6,357	-24.0	44	236	11.1
400----	28	7,213	-30.2	45	238	12.2
350----	28	8,149	-37.2		238	12.2
300----	28	9,197	-44.7		242	14.2
250----	28	10,401	-49.5		241	11.5
200----	28	11,870	-46.0		255	9.3
175----	28	12,760	-45.3		255	8.2
150----	28	13,787	-45.9		252	6.8
125----	28	14,998	-46.1		253	6.8
100----	28	16,480	-46.2		257	4.3
80-----	28	17,964	-46.1		230	2.5
70-----	28	18,856	-45.9		219	1.9
60-----	27	19,878	-45.5		119	1.7
50-----	27	21,094	-45.4		85	4.1
40-----	27	22,585	-44.7		81	6.2
30-----	27	24,514	-43.9		89	8.7
25-----	27	25,742	-42.3		87	11.3
20-----	27	27,257	-40.6		85	13.0
15-----	22	29,220	-37.6		80	14.0

NORFOLK, VA. (1016 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	9	23.0	90	235	4.1
1,000--	31	152	23.3	81	250	6.8
950----	31	598	22.0	70	273	10.3
900----	31	1,069	19.4	67	270	11.5
850----	31	1,559	16.1	68	266	12.2
800----	31	2,073	12.9	64	261	14.8
750----	31	2,608	9.5	62	263	17.5
700----	31	3,183	6.0	61	264	19.0
650----	31	3,782	2.6	56	259	20.0
600----	31	4,430	- 1.0	53	259	22.2
550----	31	5,114	- 4.5	41	260	23.1
500----	31	5,866	- 8.7	36	260	24.5
450----	31	6,671	-13.9	34	259	26.2
400----	31	7,561	-19.[illegible]		258	27.2
350----	31	8,539	-26.6		259	31.1
300----	31	9,634	-35.1		260	32.4
250----	31	10,879	-44.8		263	33.8
200----	31	12,337	-55.2		271	33.0
175----	31	13,180	-59.9		272	29.7
150----	31	14,134	-63.8		271	22.2
125----	31	15,248	-64.9		268	15.3
100----	31	16,614	-62.9		295	5.2
80-----	31	18,000	-59.5		63	5.2
70-----	31	18,845	-57.9		82	10.9
60-----	31	19,814	-55.9		85	16.7
50-----	31	20,980	-53.5		90	22.0
40-----	31	22,423	-51.0		91	26.6
30-----	30	24,310	-47.7		88	29.3
25-----	29	25,518	-45.9		86	30.7
20-----	27	27,008	-43.4		89	32.8
15-----	15	28,970	-40.6		89	36.9

NORTH PLATTE, NEBR. (917 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	848	16.7	84	27	1.7
1,000--	31	104				
950----	31	545				
900----	31	1,011	18.7	74	46	1.0
850----	31	1,504	19.7	54	261	3.9
800----	31	2,025	17.2	49	270	6.6
750----	31	2,569	13.6	49	272	8.2
700----	31	3,150	9.2	52	281	8.5
650----	31	3,757	4.6	55	288	8.5
600----	31	4,408	- .2	54	289	11.5
550----	31	5,090	- 4.8	50	290	15.3
500----	31	5,842	- 9.8	46	291	17.1
450----	30	6,645	-15.1	42	293	19.6
400----	30	7,532	-20.9	39	292	24.1
350----	30	8,506	-27.6		294	27.4
300----	30	9,596	-35.9		288	29.0
250----	30	10,837	-45.3		284	33.2
200----	30	12,294	-54.5		284	34.2
175----	30	13,143	-57.[illegible]		288	32.6
150----	30	14,111	-60.2		294	25.3
125----	30	15,240	-62.9		299	16.3
100----	30	16,614	-61.9		324	7.2
80-----	30	18,002	-59.7		33	6.6
70-----	30	18,841	-58.3		67	7.8
60-----	30	19,815	-56.1		75	10.[illegible]
50-----	30	20,982	-53.3		83	14.6
40-----	30	22,427	-51.3		89	18.3
30-----	29	24,304	-48.[illegible]		83	21.4
25-----	27	25,506	-47.1		89	25.5
20-----	26	26,991	-44.9		89	28.2
15-----	18	28,927	-42.0		95	32.4
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OAKLAND, CALIF. (1013 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	14.2	84	289	3.9
1,000--	31	113	14.3	80	279	4.7
950----	31	554	18.7	50	268	6.4
900----	31	1,017	23.2	22	289	8.7
850----	31	1,513	21.4		281	7.0
800----	31	2,035	18.1		243	6.6
750----	31	2,577	14.4	23	224	7.4
700----	31	3,162	10.0	26	214	8.5
650----	31	3,764	5.4	30	208	12.0
600----	31	4,421	.7	30	209	15.0
550----	31	5,104	- 3.6		213	18.1
500----	31	5,863	- 8.2		216	18.5
450----	31	6,661	-13.9		215	18.8
400----	31	7,558	-20.3		224	23.1
350----	31	8,534	-27.1		227	28.0
300----	31	9,627	-35.3		228	31.5
250----	31	10,874	-44.1		229	34.8
200----	31	12,343	-52.9		227	34.8
175----	31	13,196	-57.2		229	32.6
150----	31	14,162	-61.4		229	26.4
125----	29	15,288	-64.8		225	18.1
100----	29	16,651	-64.2		173	6.2
80-----	28	18,020	-61.8		118	10.7
70-----	28	18,860	-59.5		104	12.8
60-----	28	19,819	-57.5		97	15.2
50-----	28	20,978	-54.7		92	17.7
40-----	26	22,409	-52.9		89	22.5
30-----	26	24,276	-49.9		90	26.[illegible]
25-----	25	25,471	-48.1		88	28.4
20-----	21	26,947	-45.7		91	29.0
15-----	12	28,860	-43.4			
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OKLAHOMA CITY, OKLA. (971 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	392	20.9	85	172	6.0
1,000--	31	132				
950----	31	583	22.5	71	195	12.6
900----	31	1,049	21.1	63	222	15.3
850----	31	1,542	18.1	60	229	13.4
800----	31	2,060	15.2	53	237	8.2
750----	31	2,601	11.9	46	228	4.5
700----	31	3,179	8.7	41	204	2.5
650----	31	3,784	4.9	41	203	1.6
600----	31	4,436	.8	39	224	1.4
550----	31	5,121	- 3.7	34	265	2.1
500----	31	5,877	- 7.8	29	299	3.3
450----	31	6,685	-13.1	28	326	6.0
400----	31	7,576	-18.8		332	7.4
350----	31	8,557	-26.0		328	8.2
300----	31	9,654	-34.2		319	10.1
250----	31	10,904	-43.8		310	12.8
200----	31	12,367	-54.6		303	14.[illegible]
175----	31	13,213	-59.5		320	13.6
150----	31	14,167	-63.6		319	14.2
125----	31	15,279	-66.[illegible]		326	9.7
100----	31	16,632	-65.5		11	6.4
80-----	29	17,995	-62.2		64	10.1
70-----	29	18,830	-60.1		77	13.8
60-----	29	19,791	-57.7		82	19.0
50-----	28	20,949	-55.1		87	21.6
40-----	28	22,381	-52.8		90	24.9
30-----	27	24,248	-49.8		88	27.8
25-----	24	25,440	-48.1		86	30.9
20-----	18	26,917	-45.3		85	33.8
15-----	8	28,831	-43.4			
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OMAHA, NEBR. (967 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	403	18.8	87	163	1.9
1,000--	31	112				
950----	31	555	21.0	70	190	3.9
900----	31	1,025	20.7	57	252	9.3
850----	31	1,518	18.0	51	263	9.9
800----	31	2,034	14.7	52	276	8.9
750----	31	2,571	11.1	50	286	10.1
700----	31	3,149	7.2	47	290	12.6
650----	31	3,749	3.0	50	292	15.5
600----	31	4,398	- 1.0	46	295	18.3
550----	31	5,078	- 5.3	42	295	18.8
500----	31	5,830	- 9.6	38	296	21.0
450----	31	6,629	-14.7		297	23.5
400----	31	7,519	-20.8		293	27.4
350----	31	8,492	-27.7		297	34.2
300----	30	9,582	-35.6		297	36.1
250----	30	10,825	-44.8		289	38.0
200----	30	12,287	-54.0		287	39.8
175----	30	13,137	-57.2		289	36.7
150----	30	14,107	-59.4		293	31.3
125----	29	15,243	-61.2		298	21.8
100----	28	16,626	-60.9		317	11.3
80-----	28	18,020	-58.8		7	5.6
70-----	28	18,865	-57.2		38	6.6
60-----	28	19,839	-55.2		65	10.9
50-----	28	21,008	-53.1		86	15.0
40-----	25	22,453	-51.0		92	18.1
30-----	23	24,330	-48.7		87	22.2
25-----	23	25,533	-46.8		91	25.1
20-----	22	27,025	-44.4		90	27.8
15-----	16	28,960	-41.9		93	32.3
10-----	7	31,733	-37.6			

PEORIA, ILL. (992 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	201	17.9	91	194	2.1
1,000--	31	130				
950----	31	572	20.2	71	254	6.4
900----	31	1,039	17.5	70	269	9.5
850----	31	1,526	14.6	69	273	12.0
800----	31	2,037	11.5	66	272	14.0
750----	31	2,572	8.5	59	271	16.7
700----	31	3,143	5.3	51	273	17.7
650----	31	3,742	2.4	42	273	20.6
600----	31	4,388	- 1.6	42	275	20.6
550----	31	5,069	- 5.6	41	277	21.2
500----	31	5,819	- 9.8		281	21.4
450----	31	6,619	-15.1		283	22.3
400----	31	7,506	-21.0		286	23.1
350----	31	8,479	-27.9		287	27.8
300----	31	9,568	-35.8		285	32.6
250----	31	10,812	-44.8		281	35.6
200----	31	12,272	-54.4		280	35.4
175----	31	13,119	-57.9		284	33.8
150----	31	14,088	-59.6		286	26.0
125----	31	15,223	-61.2		291	17.1
100----	31	16,606	-60.7		311	9.5
80-----	31	18,001	-58.4		12	5.2
70-----	31	18,852	-56.5		49	5.8
60-----	31	19,825	-55.0		70	9.9
50-----	31	20,995	-53.1		78	13.4
40-----	31	22,439	-51.0		87	19.2
30-----	29	24,321	-48.0		89	21.2
25-----	27	25,524	-46.6		87	23.9
20-----	25	27,012	-44.6		86	27.6
15-----	21	28,952	-41.[illegible]		88	32.6
10-----	6	31,725	-37.2			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JULY 1961

Standard pressure surface (mb.)	PITTSBURGH, PA. (976 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	POINT ARGUELLO, CALIF. (1000 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	PORTLAND, ME. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	RAPID CITY, S. DAK. (906 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ST. CLOUD, MINN. (978 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	353	16.3	89	235	2.7	31	113	11.6	98	313	2.3	31	20	17.1	88	314	1.2	31	966	16.7	66	332	1.9	31	316	15.5	90	263	0.6
1,000	31	148					31	116			322	3.1	31	131	17.1	80	295	1.9	31	107					31	122				
950	31	590	18.0	76	262	8.0	31	562	18.1	62	2	6.2	31	572	16.8	67	283	3.9	31	551					31	563	17.7	75	269	2.7
900	31	1,051	16.0	75	280	12.6	31	1,018	23.4	32	24	7.0	31	1,029	15.1	62	266	5.6	31	1,019	17.5	64	320	1.9	31	1,022	16.0	68	292	3.7
850	31	1,535	13.0	75	279	14.2	31	1,516	22.4	25	23	6.6	31	1,511	12.3	60	259	8.4	31	1,510	18.3	53	264	4.9	31	1,506	13.4	63	298	5.6
800	31	2,042	10.0	70	278	16.1	31	2,039	19.1	26	38	3.7	31	2,017	9.1	61	265	11.5	31	2,028	15.9	47	288	4.1	31	2,014	10.5	58	294	6.6
750	31	2,575	6.8	66	275	16.9	31	2,587	15.6	27	236	1.4	31	2,548	6.1	60	268	14.6	31	2,565	12.2	49	300	7.4	31	2,549	7.6	55	297	7.8
700	31	3,141	3.9	55	275	18.8	31	3,171	11.2	32	211	4.5	31	3,111	2.7	61	270	17.3	31	3,146	7.7	54	303	10.3	31	3,115	3.9	57	302	10.3
650	31	3,737	.8	45	276	20.4	31	3,781	6.5	37	185	5.6	31	3,702	- .8	59	273	21.6	31	3,747	3.2	51	296	12.4	31	3,710	.4	51	298	13.8
600	31	4,380	- 2.4	39	276	21.6	31	4,436	1.8	34	184	6.4	31	4,343	- 4.0	44	272	23.3	31	4,396	- 1.4	48	302	15.9	31	4,352	- 3.2	45	297	16.9
550	31	5,055	- 6.2		275	23.5	31	5,128	- 2.6		193	6.4	31	5,015	- 7.7	36	270	25.1	31	5,072	- 6.3	49	302	17.7	31	5,030	- 7.4	41	296	18.7
500	31	5,807	-10.5		274	24.9	31	5,882	- 7.4		191	7.4	31	5,761	-12.3	36	268	27.4	31	5,822	-11.2	41	300	19.8	31	5,771	-12.2	36	293	20.8
450	31	6,600	-15.8		270	32.1	31	6,692	-12.9		202	9.7	31	6,552	-17.6	38	267	31.1	30	6,614	-16.7	38	294	21.2	31	6,564	-17.5	35	291	22.2
400	31	7,488	-21.9		276	32.6	31	7,583	-19.4		210	11.7	31	7,431	-23.7	37	265	33.2	30	7,496	-22.5	29	294	26.4	31	7,441	-23.5		291	24.7
350	31	8,457	-28.9		276	34.[illegible]	31	[illegible],562	-26.6		216	11.9	31	8,393	-30.5	36	265	38.9	29	8,461	-29.5		292	31.1	31	8,404	-30.7		292	29.9
300	31	9,543	-36.7		277	40.6	31	9,656	-35.1		220	13.8	31	9,472	-38.3		260	43.9	29	9,542	-37.8		290	38.1	31	9,480	-39.2		288	32.3
250	31	10,782	-45.6		279	46.2	31	10,902	-44.5		219	16.3	31	10,705	-46.0		259	51.1	29	10,775	-46.6		285	42.2	31	10,708	-46.7		286	38.9
200	31	12,245	-53.4		283	47.2	31	12,365	-54.3		219	19.4	31	12,170	-52.0		264	50.3	29	12,232	-53.1		281	40.6	31	12,170	-51.[illegible]		287	38.9
175	31	13,095	-57.4		283	40.8	31	13,212	-59.0		223	18.8	31	13,030	-54.5		267	43.9	29	13,088	-55.5		284	38.1	31	13,032	-53.5		288	33.4
150	31	14,062	-60.3		280	31.9	31	14,167	-63.7		216	16.1	31	14,014	-56.0		268	35.0	28	14,065	-58.1		284	29.9	31	14,020	-55.4		292	28.6
125	31	15,195	-61.7		277	21.2	31	15,274	-67.6		212	11.7	31	15,171	-56.9		268	24.1	28	15,205	-60.3		289	20.0	31	15,177	-57.6		301	20.6
100	31	16,580	-60.8		279	11.5	31	16,620	-66.3		131	6.4	31	16,585	-56.[illegible]		265	12.0	28	16,597	-59.3		303	10.1	31	16,586	-57.5		313	12.0
80	31	17,978	-57.9		26	3.9	29	17,982	-62.9		109	11.7	31	18,008	-54.7		348	.6	27	18,001	-58.1		6	4.1	31	18,002	-55.7		344	7.2
70	31	18,827	-56.1		60	6.4	29	18,818	-60.8		100	14.8	31	18,870	-53.5		95	3.5	27	18,851	-56.6		66	5.8	31	18,858	-55.0		22	6.4
60	31	19,808	-54.3		81	12.4	29	19,773	-58.1		95	18.5	31	19,860	-52.4		92	7.0	27	19,828	-54.7		67	8.2	31	19,842	-53.4		52	7.4
50	31	20,981	-52.6		88	17.1	29	20,929	-55.5		95	21.4	31	21,044	-51.1		91	10.3	26	20,998	-53.1		76	11.7	31	21,021	-51.6		68	10.1
40	31	22,430	-50.6		91	20.2	29	22,358	-53.6		88	24.9	30	22,503	-49.3		91	12.6	25	22,444	-50.7		84	15.2	31	22,476	-49.2		80	14.0
30	28	24,319	-47.8		88	23.1	29	24,222	-50.5		87	29.1	29	24,403	-46.9		89	19.0	23	24,328	-48.4		86	17.9	30	24,373	-46.9		86	17.1
25	28	25,526	-46.5		86	26.2	28	25,419	-47.9		87	32.1	25	25,620	-44.9		90	23.9	23	25,533	-46.7		87	20.6	29	25,586	-45.2		90	19.2
20	28	27,016	-44.1		91	29.3	28	26,900	-45.2		87	34.4	11	27,124	-42.6				21	27,026	-44.7		82	21.2	28	27,084	-43.2		89	21.[illegible]
15	25	28,961	-41.0		89	34.6	26	28,833	-41.7		91	33.4							17	28,966	-41.6		87	27.6	26	29,039	-40.1		89	24.9
10	8	31,774	-36.7				20	31,621	-34.8		91	38.3							10	31,756	-36.6				13	31,837	-35.7			
7							7	34,073	-29.6																					

Standard pressure surface (mb.)	ST. PAUL IS., ALASKA (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SALEM, OREG. (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SALT LAKE CITY, UTAH (872 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAN ANTONIO, TEXAS (989 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAN DIEGO, CALIF. (998 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	6.0	95	231	4.3	31	61	12.3	91	240	1.0	31	1,288	20.0	46	166	6.2	31	243	24.0	91	161	4.3	31	124	17.4	88	256	1.4
1,000	31	123	5.9	90	230	4.9	31	146	13.7	82	308	1.2	31	85					31	142					31	107				
950	31	543	5.2	84	235	7.8	31	580	14.5	72	12	5.1	31	532					31	589	21.4	88	184	12.6	31	545	18.0	71		.0
900	31	984	5.3	74	231	7.8	31	1,037	13.9	66	358	4.1	31	1,010					31	1,060	18.8	82	187	17.3	31	1,013	23.1	32		.0
850	31	1,450	3.7	70	236	7.4	31	1,518	12.7	51	313	2.7	31	1,510	23.8	31	157	7.8	31	1,551	17.5	64	188	15.7	31	1,512	23.0	25	327	2.5
800	31	1,941	1.7	67	248	7.4	31	2,025	10.9	38	269	4.1	31	2,038	21.1	29	176	8.0	31	2,068	14.6	61	181	12.0	31	2,037	20.0	32	346	1.2
750	31	2,459	- .4	60	249	8.5	31	2,558	8.4	33	252	6.4	31	2,590	17.1	31	207	5.2	31	2,601	11.5	58	175	10.5	31	2,577	15.9	37	132	1.7
700	31	3,010	- 3.0	58	252	7.8	31	3,128	5.6	28	237	8.9	31	3,177	12.5	35	240	4.7	31	3,186	8.2	54	175	8.4	31	3,171	11.7	36	146	4.7
650	31	3,589	- 6.2	51	254	7.8	31	3,725	1.9		228	11.7	31	3,790	7.2	43	262	6.4	31	3,789	4.5	48	177	6.4	31	3,770	7.1	40	142	7.2
600	31	4,216	- 9.6	45	259	8.4	31	4,370	- 2.3		226	14.0	31	4,446	1.7	50	267	9.5	31	4,443	.4	50	179	3.7	31	4,439	2.2	44	144	8.2
550	31	4,877	-13.5	47	259	7.6	31	5,049	- 6.9		226	16.5	31	5,138	- 3.7	53	268	11.7	31	5,128	- 3.8	48	167	3.7	31	5,119	- 2.8	43	143	7.8
500	31	5,601	-18.0	47	260	9.5	31	5,791	-12.0		225	19.2	31	5,889	- 9.5	53	266	13.6	31	5,884	- 8.4	46	116	2.5	31	5,885	- 7.7	39	154	6.6
450	31	6,372	-23.3	49	264	11.5	31	6,580	-17.6		229	22.5	31	6,694	-14.9	40	270	16.3	30	6,692	-13.3	36	48	4.5	31	6,684	-12.8		168	6.0
400	31	7,233	-29.4	47	266	13.0	31	7,459	-24.0		227	25.6	31	7,578	-21.0		267	19.4	30	7,585	-19.1	37	55	6.[illegible]	31	7,586	-19.2	30	177	4.9
350	31	8,172	-36.3		266	12.8	31	8,421	-31.2		226	28.[illegible]	31	8,551	-27.9		267	21.6	30	8,566	-26.0		33	6.8	31	8,567	-26.3		208	5.6
300	31	9,224	-43.8		263	16.5	31	9,495	-39.5		227	31.3	31	9,640	-35.8		267	28.0	30	9,664	-34.0		20	9.1	31	9,665	-34.2		198	8.0
250	31	10,432	-49.1		264	19.0	31	10,721	-47.2		229	39.6	31	10,883	-44.7		267	29.5	30	10,916	-43.4		4	13.1	31	10,917	-43.5		201	10.3
200	30	11,902	-48.0		275	18.7	30	12,182	-50.0		234	45.1	31	12,346	-53.4		268	30.7	30	12,382	-54.4		9	14.4	31	12,387	-53.7		208	14.8
175	30	12,783	-47.5		272	14.6	30	13,051	-52.3		237	40.0	31	13,197	-57.6		270	29.5	30	13,227	-59.9		22	14.6	31	13,235	-59.3		217	14.6
150	30	13,800	-48.0		272	13.0	30	14,041	-55.5		236	31.9	31	14,161	-61.5		271	24.5	30	14,178	-65.2		32	13.4	31	14,189	-64.[illegible]		214	9.5
125	30	15,001	-48.6		270	9.5	30	15,198	-57.8		239	21.2	31	15,282	-64.5		274	17.5	30	15,277	-68.9		29	12.2	31	15,289	-69.4		187	4.3
100	30	16,467	-48.9		264	4.7	30	16,604	-57.8		232	10.1	31	16,646	-63.5		275	7.6	30	16,608	-69.[illegible]		62	13.4	31	16,622	-68.3		100	7.8
80	30	17,934	-48.5		287	2.3	30	18,014	-56.7		164	3.5	31	18,028	-60.3		52	1.9	30	17,950	-65.1		76	17.7	31	17,972	-64.0		93	15.0
70	30	18,809	-48.2		65	1.7	30	18,872	-55.4		107	4.7	31	18,877	-58.8		79	7.6	30	18,770	-62.[illegible]		79	20.6	31	18,801	-62.0		93	18.8
60	30	19,831	-47.9		94	3.5	29	19,848	-54.3		96	7.6	31	19,833	-57.0		83	11.7	30	19,721	-60.7		82	23.3	31	19,752	-58.9		94	23.5
50	30	21,035	-47.7		94	6.0	29	21,021	-52.4		85	13.2	30	20,993	-54.8		87	15.0	30	20,862	-58.1		85	29.5	31	20,903	-56.5		93	25.5
40	30	22,512	-46.9		96	8.7	29	22,470	-50.4		88	14.6	27	22,426	-52.0		85	17.5	29	22,279	-55.0		91	34.0	31	22,326	-53.9		90	27.0
30	27	24,417	-45.6		86	13.8	28	24,356	-47.8		86	17.9	25	24,302	-49.3		86	21.6	28	24,130	-51.6		88	34.2	31	24,184	-51.1		88	31.7
25	25	25,637	-44.6		87	16.3	27	25,565	-46.1		87	20.[illegible]	24	25,502	-47.1		86	23.3	26	25,321	-49.5		87	35.[illegible]	30	25,375	-49.1		89	34.2
20	20	27,148	-42.4		96	12.8	27	27,053	-44.4		87	22.[illegible]	22	26,984	-45.6		91	26.8	25	26,789	-46.8		87	38.1	28	26,845	-46.7		89	35.4
15	14	29,107	-39.9				24	28,992	-41.1		87	25.1	17	28,916	-43.1		90	30.5	17	28,711	-43.7		86	44.3	19	28,768	-43.9		90	39.4
10							10	31,776	-35.8										7	31,473	-39.8									

Standard pressure surface (mb.)	SANTA MONICA, CALIF. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAULT STE. MARIE, MICH. (988 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SEATTLE, WASH. (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SHEMYA, ALASKA (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SHREVEPORT, LA. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	38	18.1	85	279	0.6	31	221	14.0	89	350	0.6	31	125	14.3	80	164	1.6	29	37	6.1	99	174	0.6	31	76	22.2	94	182	4.1
1,000	31	111	17.7	85	177	.6	31	120					31	150	13.9	83	174	1.7	29	123	5.6	95	232	.8	31	154	22.7	90	194	5.6
950	31	555	18.2	72	81	2.5	31	556	15.6	75	290	2.5	31	585	14.1	75	7	1.4	29	541	5.8	85	182	2.9	31	599	22.1	76	232	13.0
900	31	1,018	22.4	38	16	3.7	31	1,014	13.9	67	280	5.6	31	1,041	13.3	69	337	2.1	29	987	6.8	76	162	2.5	31	1,072	19.6	69	226	11.1
850	31	1,516	23.0	23	330	3.1	31	1,495	11.0	70	280	7.0	31	1,521	11.5	65	339	2.5	29	1,456	6.4	66	166	2.1	31	1,563	16.5	67	232	9.5
800	31	2,041	20.1	23	257	4.1	31	1,998	7.8	73	280	8.9	31	2,026	9.3	54	293	1.7	29	1,953	5.2	58	157	2.3	31	2,077	13.2	64	231	7.0
750	31	2,587	16.2	25	227	2.9	31	2,524	4.8	70	284	10.5	31	2,559	6.8	44	247	4.1	29	2,480	3.1	55	218	1.4	31	2,612	9.8	63	234	7.2
700	31	3,175	11.7	30	171	5.2	31	3,088	1.6	64	282	12.2	31	3,124	3.8	31	243	6.2	29	3,037	.9	51	273	1.7	31	3,187	6.2	60	237	6.8
650	31	3,782	7.0	35	158	7.8	31	3,679	- 1.4	[illegible]	290	12.4	31	3,718	.4	29	244	9.3	29	3,626	- 2.1	47	298	3.1	31	3,788	2.9	51	240	6.0
600	31	4,442	1.9	38	160	9.1	31	4,317	- 5.1	50	295	14.4	31	4,360	- 3.7	30	244	11.9	29	4,262	- 5.4	45	293	5.6	31	4,436	- .8	52	236	3.3
550	31	5,128	- 3.0	40	178	8.[illegible]	31	4,989	- 9.0	44	291	17.7	31	5,036	- 8.1	30	238	15.0	29	4,933	- 9.3	41	297	8.0	31	5,120	- 4.8	46	227	3.3
500	31	5,886	- 7.6		189	7.2	31	5,728	-13.6	40	289	19.2	31	5,776	-13.0		236	16.1	29	5,672	-14.1	39	292	10.7	31	5,870	- 9.3	39	218	2.1
450	31	6,692	-13.0		186	6.8	31	6,515	-19.2	40	284	21.6	31	6,565	-18.6		236	18.7	28	6,460	-19.4		293	12.8	31	6,674	-14.0		51	.8
400	31	7,587	-19.2		208	7.6	31	7,387	-25.5		289	23.3	31	7,440	-24.9		237	21.4	28	7,332	-25.3	43	294	17.3	31	7,564	-19.7		33	4.3
350	31	8,566	-26.5		214	9.1	31	8,343	-32.5		295	25.1	31	8,397	-31.8		240	24.1	28	8,288	-32.1		300	20.2	31	8,543	-26.3		18	6.2
300	31	9,661	-34.4		218	11.3	31	9,413	-40.2		291	30.7	31	9,467	-40.2		239	26.2	28	9,359	-39.9		304	26.6	31	9,640	-34.4		21	7.8
250	31	10,911	-43.6		209	13.8	31	10,637	-47.1		288	37.5	31	10,690	-48.0		236	31.5	28	10,584	-48.0		300	34.4	31	10,890	-43.8		27	8.4
200	31	12,378	-53.7		214	17.3	31	12,101	-50.7		287	40.8	31	12,148	-50.7		243	34.6	28	12,040	-51.2		301	37.7	31	12,355	-54.2		19	9.9
175	31	13,226	-58.9		217	17.1	31	12,968	-52.0		288	35.0	31	13,016	-51.5		245	34.4	28	12,910	-50.7		301	29.9	31	13,201	-59.[illegible]		22	11.1
150	31	14,181	-64.1		220	12.2	31	13,964	-53.6		292	27.4	31	14,011	-53.9		248	29.0	28	13,912	-51.6		306	25.5	30	14,153	-64.4		21	10.5
125	31	15,284	-68.7		206	8.0	31	15,133	-55.0		293	19.8	31	15,177	-55.5		249	21.2	28	15,092	-52.5		309	18.8	30	15,261	-66.9		15	6.6
100	31	16,621	-67.7		122	7.4	31	16,557	-55.1		306	11.3	31	16,597	-55.9		245	[illegible].3	28	16,533	-52.6		310	10.3	30	16,608	-66.8		49	6.8
80	31	17,973	-64.0		88	13.2	31	17,985	-54.0		335	4.7	31	18,019	-55.0		210	2.9	28	17,976	-51.9		340	7.4	30	17,965	-63.7		69	13.8
70	31	18,798	-61.4		90	17.1	31	18,842	-53.2		17	3.3	31	18,877	-54.4		134	3.1	28	18,849	-51.3		22	5.6	30	18,796	-61.2		77	16.3
60	31	19,760	-58.9		94	21.0	31	19,839	-52.2		53	5.6	31	19,863	-53.4		108	5.2	28	19,845	-50.8		63	5.2	30	19,752	-58.4		83	20.2
50	31	20,908	-56.2		90	22.9	31	21,022	-50.6		67	8.4	31	21,040	-51.8		89	8.9	28	21,034	-49.9		76	7.6	30	20,905	-56.2		86	24.3
40	31	22,332	-53.8		87	25.8	31	22,482	-48.9		80	12.8	30	22,494	-49.6		88	12.6	28	22,497	-48.7		89	9.1	30	22,331	-53.5		91	27.4
30	29	24,189	-51.0		85	30.9	30	24,378	-46.7		84	15.9	27	24,388	-47.4		92	14.6	28	24,396	-46.8		95	13.6	30	24,193	-50.3		89	32.1
25	28	25,381	-49.2		87	31.7	28	25,592	-45.3		90	18.3	27	25,598	-45.6		90	15.9	28	25,608	-45.4		94	14.6	29	25,390	-48.0		89	34.4
20	25	26,850	-47.0		88	35.6	28	27,086	-43.6		86	19.8	26	27,093	-43.3		93	18.1	23	27,095	-43.8		93	16.7	25	26,871	-45.6		88	35.2
15	18	28,762	-43.7		91	38.9	22	29,041	-40.6		86	24.1	20	29,044	-40.7		91	19.8	10	29,071	-41.0				13	28,787	-43.2			
10							11	31,828	-37.4				7	31,827	-35.5															

See reference note at end of table

RAWINSONDE DATA

Average monthly values

JULY 1961

Standard pressure surface (mb.)	SPOKANE, WASH. (932 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SWAN ISLAND, W. I. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	722	15.6	61	124	1.7	31	10	26.5	85	86	11.7
1,000--	31	115					31	124	25.8	84	87	13.8
950----	31	558					31	578	22.8	82	99	19.6
900----	31	1,021	19.3	44	97	2.5	31	1,046	19.9	79	100	23.7
850----	31	1,512	17.4	40	259	1.7	31	1,538	16.8	76	99	23.5
800----	31	2,026	13.4	45	264	2.5	31	2,053	14.1	67	102	24.9
750----	31	[illegible],561	9.4	48	247	5.2	31	2,591	11.2	60	106	25.8
700----	31	3,133	5.2	49	243	7.4	31	3,170	7.9	57	107	21.4
650----	31	3,726	.9	50	246	10.9	31	3,778	4.5	51	104	21.2
600----	31	4,373	- 3.1	47	242	16.7	31	4,428	1.3	46	103	17.9
550----	31	5,048	- 7.1	35	242	19.4	31	5,115	- 2.6	40	98	16.1
500----	31	5,793	-12.2	34	240	21.0	31	5,874	- 7.0	40	98	13.8
450----	31	6,58[illegible]	-17.5		245	23.5	31	6,685	-11.9	36	96	11.5
400----	31	7,462	-24.1		248	25.8	31	7,583	-17.5	37	86	8.7
350----	31	8,422	-31.3		247	30.1	31	8,569	-24.4	35	56	6.8
300----	31	9,495	-39.6		247	33.4	31	9,673	-32.9		20	6.4
250----	31	10,719	-47.8		248	39.6	31	10,930	-43.0		356	7.6
200----	31	12,178	-51.4		250	41.8	31	12,394	-55.3		335	7.2
175----	31	13,042	-52.5		254	37.5	30	13,233	-62.2		332	8.5
150----	31	14,034	-54.4		255	29.5	30	14,171	-68.7		326	8.4
125----	31	15,196	-56.2		256	19.8	30	15,249	-73.0		357	8.0
100----	31	16,613	-56.3		254	9.7	29	16,560	-71.5		78	16.7
80-----	31	18,034	-54.9		253	1.2	29	17,884	-69.1		88	24.5
70-----	31	18,896	-53.9		74	3.9	29	18,696	-65.5		89	26.2
60-----	31	19,881	-52.8		83	7.8	29	19,634	-62.2		87	31.5
50-----	31	21,062	-51.1		85	10.9	29	20,767	-59.6		90	32.5
40-----	30	22,519	-49.2		86	14.8	29	22,174	-56.2		93	32.3
30-----	30	24,416	-46.[illegible]		81	18.3	27	24,020	-52.0		96	28.6
25-----	29	25,629	-45.3		86	20.2	27	25,207	-49.2		93	25.6
20-----	28	27,125	-43.0		86	20.8	25	26,683	-45.7		88	26.2
15-----	16	29,071	-39.2		83	25.3	23	28,605	-43.2		82	28.2
10-----							9	31,326	-41.2			

Standard pressure surface (mb.)	TAMPA, FLA. (1019 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TATOOSH IS., WASH. (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	24.5	87	99	4.5	31	31	12.9	92	188	3.3
1,000--	31	171	24.9	82	128	6.0	31	151	13.3	87	181	3.9
950----	31	615	22.9	77	169	6.0	31	583	13.1	78	215	2.1
900----	31	1,092	20.2	75	166	5.8	31	1,039	12.4	67		.0
850----	31	1,584	17.1	74	156	6.0	31	1,517	10.6	59	179	.8
800----	31	2,100	14.1	68	148	5.2	31	2,021	8.8	49	169	.6
750----	31	2,640	11.1	63	150	4.9	31	2,550	6.6	42	258	2.1
700----	31	3,216	[illegible].0	55	163	3.5	31	3,115	2.9	38	253	2.9
650----	31	3,819	4.5	51	203	3.9	31	3,707	[illegible]	36	242	5.6
600----	31	4,472	.6	48	203	4.[illegible]	31	4,347	- 4.5	33	246	7.2
550----	31	5,161	- 3.5	44	200	4.9	31	5,020	- 8.9	34	246	9.3
500----	31	5,914	- 8.2	43	204	5.6	31	5,758	-13.8	32	244	9.5
450----	31	6,716	-13.4	42	190	5.8	31	6,542	-19.4	34	247	11.5
400----	31	7,612	-19.3	40	176	6.0	31	7,415	-26.1	34	244	13.6
350----	31	8,592	-26.4	39	166	5.4	31	8,367	-33.1		237	15.9
300----	31	[illegible],687	-34.8	36	159	5.8	31	9,433	-40.[illegible]		236	18.5
250----	30	10,936	-44.8		152	4.7	31	10,652	-48.6		237	24.1
200----	30	12,391	-56.3		141	4.[illegible]	31	12,108	-50.8		242	26.2
175----	30	13,228	-62.1		115	4.7	31	12,977	-51.2		243	26.6
150----	29	14,169	-66.3		76	8.4	31	13,974	-53.1		245	24.5
125----	29	15,267	-68.8		78	12.0	31	15,144	-54.7		247	18.3
100----	29	16,603	-68.1		84	13.2	31	16,589	-55.[illegible]		236	8.9
80-----	29	17,952	-65.0		82	18.3	31	17,996	-54.2		187	1.7
70-----	29	18,776	-62.6		83	24.3	31	18,856	-53.6		102	4.7
60-----	29	19,728	-59.3		87	30.9	31	19,846	-52.6		93	8.2
50-----	29	20,876	-56.6		91	34.8	30	21,025	-51.2		88	10.1
40-----	29	22,301	-53.4		95	34.4	29	22,482	-49.4		89	14.8
30-----	27	24,170	-49.5		91	33.0	29	24,376	-47.1		87	17.5
25-----	24	25,372	-47.2		87	35.9	29	25,587	-45.0		90	20.0
20-----	16	26,847	-45.0		85	33.2	26	27,085	-42.[illegible]		90	22.3
15-----	6	28,752	-42.3				14	29,059	-39.6		92	27.0
10-----												

Standard pressure surface (mb.)	TOPEKA, KANS. (983 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	269	19.8	91	184	3.5
1,000--	30	121				
950----	30	567	21.8	69	218	9.1
900----	30	1,037	20.8	56	251	12.4
850----	30	1,529	17.6	53	271	11.1
800----	30	2,045	14.5	52	277	8.5
750----	30	2,583	10.9	54	286	5.4
700----	30	3,159	7.1	52	285	9.1
650----	30	3,762	3.4	46	288	11.5
600----	30	4,410	.5	41	288	13.6
550----	30	5,092	- 4.7	41	287	15.7
500----	30	5,845	- 9.1		297	16.5
450----	30	6,651	-13.9		301	18.3
400----	30	7,539	-20.0		299	20.2
350----	30	8,515	-27.0		301	25.1
300----	30	9,609	-35.1		300	26.6
250----	30	10,856	-44.1		294	27.0
200----	30	12,318	-54.5		293	3[illegible].5
175----	30	13,164	-59.1		295	30.7
150----	30	14,125	-61.8		297	24.5
125----	30	15,249	-63.5		302	16.1
100----	30	16,619	-62.7		325	8.9
80-----	30	18,000	-60.[illegible]		30	7.4
70-----	30	18,840	-58.4		61	10.5
60-----	30	19,811	-56.2		77	13.4
50-----	29	20,974	-54.1		86	16.3
40-----	29	22,413	-52.0		91	19.0
30-----	28	24,286	-49.3		86	22.9
25-----	26	25,484	-47.8		86	25.1
20-----	19	26,965	-45.2		87	30.1
15-----	10	28,900	-42.9			
10-----						

Standard pressure surface (mb.)	TUCSON, ARIZ. (924 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	WASHINGTON, D. C. (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	781	24.1	59	154	5.8	31	84	18.7	96	316	0.8
1,000--	31	85					31	140	19.9	88	313	3.5
950----	31	535					31	588	20.3	69	302	9.3
900----	31	1,017	25.5	50	169	3.9	31	1,051	17.7	66	297	10.9
850----	31	1,519	23.1	48	274	.6	31	1,538	14.4	67	287	11.9
800----	31	2,045	19.8	50	349	2.7	31	2,048	11.3	66	274	13.8
750----	31	2,593	16.2	52	18	3.3	31	2,584	8.2	62	265	17.3
700----	31	3,181	12.0	55	57	4.5	31	3,152	5.1	54	264	20.0
650----	31	3,794	7.3	58	75	4.7	31	3,753	1.8	49	264	22.3
600----	31	4,453	2.6	61	90	7.0	31	4,396	- 1.9	46	262	24.7
550----	31	5,142	- 2.6	61	90	11.3	31	5,077	- 5.3	40	266	24.7
500----	31	5,901	- 7.6	53	100	9.5	31	5,828	- 9.6	40	266	26.4
450----	31	6,710	-12.0	39	94	5.4	31	6,627	-14.8	39	267	28.0
400----	31	7,608	-18.1		91	4.7	31	7,517	-20.9	36	266	29.5
350----	31	8,592	-24.8		104	2.1	31	8,489	-27.9	37	268	32.4
300----	31	9,694	-33.0		221	1.4	31	9,578	-35.9		269	33.6
250----	31	10,951	-42.7		269	5.1	31	10,820	-44.9		272	38.7
200----	31	12,421	-53.8		271	8.2	31	12,281	-53.8		276	41.4
175----	31	13,266	-59.9		272	8.4	31	13,129	-58.6		276	37.1
150----	31	14,216	-65.6		296	4.9	31	14,091	-61.4		274	28.0
125----	31	15,311	-69.8		32	3.5	31	15,216	-62.8		273	20.2
100----	31	16,641	-68.2		87	8.4	31	16,593	-61.3		284	8.5
80-----	31	17,994	-64.0		83	16.1	31	17,985	-58.8		41	1.7
70-----	31	18,821	-61.8		85	20.4	31	18,833	-57.0		76	5.6
60-----	31	19,776	-58.8		89	24.9	31	19,806	-55.0		82	8.7
50-----	31	20,929	-56.0		92	26.6	31	20,976	-53.4		86	13.8
40-----	31	22,357	-53.9		89	29.0	30	22,418	-51.3		90	19.0
30-----	31	24,221	-49.9		90	33.0	29	24,303	-48.6		90	23.5
25-----	29	25,419	-48.0		86	32.6	26	25,507	-46.6		88	25.1
20-----	27	26,905	-45.4		86	37.5	22	26,993	-44.5		88	28.2
15-----	9	28,865	-41.8				21	28,935	-41.6		86	31.7
10-----							9	31,746	-37.3			

Standard pressure surface (mb.)	WINNEMUCCA, NEV. (870 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	YAKUTAT, ALASKA (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,310	13.8	36	109	2.9	31	12	10.2	98	101	3.9
1,000--	31	113					31	164	9.9	96	124	3.7
950----	31	553					31	593	8.3	92	114	7.4
900----	31	1,022					31	1,036	6.7	85	136	8.4
850----	31	1,514	21.3	24	101	.6	31	1,505	3.0	80	163	6.8
800----	31	2,036	18.9	23	307	4.3	31	1,997	2.7	78	177	7.6
750----	31	2,579	15.0	27	299	5.1	31	2,519	.3	69	184	6.8
700----	31	3,165	10.6	31	258	6.0	31	3,069	- 2.5	64	201	6.4
650----	31	3,772	5.8	36	225	11.1	31	3,651	- 5.7	58	221	9.9
600----	31	4,426	.4	42	217	16.3	31	4,277	- 8.8	53	223	11.7
550----	31	5,109	- 5.0	45	219	16.7	31	4,941	-12.6	46	229	13.6
500----	31	5,859	-10.1		229	18.8	31	5,668	-17.2	45	235	14.6
450----	31	6,658	-15.5		238	21.6	31	6,441	-22.6	44	237	16.7
400----	31	7,541	-21.6		242	25.3	31	7,304	-28.6	39	240	19.2
350----	31	8,511	-28.6		246	29.7	31	8,248	-35.3		237	22.3
300----	31	9,597	-36.4		246	33.6	31	9,305	-43.1		241	24.7
250----	31	10,837	-44.9		244	36.7	31	10,513	-50.4		249	25.5
200----	31	12,298	-53.6		247	37.9	30	11,966	-50.0		250	26.8
175----	31	13,148	-57.6		250	35.6	30	12,843	-48.8		249	16.1
150----	31	14,111	-61.6		251	29.7	29	13,862	-49.1		245	12.6
125----	31	15,231	-64.3		254	20.8	29	15,057	-49.2		247	10.5
100----	30	16,597	-62.7		234	6.8	29	16,522	-49.1		237	5.2
80-----	29	17,980	-59.6		119	3.7	28	17,989	-48.4		223	1.2
70-----	29	18,824	-57.8		91	7.0	28	18,874	-48.2		134	2.1
60-----	29	19,793	-56.2		83	12.4	28	19,884	-47.9		96	3.3
50-----	29	20,957	-54.3		88	15.0	28	21,087	-47.5		91	4.3
40-----	29	22,393	-51.9		89	16.7	28	22,563	-46.9		88	6.0
30-----	29	24,269	-49.0		87	22.3	28	24,475	-45.4		82	8.7
25-----	28	25,473	-46.8		89	23.7	26	25,694	-44.0		77	10.9
20-----	22	26,958	-44.4		87	27.4	18	27,190	-42.3		80	11.7
15-----	16	28,899	-41.4		90	29.3	10	29,141	-39.2			
10-----	9	31,691	-36.6									

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots. The resultant wind speed is biased toward a lower value as the number of observations on which the resultant is based lessens. The amount of bias increases with the number of observations that are terminated due to [illegible] limitations.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance: A. M. 78.7°	75.7°	70.7°	60.0°	*	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
July									
1	----	0.76	0.91	1.05	1.26	----	----	----	----
2	0.68	.74	.86	----	----	1.08	(0.92)	(0.80)	(0.71)
3	.68	.75	.88	1.06	1.32	----	----	----	----
4	----	----	.97	----	----	----	----	----	----
5	----	----	.95	----	----	----	----	----	----
6	.79	.85	.98	----	1.28	----	----	----	----
7	(.70)	(.77)	(.89)	(1.05)	(1.28)	(1.07)	(.86)	----	----
8	(.67)	(.74)	(.86)	(1.00)	(1.27)	----	----	----	----
9	.79	.86	.94	----	(1.31)	----	----	----	----
10	.76	.84	.96	1.07	1.31	----	(.95)	(.81)	(.74)
11	.73	.79	.91	1.08	(1.32)	(1.09)	(.89)	----	----
12	.76	.83	(.92)	----	(1.23)	----	----	(.83)	(.76)
13	.67	.76	.89	1.03	1.30	----	----	----	----
14	----	----	(.85)	(1.01)	(1.29)	----	(.85)	(.74)	.64
15	.69	.76	.90	1.09	1.30	1.07	(.91)	----	----
16	.81	.89	1.01	1.16	1.37	1.17	1.00	.89	.79
19	.73	.83	.95	1.11	1.30	----	----	----	----
20	----	.81	.94	1.07	----	----	----	----	----
21	.67	.75	.87	1.01	1.19	----	----	----	----
22	.78	.89	1.01	1.16	1.37	1.22	1.06	.95	.85
23	.80	.89	1.00	1.14	1.34	1.18	1.03	.93	.81
24	.76	.86	.97	1.13	1.30	----	----	----	----
25	.76	.87	.99	1.13	1.37	(1.15)	(.97)	(.83)	(.77)
26	.79	.88	.99	1.17	1.35	1.14	1.01	.89	.80
27	.71	.83	.94	1.04	1.31	----	----	----	----
28	.83	.93	1.04	1.19	1.34	----	----	----	----
29	.85	.96	1.06	1.21	1.38	(1.18)	(1.01)	(.90)	(.80)
30	.85	.94	1.06	1.20	(1.33)	(1.22)	----	----	----
31	.77	.87	.97	1.13	1.33	----	----	----	----
Averages	0.72	0.84	0.96	1.11	1.32	1.14	1.03	0.92	0.81

TUCSON, ARIZ.

Date	A. M. 78.7°	75.7°	70.7°	60.0°	*	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
July									
4	0.80	0.90	1.05	1.16	----	----	----	----	----
8	.82	.90	1.04	1.18	----	----	----	----	----
11	.65	.76	.90	----	----	----	----	----	----
12	.63	.73	----	1.05	----	----	----	----	----
14	.66	.75	.88	----	----	----	----	----	----
16	.65	.75	.87	----	----	----	----	----	----
18	.63	.73	.86	----	----	----	0.83	----	----
19	----	----	----	1.02	1.27	----	.79	----	----
20	----	----	----	----	----	----	.89	0.75	0.64
24	----	----	----	----	----	----	.82	.70	.58
27	.63	.74	.87	----	----	----	----	----	----
Averages	0.68	0.78	0.93	1.10	1.27	----	0.83	0.72	0.61

GUAM, M. I.

Date	A. M. 78.7°	75.7°	70.7°	60.0°	*	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
July									
27	----	----	----	----	S 1.33	----	----	----	----

H Haze
S Slight haze - indeterminable
M Moderate haze - indeterminable
I Intense haze - indeterminable
( ) Clouds present
* Values corresponding to true solar noon

MAUNA LOA OBS., HAWAII

Date	A. M. 78.7°	75.7°	70.7°	60.0°	*	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
July									
1	1.08	1.16	1.26	1.36	----	----	----	----	----
2	----	----	----	1.40	----	----	----	----	----
3	1.17	1.24	1.32	1.42	----	1.38	1.27	1.18	1.11
4	----	----	----	----	----	----	1.26	1.17	1.11
6	1.16	1.24	1.33	1.44	----	----	----	----	----
7	1.17	1.25	1.33	1.43	----	----	1.25	1.18	1.11
8	1.14	1.22	1.30	1.41	----	----	1.26	1.18	----
9	1.15	1.22	1.31	1.42	1.54	----	----	----	----
10	1.15	1.22	1.30	1.41	----	----	----	----	----
11	1.17	1.25	1.33	1.43	----	----	----	----	----
13	----	----	----	----	----	----	----	1.21	1.14
14	1.20	1.27	1.35	1.46	1.60	1.47	1.37	1.29	1.20
15	1.23	1.31	1.39	1.49	1.61	1.47	1.37	1.29	1.21
16	1.23	1.30	1.38	1.49	1.56	----	----	----	----
17	1.21	1.28	1.37	1.47	----	----	1.33	----	----
18	1.20	1.29	1.37	1.47	----	----	1.34	1.24	1.18
19	1.22	1.29	1.37	----	----	----	----	----	----
20	1.21	1.29	1.37	1.48	1.57	1.44	1.36	1.26	1.19
23	----	----	----	----	----	----	1.32	1.23	1.15
24	1.16	1.24	1.32	1.42	----	1.41	1.30	1.22	1.15
25	1.15	1.23	1.33	1.42	1.55	----	----	----	----
26	1.17	1.24	1.32	1.43	----	----	----	----	----
27	1.18	1.25	1.33	1.44	1.57	1.42	1.32	1.24	1.16
28	1.16	1.24	1.31	1.43	1.55	1.38	1.37	1.20	1.13
29	----	----	1.31	1.41	----	----	----	----	----
30	1.15	1.22	1.31	1.42	1.54	----	----	----	----
31	----	----	----	1.43	1.54	----	1.28	1.19	1.13
Averages	1.17	1.25	1.33	1.43	1.56	1.42	1.31	1.22	1.15

OMAHA, NEBR.

Date	A. M. 78.7°	75.7°	70.7°	60.0°	*	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
July									
2	----	----	----	----	----	S 0.92	S 0.75	M 0.63	----
3	----	----	----	----	----	M .68	----	----	----
4	S 0.41	S 0.54	S 0.69	S 0.91	S 1.15	----	----	----	----
6	I .15	I .23	M .41	M .73	M 1.08	----	----	----	----
8	----	----	H .43	H .69	----	----	----	----	----
16	----	----	M .52	M .72	M .93	M .62	----	----	----
17	----	----	H .19	H .59	M .99	M .70	M .53	M .40	M 0.22
18	----	----	----	----	M .92	----	----	----	----
19	M .50	M .65	M .77	M .97	----	----	----	----	----
24	S .52	S .63	S .80	S .99	S 1.21	----	----	----	----
25	S .38	S .52	S .67	----	S 1.02	----	----	----	----
28	----	----	----	M .79	----	----	----	----	----
30	----	----	----	----	S .98	----	----	----	----
Averages	0.39	0.51	0.56	0.80	1.04	0.73	0.64	0.52	0.22

MADISON, WIS.

Date	A. M. 78.7°	75.7°	70.7°	60.0°	*	P. M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
July									
3	S 0.85	S 0.95	S 1.07	S 1.23	S 1.39	----	S 0.99	----	----
6	S .70	S .80	S .94	S 1.09	----	----	----	----	----
8	S .64	S .75	S .91	S 1.03	----	----	----	----	----
14	S .79	S .86	S .95	----	----	----	----	----	----
17	M .64	M .75	M .88	M 1.02	----	----	----	----	----
25	S .79	S .90	S 1.02	S 1.18	S 1.25	----	----	----	----
26	M .63	M .65	S .80	S .97	----	----	----	----	----
Averages	0.72	0.81	0.94	1.09	1.32	----	0.99	----	----

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JULY 1961

	Albuquerque, N.Mex.	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill Obs., Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island, Pacific Area	Cape Hatteras, N. C.	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Corvallis, Oreg.	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Flaming Gorge, Utah	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.	Hilo, Hawaii	Indianapolis, Ind.	Inyokern, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.
1961																																								
July 2-----	649	787	732	757	636	---	182	758	605	775	616	529	537	776	626	543	249	356	720	724	739	404	651	482	202	795	434	471	---	738	---	728	610	707	671	412	816	380	416	776
July 3-----	740	481	671	548	553	441	243	723	440	443	451	610	504	758	478	678	666	763	707	739	824	678	675	274	603	574	619	559	---	713	---	589	506	697	522	739	508	659	382	721
July 4-----	683	619	690	506	725	---	452	559	602	582	628	400	520	579	465	314	490	761	218	786	788	812	563	582	471	700	730	643	---	436	---	217	723	723	405	236	890	354	476	530
July 5-----	537	799	664	312	549	---	371	552	591	559	598	401	496	732	368	644	530	691	545	776	774	770	725	762	493	687	723	689	---	257	---	566	565	591	328	529	917	736	571	735
July 6-----	741	103	699	491	567	---	705	653	401	759	431	556	485	566	454	446	673	274	391	770	676	599	(729)	836	651	689	690	684	---	685	---	630	431	636	---	416	907	721	602	513
July 7-----	793	612	669	684	489	---	488	675	444	762	583	---	483	316	542	526	510	609	711	775	715	749	775	822	640	430	593	670	542	659	458	597	142	472	668	598	917	314	582	392
July 8-----	726	150	629	759	583	---	669	646	432	769	311	699	560	335	506	238	605	725	756	777	---	689	774	783	661	594	607	664	680	644	763	722	537	445	509	687	861	451	582	675
Average-------	696	507	679	579	586	---	444	652	502	664	517	533	512	580	491	484	532	597	578	764	753	672	(699)	649	532	638	628	626	---	590	---	578	502	610	517	517	831	516	516	620
July 9-----	723	343	206	728	591	---	418	578	380	765	416	604	514	653	477	400	686	720	738	770	399	743	713	702	698	714	314	614	332	665	794	743	675	700	371	707	865	697	192	481
July 10-----	779	402	285	705	669	---	238	563	573	772	483	599	575	725	408	637	634	715	744	739	711	328	762	807	607	600	655	634	347	583	604	604	720	673	568	545	865	505	169	684
July 11-----	803	798	624	733	180	703	131	187	587	773	621	575	461	658	562	281	435	695	726	724	502	630	462	733	388	760	557	615	680	574	790	520	536	179	491	648	839	190	165	282
July 12-----	791	805	719	737	293	191	161	---	602	762	628	524	570	---	300	549	520	403	710	532	698	577	749	747	317	724	535	518	613	554	783	439	303	410	448	399	634	586	153	604
July 13-----	733	814	723	525	366	611	636	344	550	715	610	210	578	555	772	603	246	627	509	724	500	---	644	458	270	668	576	622	760	---	638	704	506	454	514	473	865	429	563	686
July 14-----	651	829	715	384	574	651	629	470	126	655	95	641	587	776	707	697	392	503	541	757	574	360	717	766	488	387	675	645	313	718	655	517	608	654	607	280	867	340	467	583
July 15-----	785	805	718	575	550	267	682	711	208	704	220	575	588	781	713	607	268	558	726	733	613	580	754	722	643	752	375	634	741	598	796	699	616	709	516	326	873	84	654	730
Average-------	752	685	570	627	460	485	414	476	432	735	439	533	553	691	563	539	454	603	671	711	571	536	686	705	487	658	527	612	541	615	723	603	566	540	502	483	830	404	338	579
July 16-----	799	805	726	306	575	393	343	695	92	732	111	605	585	775	263	---	405	602	632	726	741	499	725	726	459	397	567	635	643	656	773	675	586	690	460	411	847	150	516	566
July 17-----	748	249	680	549	556	488	685	573	237	740	266	627	603	766	304	632	547	526	(723)	728	743	627	771	594	144	491	719	615	630	658	627	718	585	652	380	592	837	388	503	560
July 18-----	685	90	549	502	498	172	290	391	586	740	557	684	587	646	374	298	605	273	732	721	535	569	732	566	508	755	713	632	479	572	695	656	359	661	367	446	825	427	479	745
July 19-----	762	228	444	485	570	300	97	472	550	737	568	682	595	657	439	661	239	579	722	727	713	402	757	---	459	501	713	626	294	542	---	552	459	739	549	353	823	463	592	710
July 20-----	601	656	622	421	490	224	232	625	175	728	210	648	592	758	---	439	429	697	736	736	405	511	734	(794)	367	503	710	668	284	571	547	511	577	489	499	429	837	552	521	401
July 21-----	561	759	564	224	604	383	103	421	514	723	586	418	575	(776)	505	344	535	349	694	709	601	557	715	(794)	174	697	635	621	542	669	610	668	463	730	568	450	877	542	570	732
July 22-----	811	624	516	162	602	454	68	461	483	718	511	680	397	737	678	553	528	426	444	709	463	487	699	737	207	754	524	591	463	702	791	592	396	695	605	482	842	455	650	720
Average-------	710	487	586	378	557	345	260	520	377	731	401	621	562	(731)	427	488	470	493	(669)	722	600	522	733	(702)	331	585	654	627	462	624	674	625	489	665	490	452	841	425	547	633
July 23-----	790	788	746	350	481	603	228	712	609	717	587	519	618	622	674	682	582	594	543	720	752	427	770	692	383	509	668	610	664	692	747	455	455	621	635	444	803	466	413	616
July 24-----	771	776	702	472	655	170	311	700	263	---	401	632	231	(710)	519	677	304	689	735	713	718	519	758	352	584	303	533	597	728	608	624	614	515	702	676	403	799	303	509	607
July 25-----	775	741	642	604	519	236	127	614	432	---	409	569	596	704	397	674	357	463	715	695	724	286	767	702	570	407	604	619	697	613	518	425	573	660	632	640	806	494	622	476
July 26-----	849	751	558	161	641	437	148	---	584	557	599	341	587	751	675	659	472	420	705	721	715	583	728	719	558	342	579	599	749	669	638	598	522	698	(596)	540	825	504	545	478
July 27-----	781	738	574	527	622	376	227	301	691	666	718	292	591	603	725	674	421	607	515	723	651	474	601	583	384	469	573	632	751	611	675	555	379	678	---	---	844	688	616	557
July 28-----	766	745	727	567	530	183	213	551	625	691	636	580	508	502	301	686	415	632	591	733	605	230	712	---	248	469	574	628	669	654	576	---	513	544	468	---	835	506	334	543
July 29-----	776	266	732	599	616	308	136	533	202	675	245	625	604	659	363	686	412	686	708	755	731	561	747	575	453	382	584	640	754	738	567	578	458	743	510	---	872	199	392	505
Average-------	787	686	669	469	581	330	199	568	487	661	513	508	534	(650)	522	677	423	585	645	723	699	440	726	604	454	412	588	618	716	655	620	538	488	664	(586)	507	826	451	490	540
July 30-----	867	725	722	409	656	345	113	504	601	690	569	608	556	729	464	657	397	705	684	749	712	329	718	578	115	274	605	653	611	583	485	682	456	733	708	539	867	340	167	496
July 31-----	828	730	715	468	635	269	300	646	515	697	538	571	475	716	733	631	331	694	594	695	677	455	693	652	228	429	586	636	884	430	574	660	475	726	687	519	873	285	419	425
Aug 1-----	659	509	685	542	625	187	116	565	627	690	642	448	555	382	681	572	257	644	674	726	455	105	751	512	460	496	(606)	630	644	650	471	653	530	724	633	295	852	687	587	539
Aug. 2-----	529	642	602	565	623	554	123	672	399	677	386	574	515	737	708	377	274	624	669	698	337	329	714	486	231	427	619	611	325	656	394	658	315	689	669	361	663	180	488	642
Aug. 3-----	790	692	516	584	---	271	321	660	122	657	155	---	595	715	278	610	568	696	---	676	321	588	735	530	---	709	598	513	---	627	527	657	418	631	518	638	700	482	503	678
Aug. 4-----	861	696	645	137	572	276	336	645	259	653	337	619	572	530	540	646	328	605	306	551	722	472	748	440	464	687	558	288	---	645	431	645	186	498	529	279	749	597	189	679
Aug 5-----	776	164	393	543	609	390	224	631	187	559	329	332	542	447	633	283	475	686	548	648	696	142	542	489	180	708	588	472	---	---	694	552	332	659	384	503	597	804	538	632
Average-------	759	594	611	464	620	328	219	618	387	660	422	525	544	608	577	540	376	665	579	678	560	346	700	527	280	533	(594)	543	616	598	511	644	387	666	590	448	757	482	413	584

Note.- Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

[illegible] weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

JULY 1961

	Madison, Wis.	Manhattan, Kans.	Matanuska, Alaska	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Phoenix, Ariz.	Portland, Me.	Pullman, Wash.	Rapid City, S. Dak.	Riverside, Calif.	St. Cloud, Minn.	Salt Lake City, Utah	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.	Saratoga, N. Y.	Seattle, Wash.	Seattle, Fr. Bd. Wash.	Shreveport, La.	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Swan Island, R. I.	Tampa, Fla.	Tucson, Ariz.	Washington, D. C. (Cobo & Fort Sam Hts.)
1961																														
July 1-----[illegible]	801	675	151	985	765	421	648	597	647	596	497	606	595	431	776	692	427	773	855	666	702	804	621	722	703	597	765	371	407	---	555	481	561
July 2-----[illegible]	817	711	---	762	738	330	400	550	320	326	772	---	511	---	375	767	505	724	550	588	596	341	351	660	700	357	245	695	733	550	395	578	425
July 3-----[illegible]	215	707	-	714	625	594	462	709	519	681	682	530	726	657	739	673	624	413	305	617	714	851	677	638	617	515	419	480	737	575	457	780	464
July 4-----[illegible]	778	618	---	763	637	513	---	644	601	627	732	738	722	682	584	643	711	715	797	602	806	324	520	318	(422)	635	486	708	688	123	477	772	264
July 5-----[illegible]	707	239	537	748	688	496	627	347	502	405	670	641	697	---	631	565	720	615	764	566	819	549	460	434	488	528	601	731	505	549	612	745	46
July 6-----[illegible]	760	509	630	770	762	725	---	406	594	201	484	684	610	398	783	221	704	681	-	663	818	421	499	668	730	478	739	573	351	560	729	746	618
July 7-----[illegible]	834	566	504	732	754	624	547	638	568	484	424	671	706	152	780	473	689	750	581	687	784	819	541	742	779	293	773	443	538	597	685	775	680
Average-----[illegible]	702	575	456	725	711	529	537	556	536	474	609	645	652	464	667	576	626	667	642	627	749	659	525	597	(634)	486	575	614	566	485	558	697	465
July 8-----[illegible]	707	745	634	547	676	269	676	591	729	704	397	767	346	652	717	679	235	779	750	477	746	778	529	767	620	646	535	663	752	682
July 9-----[illegible]	733	661	679	720	689	454	766	739	694	521	710	685	701	659	---	699	419	753	600	664	610	830	307	749	602	639	724	748	326	758	655	681	542	611	748	746
July 10-----[illegible]	714	660	660	770	607	350	752	730	676	644	331	659	336	482	---	692	709	760	656	646	239	---	438	760	597	615	722	745	533	722	596	545	92	603	740	694
July 12-----[illegible]	580	607	399	697	351	479	763	586	648	631	328	638	224	457	715	680	---	735	339	626	453	---	623	697	617	577	709	741	124	637	615	361	551	623	736	300
July 13-----[illegible]	424	383	687	684	402	662	328	455	551	253	631	471	670	---	713	680	538	529	---	480	690	498	251	701	743	406	666	407	627	429	632	730	335
July 14-----[illegible]	804	528	666	789	731	567	639	454	136	395	427	731	682	---	673	696	649	390	---	593	763	363	210	606	600	333	476	639	200	561	541	754	45
July 15-----[illegible]	444	463	500	795	748	652	628	369	260	417	452	733	685	---	738	702	654	412	767	499	765	575	80	606	595	532	697	394	420	580	490	743	551
Average-----[illegible]	654	522	520	751	669	648	563	482	457	429	528	676	687	---	734	574	637	479	---	454	743	572	407	688	707	398	675	559	497	470	566	746	565
July 16-----[illegible]	--	661	161	776	779	606	640	375	211	283	694	681	691	117	758	664	646	596	767	526	754	250	358	376	535	227	700	359	693	533	646	726	542
July 17-----[illegible]	782	673	334	703	755	311	660	447	256	369	726	603	670	417	760	619	636	614	702	569	760	696	427	580	529	595	724	416	700	---	545	751	558
July 18-----[illegible]	586	534	499	774	740	425	686	592	646	560	731	688	594	601	760	664	635	354	747	662	--	705	548	662	731	633	720	519	699	483	189	731	532
July 19-----[illegible]	607	529	305	690	737	661	658	343	584	157	718	632	686	640	713	175	658	668	648	644	676	641	489	709	713	644	682	352	585	570	50	741	556
July 20-----[illegible]	670	597	403	767	723	509	706	594	219	507	646	367	677	380	707	383	664	434	772	669	753	431	104	692	697	628	694	438	450	597	155	726	(588)
July 21-----[illegible]	168	399	147	712	717	99	561	429	649	579	134	705	682	514	706	643	593	297	779	517	684	690	550	460	185	576	684	676	214	436	551	---	586
July 22-----[illegible]	433	127	286	731	727	658	504	615	624	448	333	790	580	607	695	682	551	536	782	420	589	92	615	426	493	543	661	489	226	577	492	449	567
Average-----[illegible]	541	503	305	736	740	553	632	485	456	415	569	628	654	468	728	547	626	500	743	572	699	501	442	558	598	549	695	464	509	533	376	687	(561)
July 23-----[illegible]	593	647	278	729	741	(701)	658	564	653	530	677	702	647	602	729	653	635	486	664	448	633	297	565	305	359	266	323	475	704	23	592	719	616
July 24-----[illegible]	714	662	609	759	719	655	---	570	243	537	713	---	638	473	752	505	630	671	442	414	652	461	174	744	480	298	735	517	687	552	600	641	608
July 25-----[illegible]	751	509	411	636	714	475	---	578	200	590	675	694	686	---	734	549	630	(745)	617	532	570	519	---	673	696	554	678	631	677	581	547	748	568
July 26-----[illegible]	701	453	559	591	707	390	---	489	563	278	709	---	---	567	725	476	651	310	541	647	574	686	367	653	699	526	704	398	686	589	601	(668)	593
July 27-----[illegible]	604	637	290	763	713	661	667	605	697	401	705	(692)	629	725	733	516	666	496	736	607	575	447	609	211	393	540	690	693	667	555	695	637	704
July 28-----[illegible]	403	609	340	756	723	528	664	304	662	366	705	---	636	633	736	581	656	595	400	507	587	306	463	178	252	397	693	493	672	178	614	(570)	530
July 29-----[illegible]	536	376	533	597	590	566	602	727	506	492	576	315	371	688	---	638	---	765	640	491	588	516	568	598	585	119	535	567	604	658	306	686	186	534	(498)	429
Average-----[illegible]	496	569	629	623	586	436	691	721	(559)	620	527	476	468	696	---	646	600	739	560	623	(556)	559	532	599	472	383	471	492	455	640	502	683	380	598	(640)	578
July 30-----[illegible]	645	578	639	603	649	146	735	697	664	659	633	630	562	690	---	418	---	731	259	616	404	541	516	612	626	569	643	653	387	695	661	631	576	641	570	667
July 31-----[illegible]	233	583	185	759	702	678	656	559	358	379	640	608	526	457	718	682	625	242	531	540	667	704	298	505	512	545	681	382	657	---	---	690	544
Aug. 1-----[illegible]	218	383	597	562	692	700	668	444	646	577	689	492	681	737	720	545	624	502	599	514	721	723	447	664	633	607	682	665	641	535	---	544	649
Aug. 2-----[illegible]	603	381	112	761	690	568	662	523	230	344	701	586	586	415	717	664	599	517	574	416	703	456	276	662	685	633	675	115	595	---	599	(576)	103
Aug. 3-----[illegible]	576	542	67	757	(646)	512	649	483	257	250	561	529	527	231	578	678	594	547	662	637	712	602	52	670	695	630	656	436	547	540	599	(605)	283
Aug. 4-----[illegible]	596	645	284	769	394	627	646	398	145	575	552	577	547	591	655	613	438	620	727	570	255	532	164	277	316	418	628	611	663	533	617	519	494
Aug. 5-----[illegible]	597	603	177	762	475	642	668	627	266	581	629	642	655	577	317	674	608	644	541	358	660	431	159	290	388	597	283	453	505	589	620	729	309
Average-----[illegible]	489	541	224	729	(614)	627	658	552	390	467	637	572	563	501	634	588	586	497	596	507	619	582	281	530	555	545	614	475	606	555	615	(605)	436

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

TOTAL OZONE DATA

Total amount of ozone in the atmosphere, expressed in terms of integrated depth, in units of 10^{-3} centimeter. These data are given as daily averages obtained from measurements with a Dobson Ozone Spectrophotometer using the sun or zenith cloud (see explanation below) as a light source.

JULY 1961

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Bismarck, N. Dak.	---	---	307	300	295	303	299	---	307	---	---	---	---	345	330	314	---	---	328	348	344	330	325	307	302	---	---	291	---	---	295
Caribou, Maine	329	319	303	347	---	344	368	---	---	---	---	---	357	353	334	---	---	---	---	322	319	348	331	284	321	327	317	---	---	---	303
Fort Worth, Texas	229	266	266	262	261	231	224	258	---	251	228	---	199	225	---	---	232	242	241	223	251	188	269	260	241	234	235	247	279	249	275
Green Bay, Wis.	259	276	317	339	298	284	316	323	313	311	309	321	---	319	---	346	328	303	---	315	---	290	---	307	321	290	273	311	262	---	---
Mauna Loa, Hawaii	299	294	282	281	277	275	276	281	280	292	293	276	279	285	286	281	291	288	288	293	294	292	297	285	283	279	286	286	285	286	285

The spectrophotometer measures the total amount of ozone in the atmosphere, i e , the amount contained in a vertical column of air extending from the ground to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column of air is expressed in terms of thickness it would occupy if it were compressed to standard pressure and temperature.

The standard method of observation is that using A (3055 Å and 3254 Å) and D (3176 Å and 3398 Å) wave length pairs. On cloudy days when no observations can be obtained directly upon the sun, observations are taken by using light from the zenith cloud These observations are not quite as reliable as the sunlight observations therefore, average values based upon zenith cloud observations are denoted with an asterisk A detailed description of the spectrophotometer and observational procedures may be found in the "Observer's Handbook of the Ozone Spectrophotometer," Annals of the International Geophysical Year, Volume V, Pergamon Press, 1957

DESCRIPTION of CHARTS

CHART I., A. AVERAGE TEMPERATURE (°F.) AT SURFACE. B. DEPARTURE OF AVERAGE TEMPERATURE FROM NORMAL. -The average monthly temperature presented in Chart I-A is computed from the average daily maximum and the average daily minimum which in turn are computed from the daily maximum and minimum temperatures reported by some 870 Weather Bureau and cooperative stations. The departures from normal are presented in Chart I-B. They are based on the 30-year normals (1921-50) for the first-order Weather Bureau stations. More detailed charts, based upon data for many more stations, are included in the issues of Climatological Data for the several states and groups of states.

CHART II. TOTAL PRECIPITATION. - Chart II is based on daily precipitation records at about 870 Weather Bureau and cooperative stations. More detailed charts, based upon data for many more stations, are included in the issues of Climatological Data for the several states and groups of states.

CHART III. PERCENTAGE OF NORMAL PRECIPITATION. -In this chart the anomaly in the month's precipitation in shown as a percentage of the normal total. This anomaly shows the deviation from the 30-year normal (1921-50) for about 270 first-order Weather Bureau stations.

CHART IV. TOTAL SNOWFALL. CHART V. A. PERCENTAGE OF MEAN MONTHLY SNOWFALL. B. DEPTH OF SNOW ON GROUND. -Chart IV gives the total depth in inches of unmelted snowfall as reported during the month by Weather Bureau and cooperative stations. This is converted in Chart V-A into a percentage of the mean monthly total amount computed for each Weather Bureau station having at least 10 years of record. The depth of snow on ground is that reported by both Weather Bureau and cooperative stations as of 7:00 a. m. Eastern Standard Time on the Monday nearest the end of the month. This is reported only for the months December through March. The snowfall charts are presented each month November through April.

Isolines for Charts I, II, III, IV, and V, are drawn through points of approximately equal value. Caution should be used in interpolating on these charts, particularly in mountainous areas.

CHART VI. A. PERCENTAGE OF POSSIBLE SUNSHINE. B. PERCENTAGE OF MEAN MONTHLY SUNSHINE. -CHART VI-A shows the amount of sunshine received in terms of percentage of the total hours of sunshine possible during the month. In Chart VI-B this is shown as a percentage of the mean number of hours of sunshine received. Means are computed for Weather Bureau stations having at least 10 years of record.

CHART VII. A. AVERAGE DAILY VALUES OF SOLAR RADIATION, LANGLEYS. B. PERCENTAGE OF MEAN DAILY SOLAR RADIATION. -Shown on Chart VII-A are the monthly averages of daily total solar radiation, both direct and diffuse, in langleys (gm. cal. cm.$^{-2}$) for all Weather Bureau stations which record this element. Supplementary data for which limits of accuracy are wider than for those data shown are drawn upon in making the analysis. Chart VII-B shows the percentages of the mean based on the period 1953-57.

CHART VIII. -TRACKS OF CENTERS OF ANTICYCLONES AT SEA LEVEL.

CHART IX. TRACKS OF CENTERS OF CYCLONES AT SEA LEVEL. -Centers which can be identified for 24 hours or more are tracked in these charts. Semi-permanent features such as the Great Basin and Pacific Highs and Colorado and Mexico Lows are not shown. The 7:00 a. m. EST positions are shown by open circles, with the intermediate positions at 6-hour intervals shown by solid dots. The date is given above the circle and the central pressure to whole millibars below. A dashed track indicates a regeneration rather than actual movement to the next position. Solid squares indicate position of stationary center for period shown beside it.

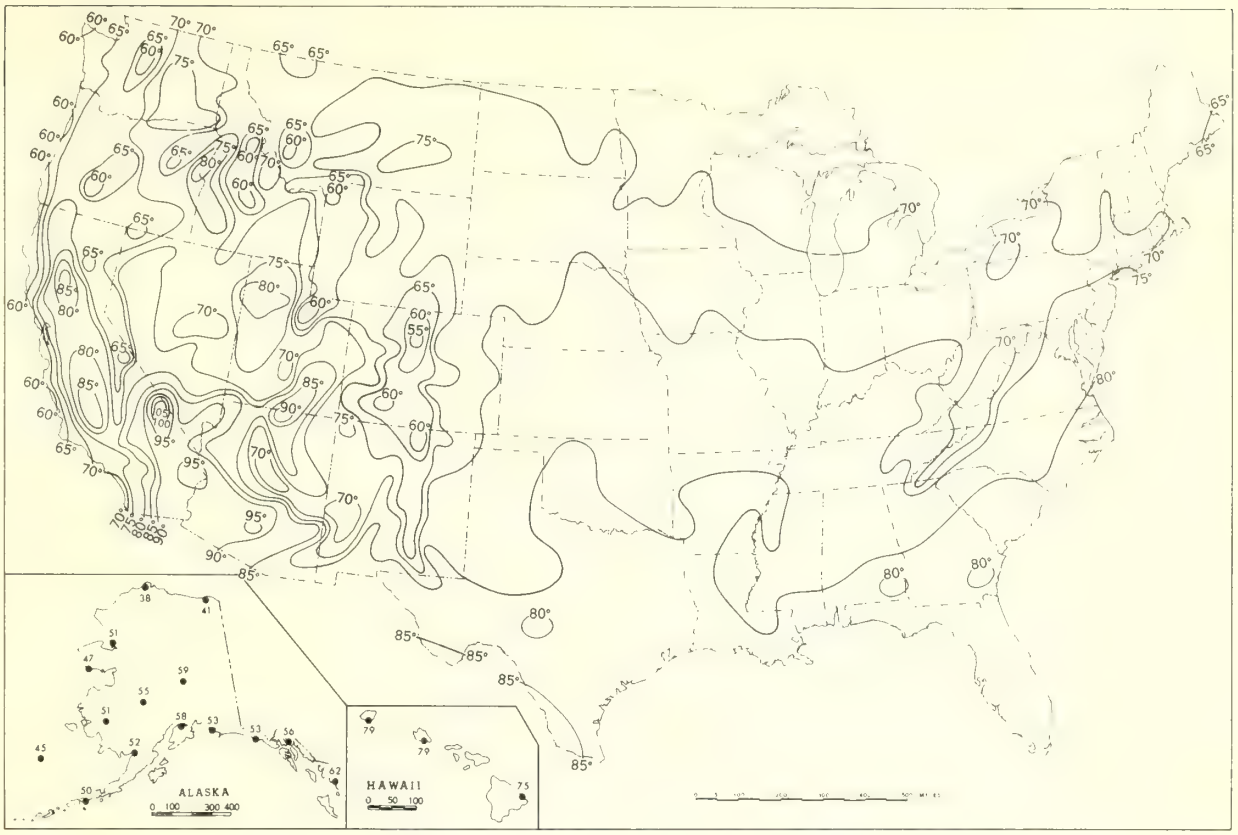
CHART X. AVERAGE SEA LEVEL PRESSURE (mb.) AND SURFACE WINDROSES. -The average monthly sea level pressure is obtained from the averages of the 7:00 a. m. and 7:00 p. m. EST pressures reported at Weather Bureau stations. Windroses are based on the hourly wind directions (to 16 points of the compass) reported by Weather Bureau stations, each circle or arc indicating 5 percent of the time. The inset shows the departure of the average pressure based on 30-year normals for first-order Weather Bureau Stations, other stations having at least 10 years of record, and, for each 10° intersection in a diamond grid over the oceans, from interpolated values read from the Historical Weather Maps for the 20 years of best coverage prior to 1940.

CHARTS XI-XVI. AVERAGE HEIGHT, TEMPERATURE, AND RESULTANT WINDS, 850, 700, 500, 300, 200, and 100 mb. -Height is given in geopotential meters and temperature in degrees Celsius. These are the averages of the 1200 GMT radiosonde reports. Wind speeds are given in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. Directions are shown to 360° of the compass. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

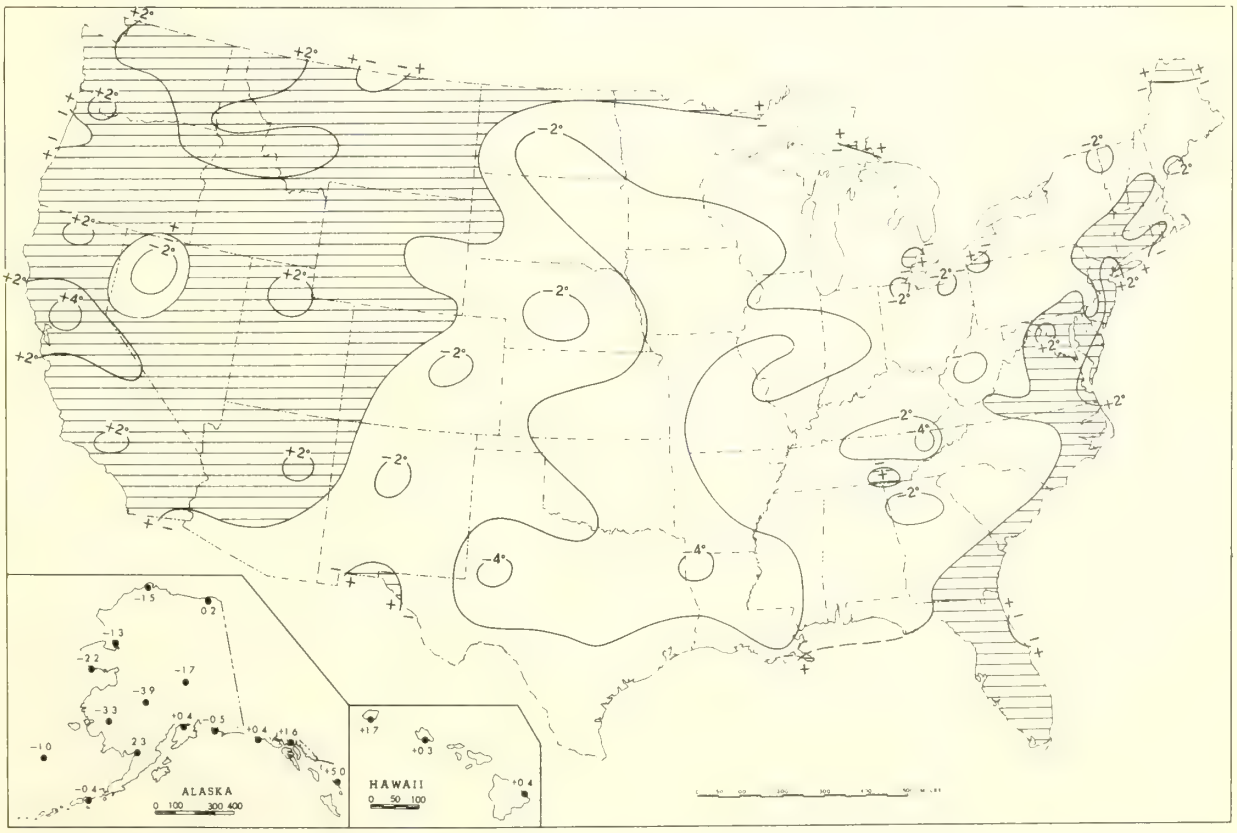
CHART XVII. A. 50-MB. RESULTANT WINDS. B. 30-MB. RESULTANT WINDS. -Wind speed (isotachs) in knots. Arrows show resultant wind direction. Winds are based on rawins at the indicated pressure surface and at 1200 GMT.

Exact values of most of these charted elements for Weather Bureau stations are printed each month in tabular form in CLIMATOLOGICAL DATA, NATIONAL SUMMARY. Extreme values of temperature and precipitation for each state are included in the tables, Condensed Climatological Summary. Annual averages are presented in the CDNS Annual Issue each year.

Chart I. A. Average Temperature (°F.) at Surface, July 1961.



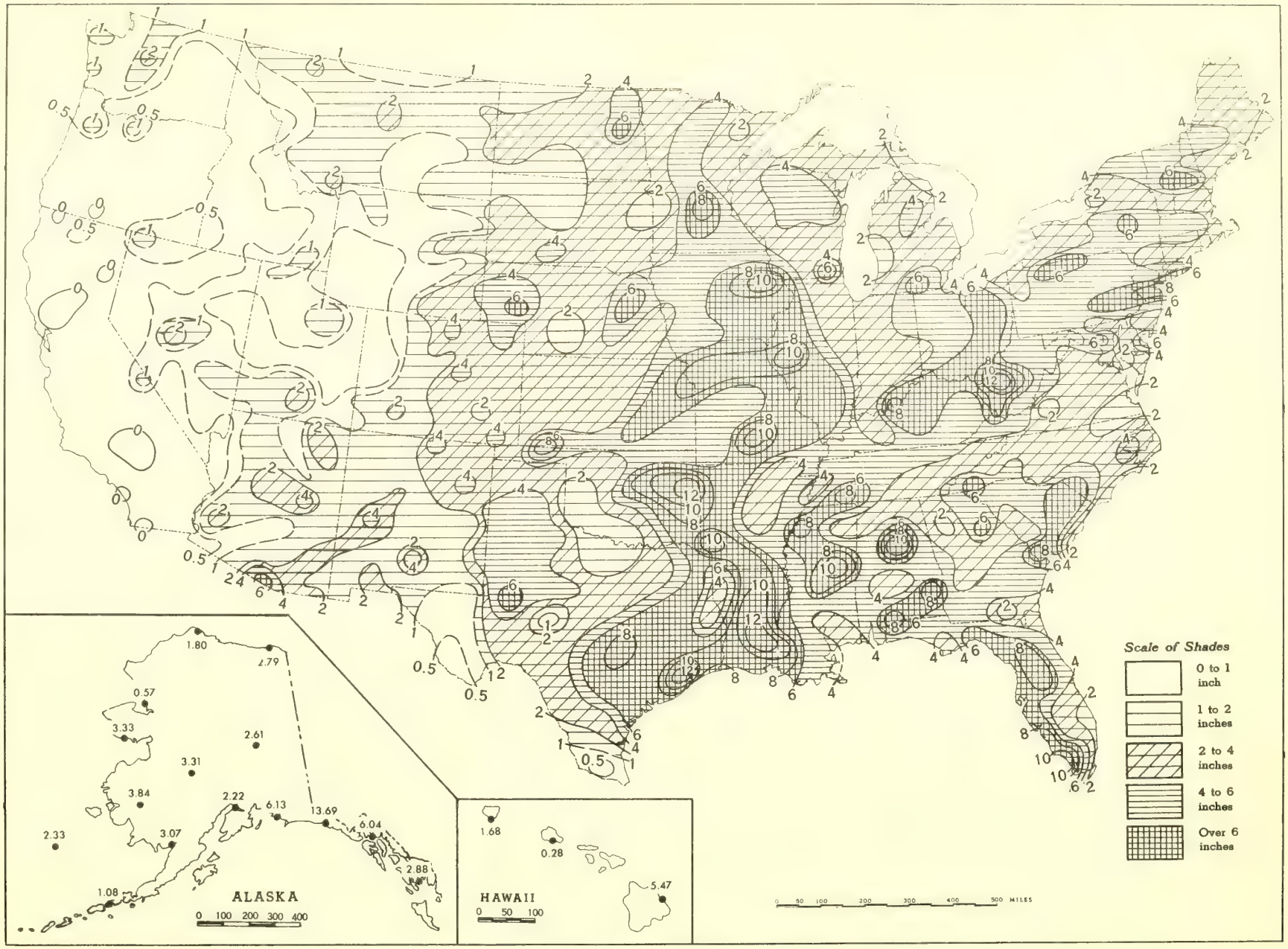
B. Departure of Average Temperature from Normal (°F.), July 1961.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

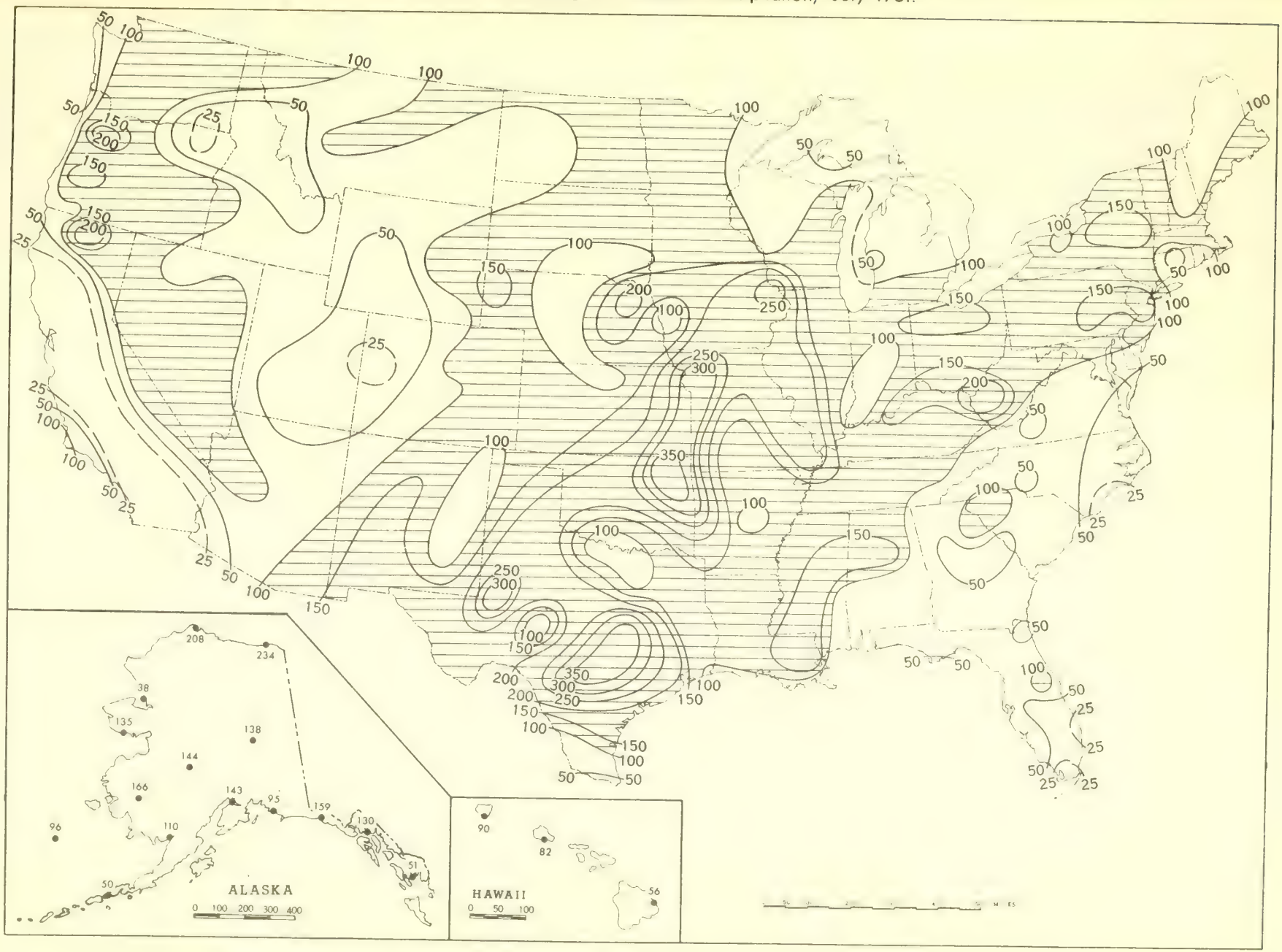
B. Departures from normal are based on the 30-yr. normals (1921-50) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), July 1961.



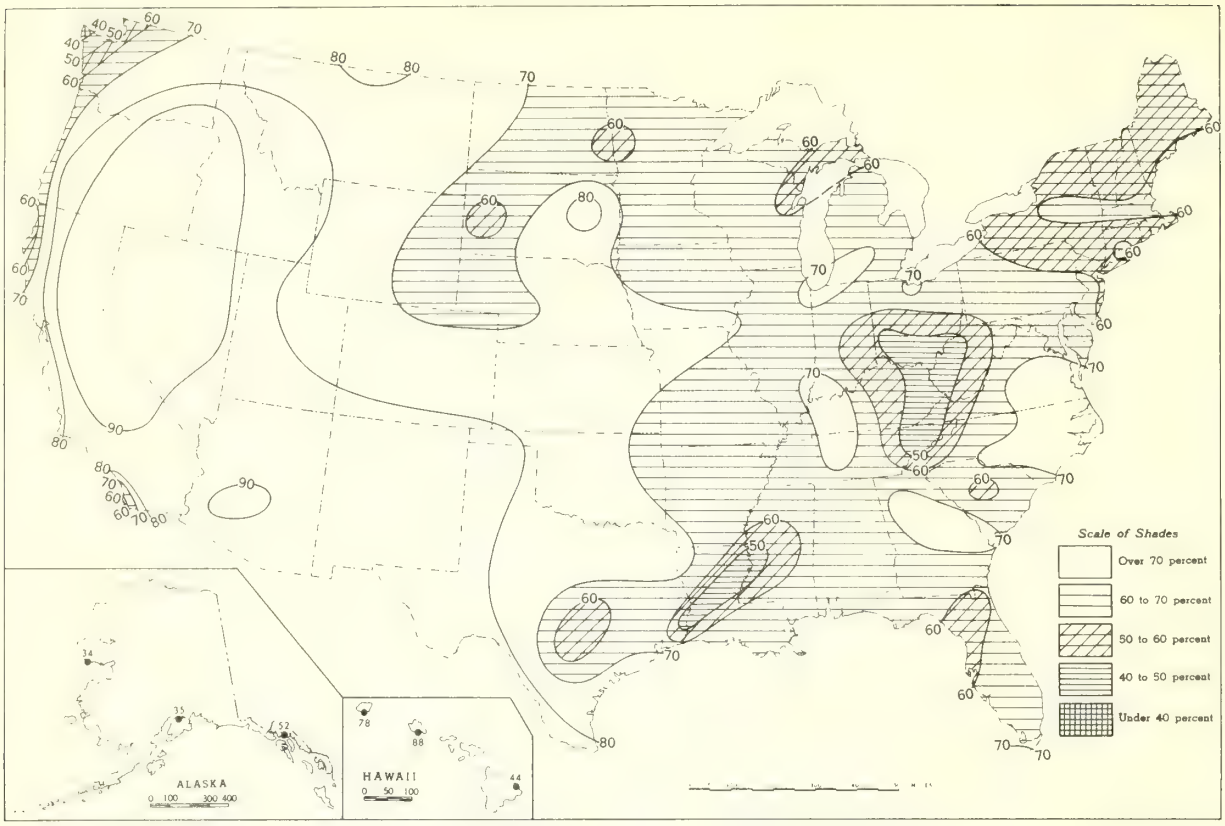
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, July 1961.

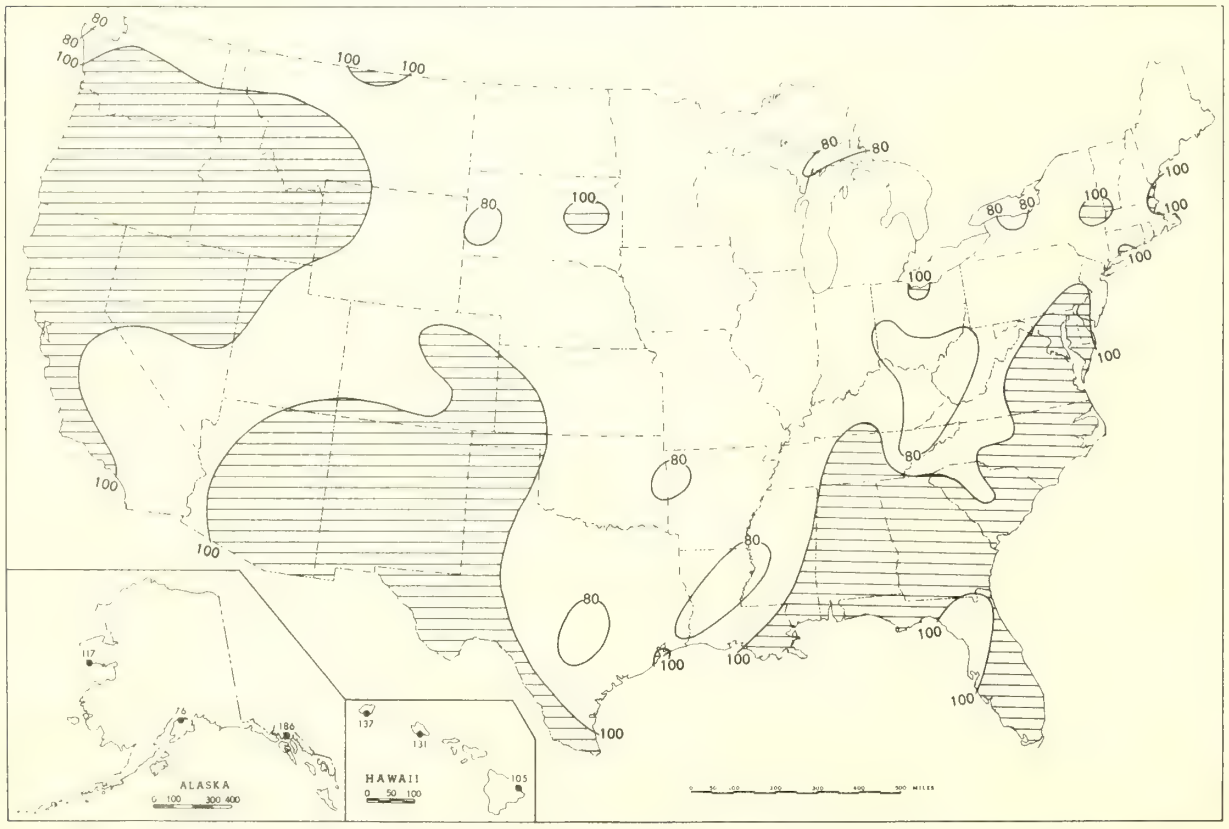


Normal monthly precipitation amounts are computed from the records for 1921-50 for first-order Weather Bureau stations.

Chart VI. A. Percentage of Possible Sunshine, July 1961.

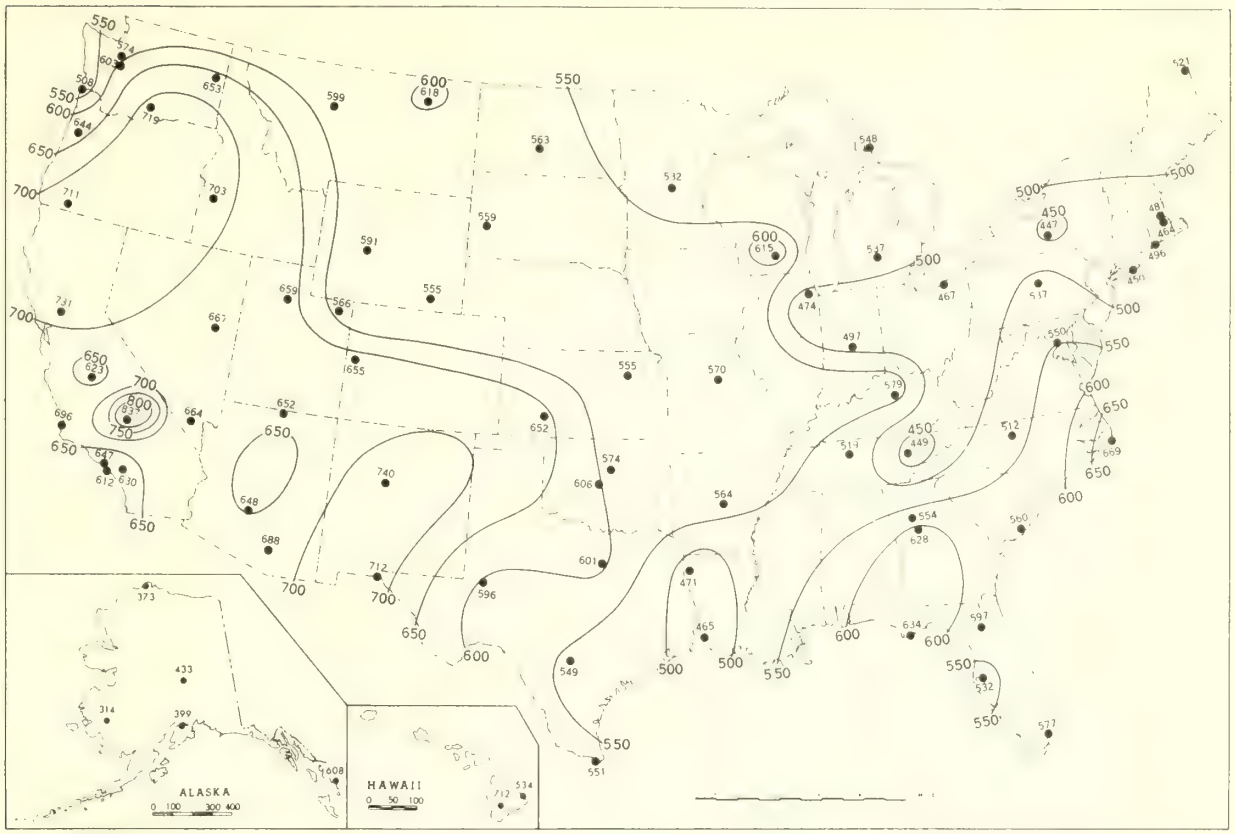


B. Percentage of Mean Monthly Sunshine, July 1961.

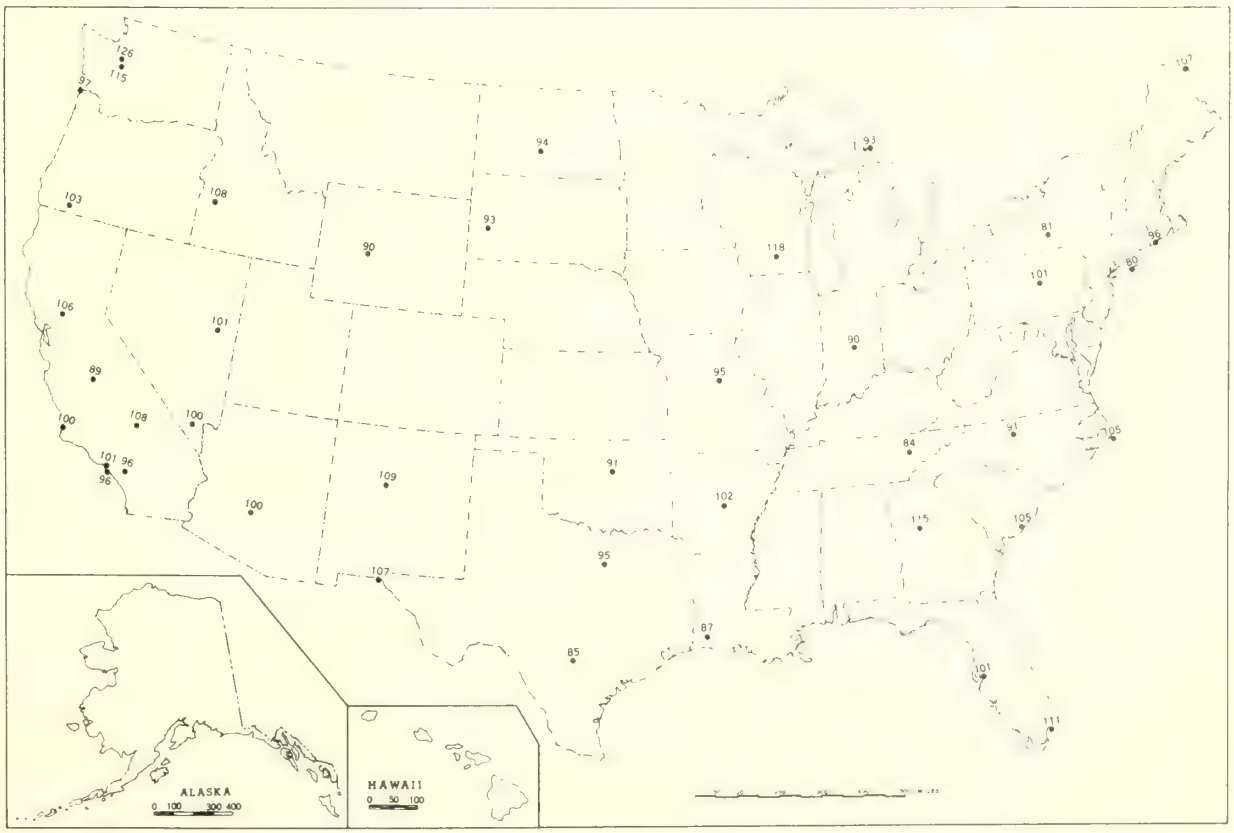


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, July 1961.



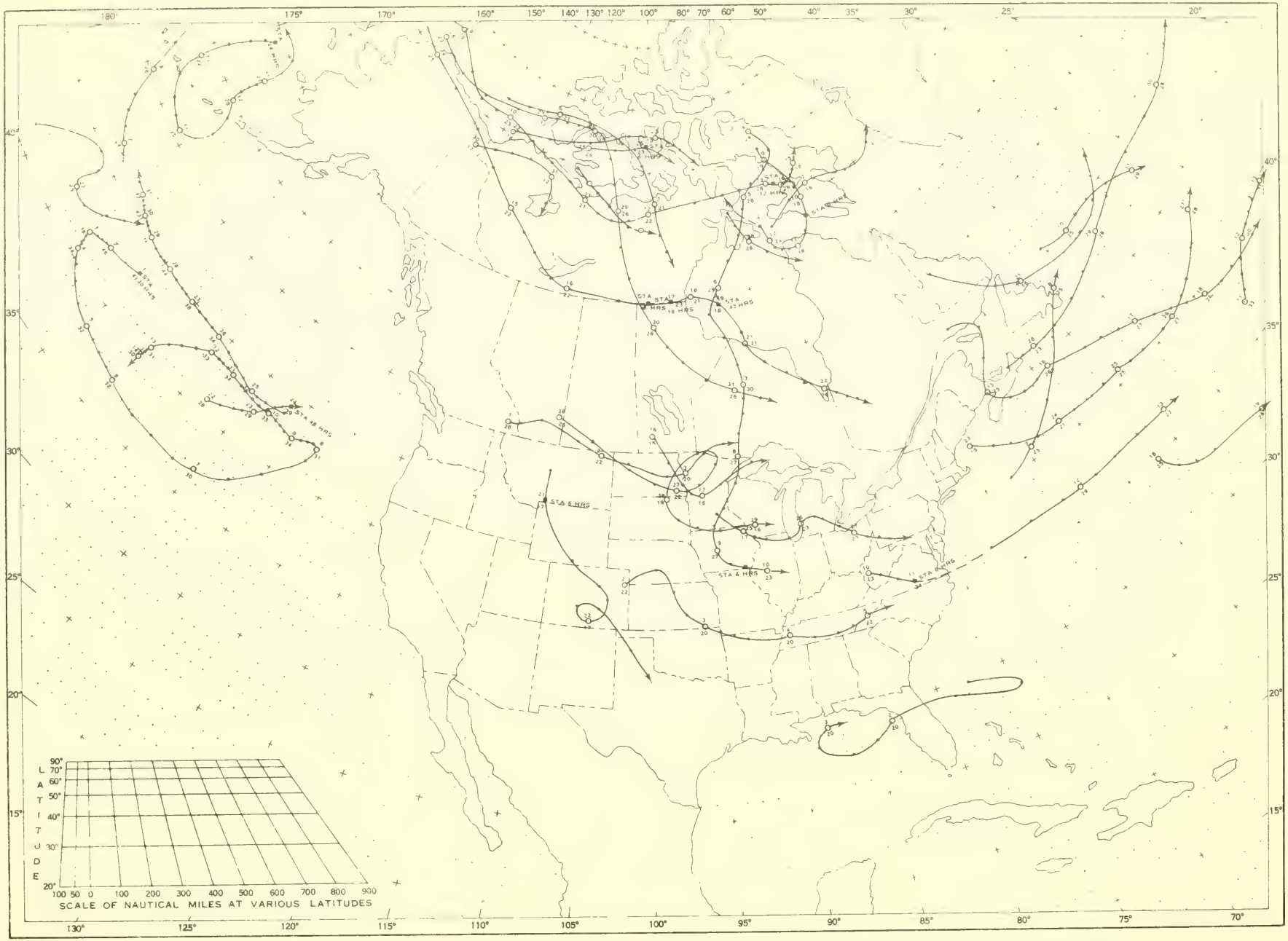
B. Percentage of Mean Daily Solar Radiation, July 1961.



A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956.

B. Percentage of the mean based on the period 1953-57, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, July 1961.

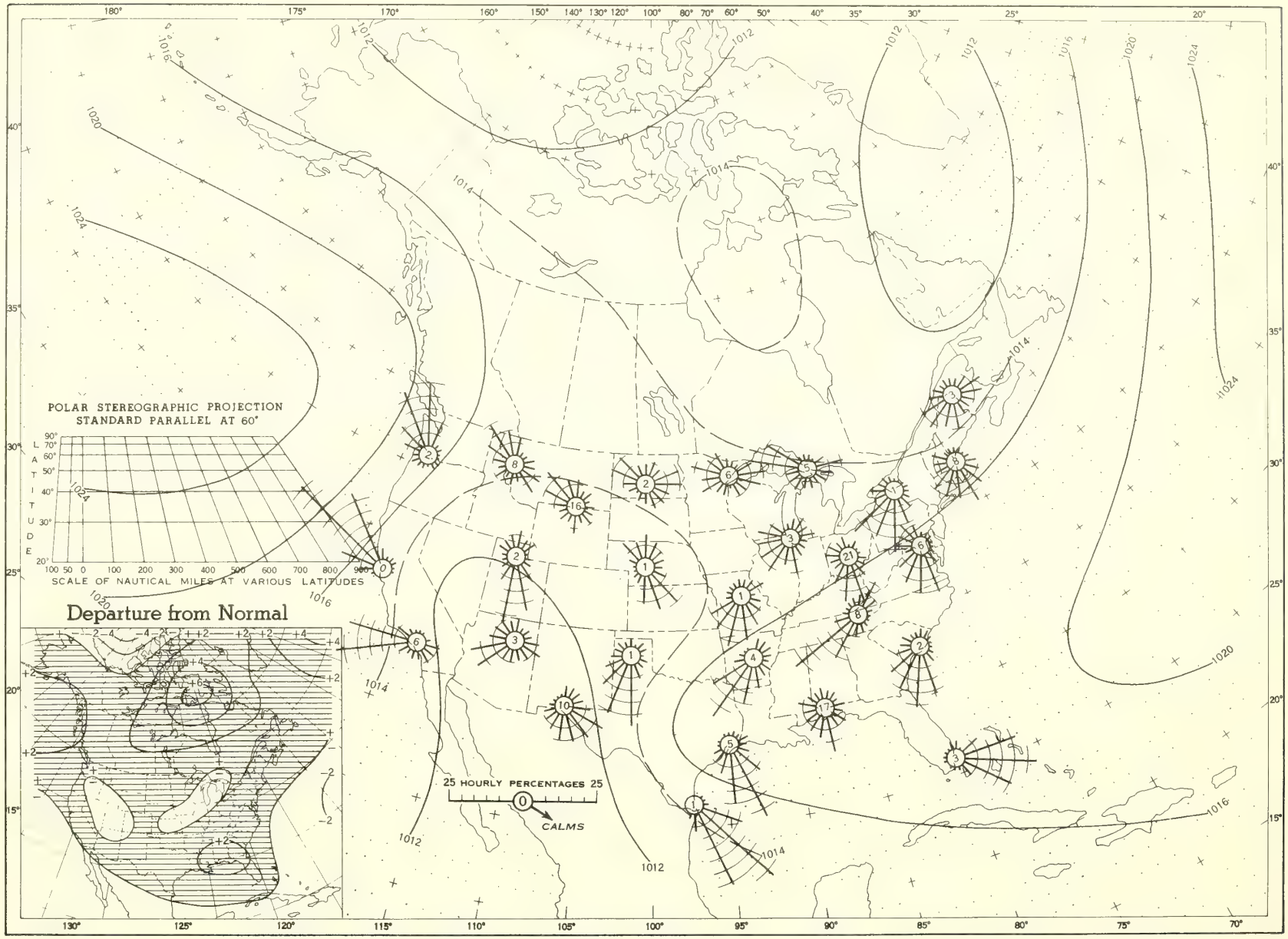


Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, July 1961.

Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

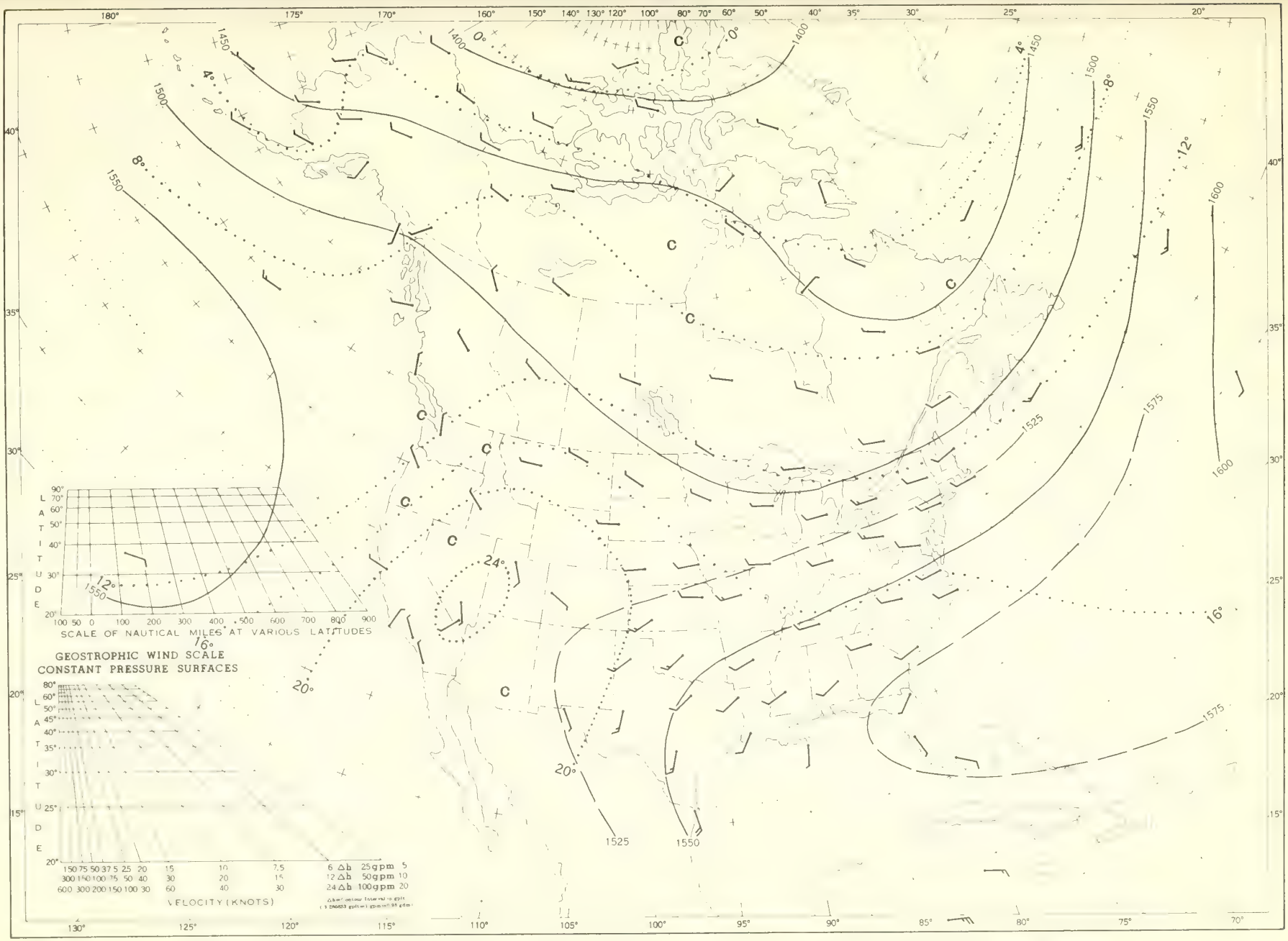
Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, July 1961. Inset: Departure of Average Pressure (mb.) from Normal, July 1961.



Average sea level pressures are obtained from the averages of the 7:00 a. m. and 7:00 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939), for the 20 years of most complete data

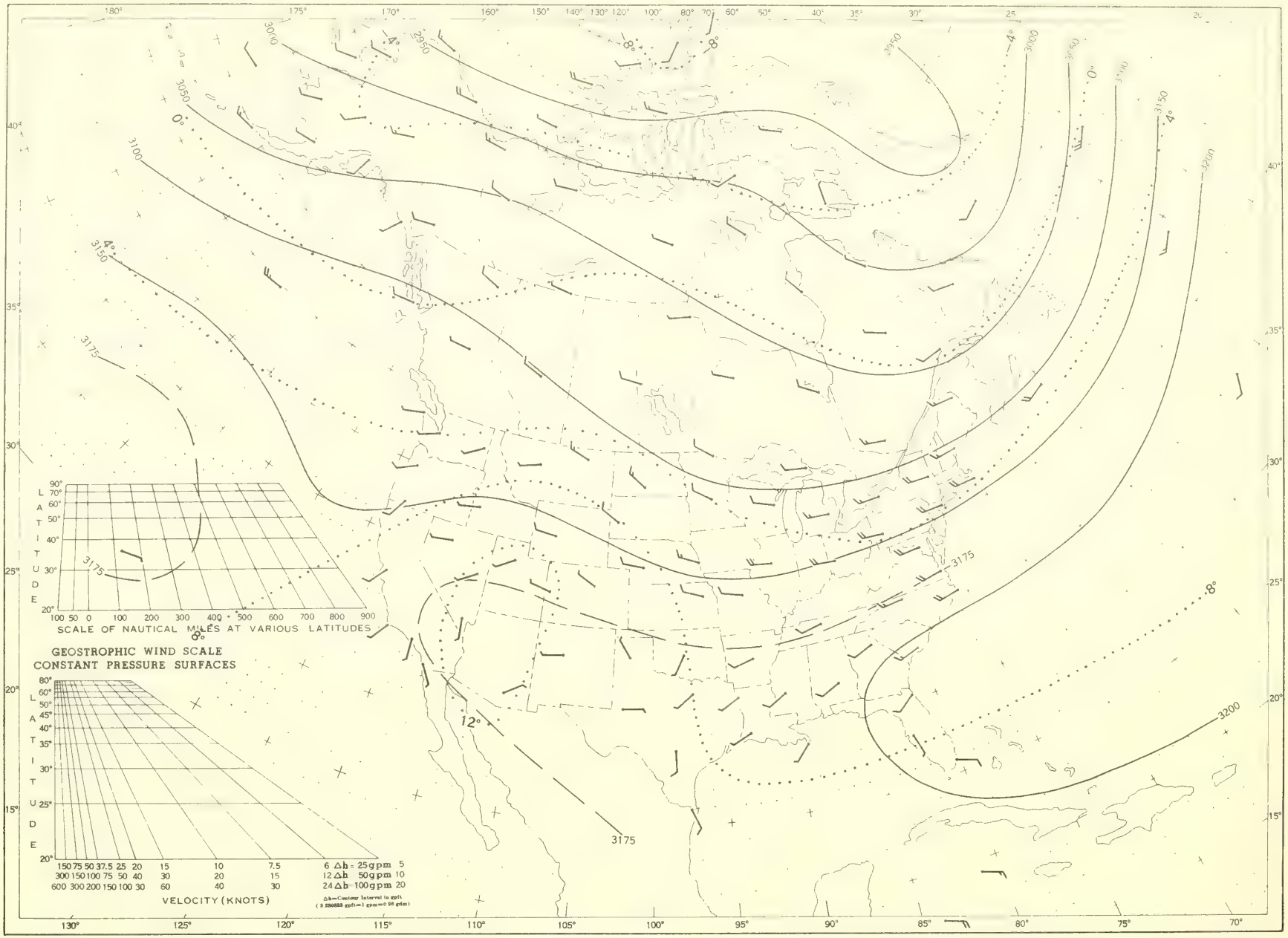
blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10 inter-
[illegible]

Chart XI. 850-mb. Surface, 1200 GMT, July 1961. Average Height and Temperature, and Resultant Winds.



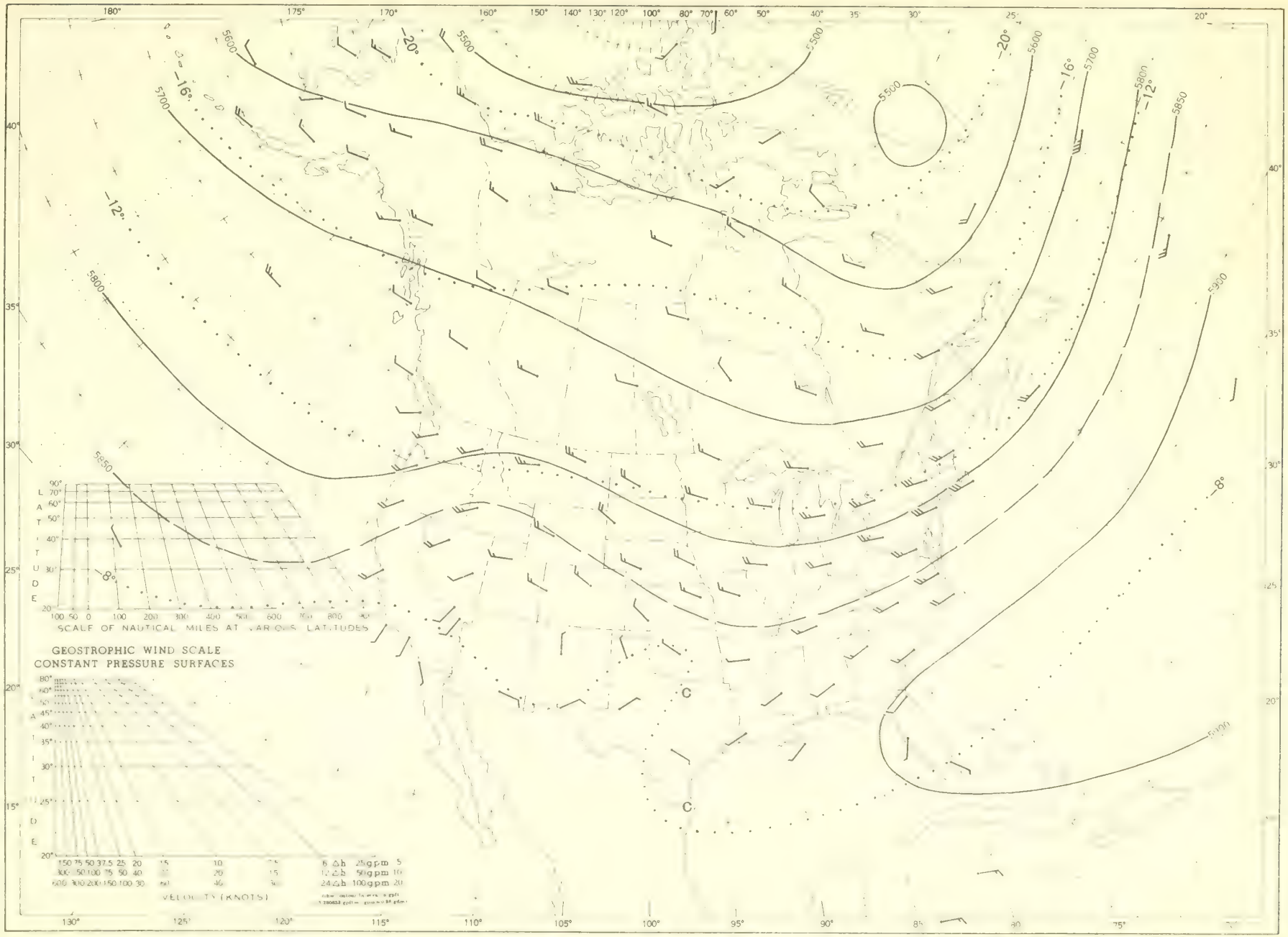
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, July 1961 Average Height and Temperature, and Resultant Winds.



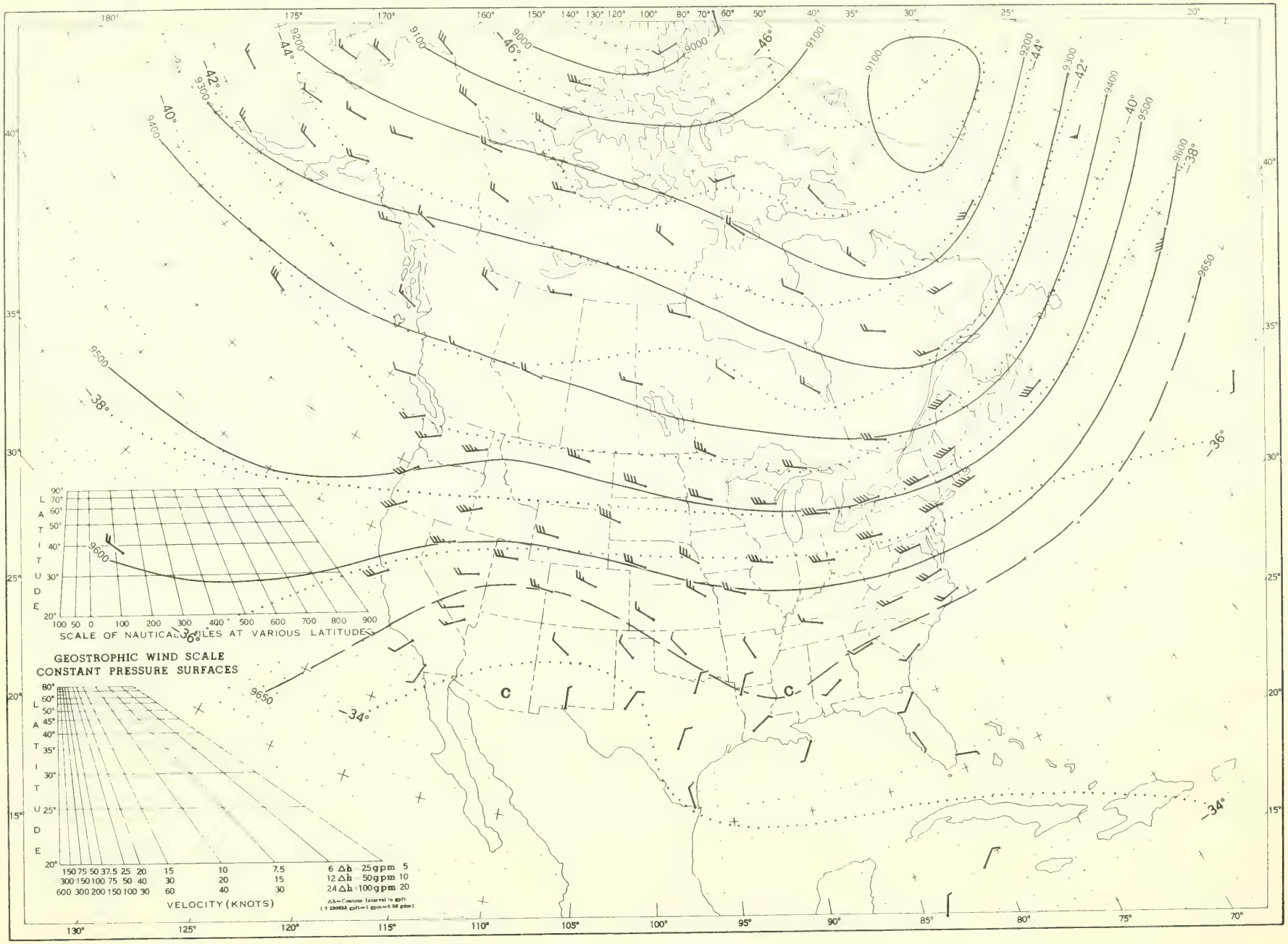
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, July 1961. Average Height and Temperature, and Resultant Winds.



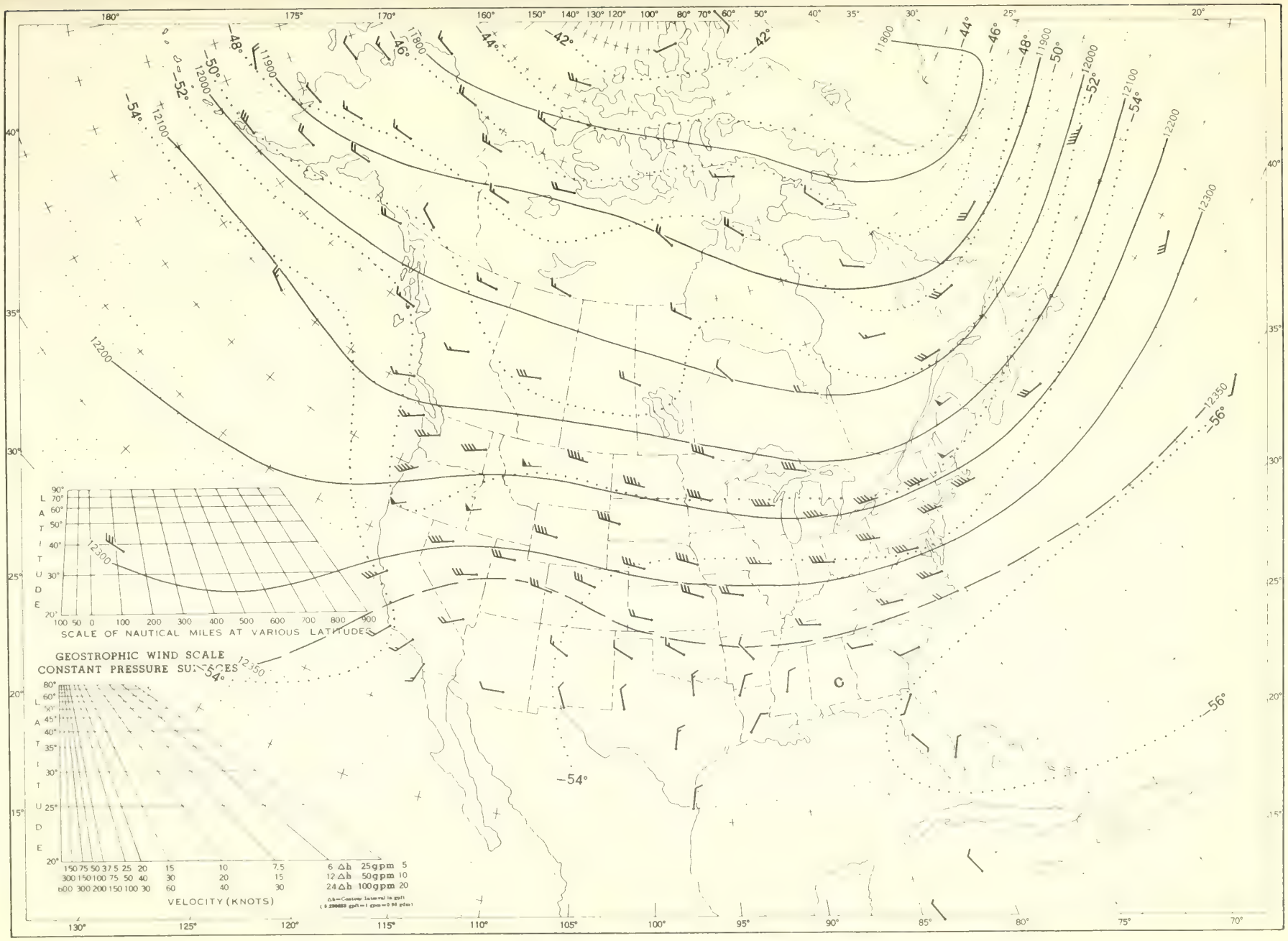
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, July 1961. Average Height and Temperature, and Resultant Winds.



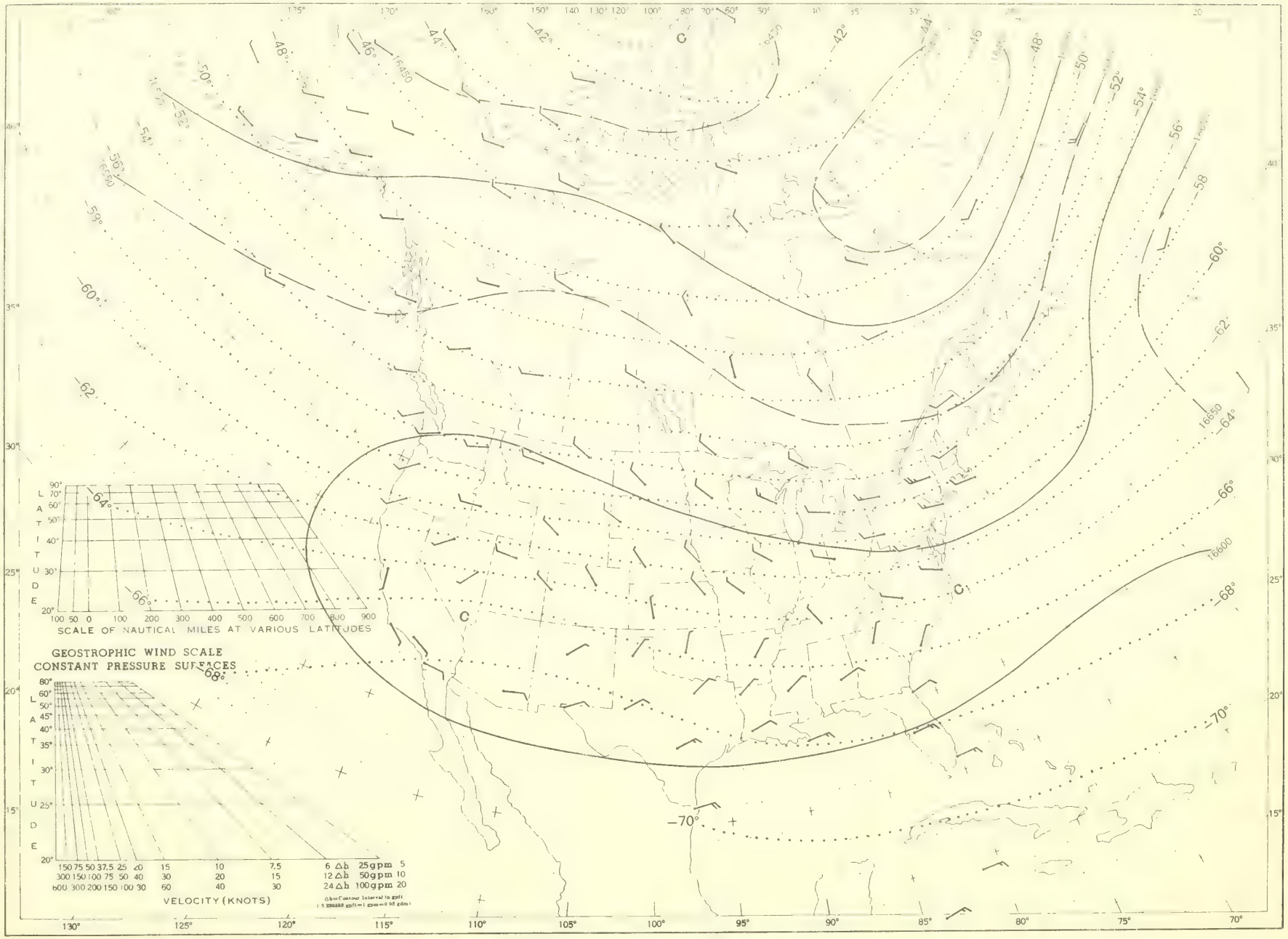
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, July 1961. Average Height and Temperature, and Resultant Winds.



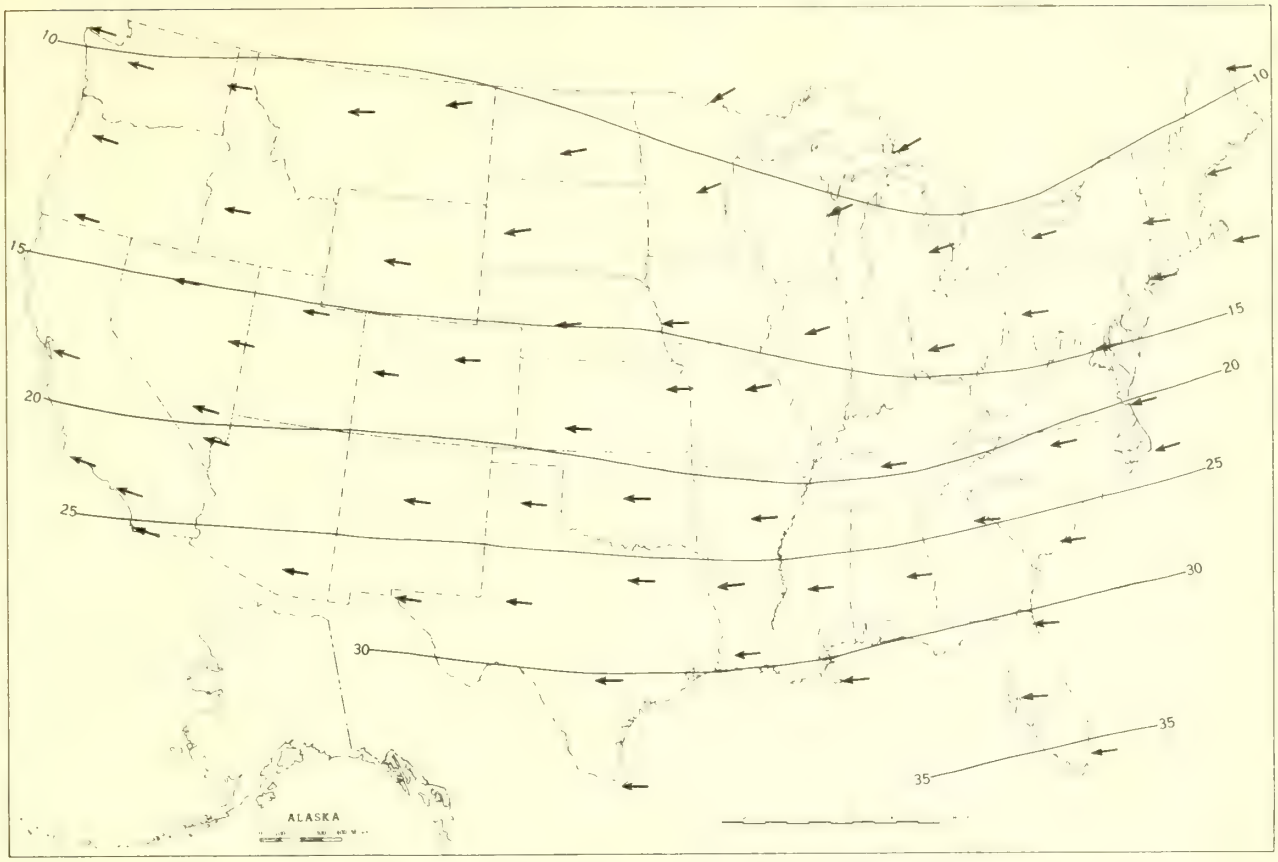
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, July 1961. Average Height and Temperature, and Resultant Winds

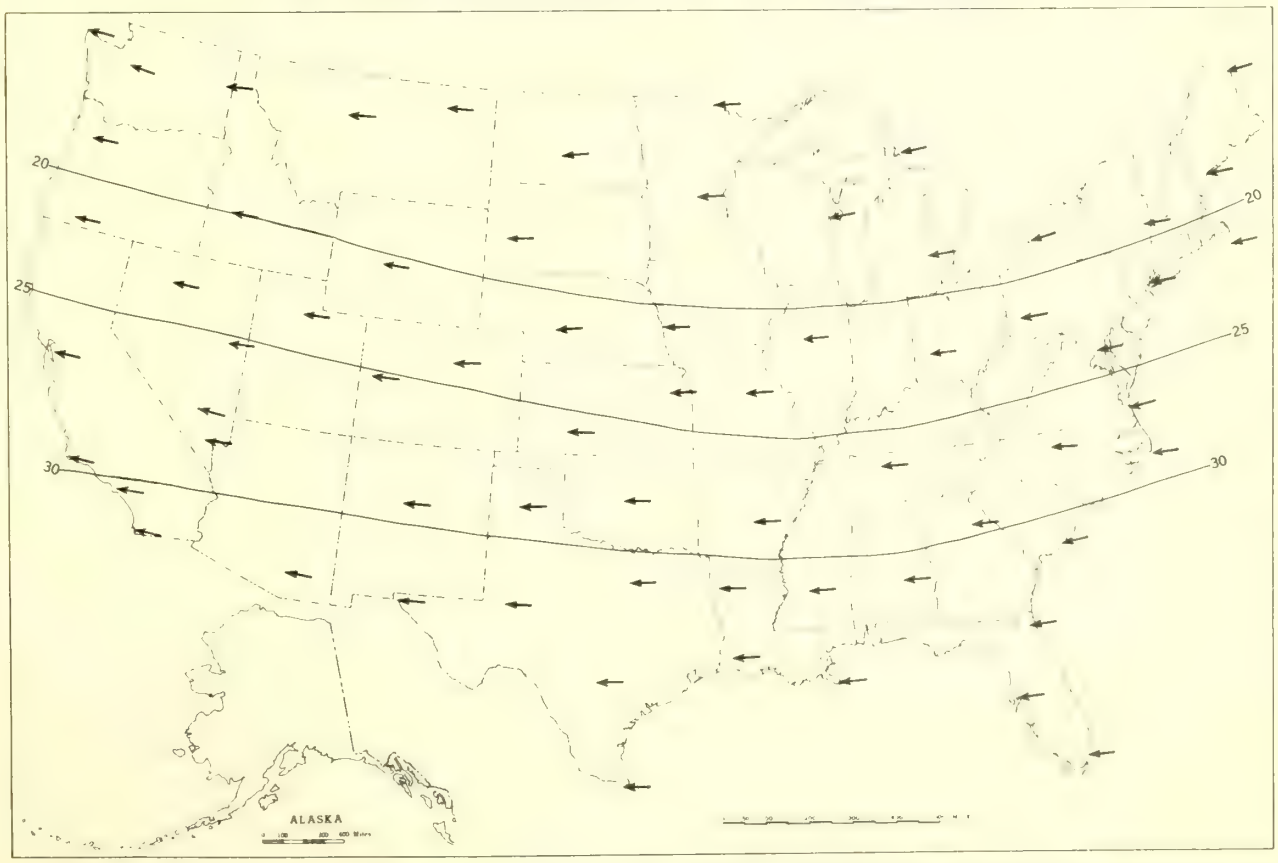


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, July 1961. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, July 1961. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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AUGUST 1961
Volume 12 No. 8

NOTE:
Charts I thru XVII are out of sequence. They are, however, correctly identified.

ASHEVILLE: 1961

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 12 No. 8 AUGUST 1961

GENERAL SUMMARY OF WEATHER CONDITIONS

Record-breaking heat from the Dakotas to the Pacific coast was the outstanding weather feature of August 1961. Extreme heat and less than the normal August precipitation continued the drought in the northern Great Plains. Both August and the summer of 1961 were among the coolest on record in south-central areas. Precipitation, above normal in much of the Far West, eased the forest fire hazard in many areas. Precipitation in the central and lower Great Plains and from the Mississippi Valley eastward maintained mostly adequate soil moisture.

TEMPERATURE.--Temperatures for the month averaged below normal in the south-central and southeastern portions of the country, and above elsewhere. The cool weather generally persisted throughout the month in south-central areas, but in the Southeast temperatures were normal to slightly above the first half and well below the second half of the month. Monthly averages ranged up to 4° or more below normal in the southeastern Great Plains and lower Mississippi Valley. At Shreveport, La., temperatures were below normal every day and the average for the month was the lowest on record for August. Extreme temperatures, however, were not unusual.

The month was among the hottest Augusts on record from the Dakotas westward. Many stations with long-term records reported their highest average temperature for August on record, among which were Rapid City, S. Dak.; Sheridan, Wyo.; Portland, Oreg.; Havre, Mont.; and Seattle, Wash. Highest temperatures also set new records for August at many stations. At Orofino, Idaho, 116° on the 4th was the highest temperature ever recorded in that State during August, and 118° at Ice Harbor Dam, Wash., set a new August record for that State. In the northern Great Plains nights at times were unusually warm with minima ranging in the middle 70's.

Temperatures, relative to normal, were variable from the Great Lakes eastward. The first few days of the month were rather cool, with minima on the 1st and 2d dipping down into the 30's and 40's in many low spots and valleys. This cool period was followed by several hot, humid days which ended on the 12th to 14th by an inflow of cold Canadian air that dropped minima to near or below freezing. Norfolk, Conn., recorded 31° and Gorham, N. H., 29° on the 14th. Hot, humid weather again prevailed during the last week.

August ended an unusually cool summer (June-July - August) from the Great Lakes and lower Great Plains to the Appalachians. Average temperatures for the summer were as much as 4° below normal at some southern stations. Shreveport and Baton Rouge, La., had their coolest summer on record, and Vicksburg, Miss., and San Antonio, Tex., their coolest since 1931. In contrast, Pocatello, Idaho; Walla Walla, Wash.; Kalispell, Mont.; and Rapid City, S. Dak.; all reported their hottest summer on record.

PRECIPITATION.--Light to heavy showers and thunderstorms occurred with varying frequency across the country. They produced monthly totals ranging from only a few hundreths or none at all at some western stations and up to 10 inches or more in the South and East.

In much of the northern Great Plains where droughty conditions prevailed as a result of deficient moisture in May, June, and July, precipitation for August generally was less than 50 percent of normal. Billings, Mont., had 0.23 inch of rain during August and only 1.32 inches for the summer, the least amount for any summer since records began there in 1894. Williston, N. Dak., with 0.14 inch, had its driest August on record. Dryland crops in Montana, Wyoming, and the western Dakotas needed more moisture throughout the month.

In Kansas, Oklahoma, the Texas Panhandle, the lower Rocky Mountain region, and the Far Southwest, precipitation was generally above to well above normal, although several stations in California had no rain at all and amounts at many others were not substantial even though above normal. Nevertheless, large areas in the Far Southwest received beneficial amounts, and monthly totals ranged up to more than 8 inches in Arizona, 3 inches in California and Nevada, 5 inches in Utah, and 12 inches in New Mexico. A high fire hazard prevailed in some areas of the Far West throughout the month, but showers ended the threat in others.

In most areas east of the Great Plains, precipitation was within 25 percent of the normal amounts, except locally. A few of the heaviest totals exceeded 15 inches in the Southeast, with over 28 inches at Rosman, N. C. Rainfall was generally adequate for good crop growth.

DESTRUCTIVE STORMS AND OTHER UNUSUAL WEATHER PHENOMENA.--One of the most intense electrical storms in the modern history of the San Fernando Valley of California occurred on the 11th, causing widespread damage and power interruptions. On the 29th during a thunderstorm at New Orleans, La., lightning struck the airport ramp approximately 300 feet from the station point of observation, causing a break in the concrete 3.5 inches deep, 16.5 inches long, and 13 inches wide. On the same date spectacular lightning occurred in Buffalo, N. Y.

A 70 m.p.h., wind speed was measured at Macon, Ga., on the 8th, an alltime record there.

Lincoln, Nebr., recorded a sea level pressure of 30.40 inches on the 2d, the second highest pressure in August there in 64 years of record.

At Tucson, Ariz., a flash flood on the 22d was responsible for 3 deaths and heavy property damage.

CONDENSED CLIMATOLOGICAL SUMMARY

AUGUST 1961

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
	°F				°F			In.		In.
Alabama	Ozark 6NNW	99	2	2 Stations	53	23+	Milstead	17.13	Dancy 4N	0.46
Arizona	2 Stations	116	12+	3 Stations	37	26+	Tonto Cr Fish Hatch	8.66	Yuma Valley	.10
Arkansas	3 Stations	100	6+	Eureka Springs	47	24	Ozone	10.73	Marianna 2S	.73
California	Death Valley	118	22+	Portola	26	26	Mono Lake	4.55	49 Stations	.00
Colorado	Holly	101	4	Spicer	30	15	Monument 2WSW	7.01	Sterling	.30
Connecticut	Hartford WBAP	94	10	Coventry	36	14	Wolcott Reservoir	7.29	Shepaug Dam	2.60
Delaware	2 Stations	93	28+	Milford 3WNW	47	19	Selbyville	6.38	Middletown 2S	2.14
Florida	Kissimmee 2	103	1	Starke	59	1	Inverness	16.19	Miami Beach	2.29
Georgia	2 Stations	102	2+	Blairsville Exp Station	43	16	Homerville 3WSW	15.19	Resaca	1.12
Idaho	Orofino	116	4	Warren	28	5+	Wayan	3.76	Buhl	.03
Illinois	La Salle Peru	98	31	3 Stations	46	22+	Jerseyville	10.19	Danville Sewage Pl	.69
Indiana	3 Stations	96	2+	2 Stations	44	21	Spencer	7.47	Kentland	.84
Iowa	2 Stations	99	4	Saratoga 2E	44	6	Clinton No. 1	9.07	Bloomfield	.88
Kansas	Aetna 2S	105	10	3 Stations	47	23	Bison	10.11	Elkader	.45
Kentucky	Williamsburg 2	97	13	Benham	48	14	Willow Lock 13	8.37	Franklin 1E	.69
Louisiana	Buras 2SE	100	3	Chatham	52	22	Diamond 4NW	11.84	Bunkie	.99
Maine	Portland	92	11	Squa Pan Dam	34	15	Millinocket	5.03	Bar Harbor	.42
Maryland	Elkton	98	10	Oakland 1SE	39	14	Towson	9.50	Edgemont	.86
Massachusetts	Lowell	94	11	West Cummington	36	14	Edgartown	7.68	Knightsville Dam	1.62
Michigan	Ontonagon	95	31	Vanderbilt Trout Sta	31	17	Saginaw Center Rd Sta	8.69	Cross Village	.54
Minnesota	Artichoke Lake	101	14	3 Stations	32	19+	Le Center	6.45	Stewart 4SSW	.49
Mississippi	Batesville	99	5	do	51	22	Fulton 3W	11.01	Van Vleet	.51
Missouri	Lakeside	99	12+	Berryman 6NW	44	21	Cassville Ranger Sta	6.74	Arcadia	.48
Montana	Iliad	112	5	Summit	27	11	Hebgen Dam	4.50	Wyola	.04
Nebraska	2 Stations	106	4	Harrisburg 10NW	42	22	Ellsmere 9ENE	8.19	Harrisburg 10NW	.04
Nevada	Sunrise Manor Las Vegas	114	8	2 Stations	31	29+	Wellington RS	3.20	Sand Pass	.13
New Hampshire	3 Stations	92	11+	Fabyan	28	17	Greenville	5.59	Conway 1N	1.25
New Jersey	2 Stations	94	11+	Layton 3NW	43	18+	Milton	7.29	Belleplain State For	1.23
New Mexico	Lordsburg	104	8	2 Stations	32	31+	Gascon	12.72	Carlsbad FAA AP	.06
New York	3 Stations	93	31+	Speculator	34	14	South Wales Emery Park	8.47	Griffiss Air Force Base	1.38
North Carolina	2 Stations	98	13+	Celo 2S	41	15	Rosman	28.86	Mount Holly 4NE	2.49
North Dakota	6 Stations	105	6+	Belcourt Indian Res	36	19	Forbes 13NW	3.03	Powers Lake 1N	T
Ohio	Ironton	97	1	Toledo WB Express AP	44	18	Portland Dam 21	9.14	Middlebourne	.73
Oklahoma	Waurika	107	3	4 Stations	48	24	Spavinaw	10.72	Yuba 2S	.03
Oregon	Spray	116	4	Ukiah	27	19	Alsea Fish Hatchery	1.82	Juniper Lake	.00
Pennsylvania	2 Stations	95	31	Clermont 4NW	34	14	Pottsville	8.25	New Castle 1N	1.52
Puerto Rico	do	97	11+	San German	60	10	Jajome Alto	26.34	Mona Island	2.03
Rhode Island	Providence WBAP	89	11+	Kingston	41	14	Kingston	6.46	Woonsocket	3.31
South Carolina	2 Stations	100	1	Longcreek 1N	50	16	Caesars Head	17.96	Catawba	2.10
South Dakota	Wasta	109	6	Deerfield 5NW	32	11	Armour	5.58	Deadwood	.03
Tennessee	Lewisburg Exp Station	99	2	Unicoi 2ESE	45	15	Roan High Knob	11.75	Kingston Springs 3N	.48
Texas	Presidio	109	6	2 Stations	47	23+	Katy Wolf Hill	6.77	Several Stations	.00
Utah	St George PH	105	18	Birdseye	33	27	Cedar Breaks NM	5.63	Brigham City	.37
Vermont	Bellows Falls	92	10	2 Stations	33	17+	Dorset 1S	7.01	Union Village Dam	1.53
Virginia	2 Stations	97	12+	Monterey	39	14	Charlottesville 2W	10.49	Nassawadox	1.20
Washington	Ice Harbor Dam	118	5	2 Stations	35	25	Upper Baker River	4.43	2 Stations	T
West Virginia	3 Stations	96	31	Canaan Valley	36	14	Creston 1SSW	10.09	Petersburg	.97
Wisconsin	Bayfield 6N	99	31	Couderay 2W	32	6	Pine River 3NE	7.36	Fort Atkinson	.54
Wyoming	Spencer 10NE	107	6+	2 Stations	28	27+	Lake Yellowstone	4.48	2 Stations	T

+ And also on an earlier date or dates.

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

AUGUST 1961

State and Station	Elevation of ground	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No of days: Max 90 F or above	Min. 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No of days: 0.1 inch or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Fastest mile: Prevailing direction	Speed	Direction	Date	No of days (sunrise to sunset): Clear, 0.3	Partly cloudy, 4.7	Cloudy, 8.10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb	Mb.	F	F	F	F	F		F				F.	%	In	In	In			In	In	M.p.h		M.p.h							%
ALABAMA																																
BIRMINGHAM	610	993.2	1018.4	89	69	78.7	- 0.4	96	29	62	21+	13	0	70	80	3.56	-0.99	1.05	9	5	0.0	0	5.8	ENE	29	SW	22	5	17	9	6.4	64
HUNTSVILLE	605	995.4	1018.5	89	67	77.9		95	30+	60	22	13	0	67	73	5.39		3.12	9	7	0.0	0	4.7	ESE	20*	NW	20	6	13	12	6.4	
MOBILE	211	1009.5	1017.6	90	71	80.2	- 0.6	95	2	66	21	17	0	70	78	5.69	-0.62	1.26	12	14	0.0	0	7.4	NE	29*	SW	7	2	18	11	6.8	
MONTGOMERY	195	1009.8	1017.8	89	70	79.2	- 1.7	94	29+	64	22	17	0	71	82	6.92	2.17	5.03	14	13	0.0	0	6.2	E	34	N	20	1	18	12	6.8	54
ALASKA																																
ANCHORAGE	90	1005.8	1010.7	61	48	54.5	- 1.1	69	1	39	31+	0	0	46	74	1.94	-0.62	0.82	12	1	0.0	0	5.2	SSE	22*	SE	3	3	4	24	8.3	35
ANNETTE	110	1013.9	1017.8	67	54	60.2	2.2	81	19	49	8	11	0	53	79	7.50	2.24	2.46	14	0	0.0	0	6.7	SSE	21*	SSE	6	5	9	17	7.1	
BARROW	22	1010.8	1011.6	38	32	35.4	- 3.0	51	19	28	24	0	18	34	94	1.31	0.51	0.37	17	0	1.1	T	15.7	E	36*	E	31	0	1	30	9.7	
BARTER ISLAND	39	1009.5	1011.4	43	33	38.2	- 1.0	62	18	28	13	0	14	35	83	1.09	-0.09	0.33	12	0	T	0	15.8	E	44*	SW	1	1	6	24	8.4	
BETHEL	125	1005.8	1006.7	59	45	52.0	- 0.7	68	16	39	27	0	0	47	86	2.70	-1.32	0.49	18	0	0.0	0	11.5	SSW	32*	SSE	19	0	4	27	9.0	
COLD BAY	94	1004.1	1007.6	55	46	50.5	- 1.6	75	1	40	23	1	0	47	88	3.50	-0.47	0.92	21	0	0.0	0	16.2	SSE	37*	SSE	18	0	1	30	9.5	
CORDOVA	40	1011.5	1013.2	59	43	51.2	- 2.2	70	1	32	26	1	1	48	88	15.43	5.71	3.94	21	2	0.0	0	5.8	E	20*	ESE	3	1	2	28	9.1	
FAIRBANKS	436	992.2	1009.2	64	46	55.3	- 0.3	74	22	35	27	8	0	47	75	2.85	0.59	1.19	10	1	0.0	0	6.8	N	23*	SW	23+	2	6	23	8.4	
JUNEAU	17	1014.6	1015.5	61	47	53.9	- 0.3	72	18	39	30	4	0	49	85	12.31	7.15	2.39	21	0	0.0	0	8.6	ESE	33*	ESE	11	4	1	26	8.6	25
KING SALMON	44	1006.4	1008.2	59	45	51.9	- 2.7	68	31	32	24	0	1	46	81	3.02	-0.99	0.70	20	0	0.0	0	9.4	SSE	30*	SSE	18+	1	4	26	8.9	
KOTZEBUE	10	1007.5	1007.9	58	47	[illegible]	1.9	66	16	42	23+	0	0	48	85	0.40	-1.55	0.14	7	0	0.0	0	11.9	WNW	32*	NW	1	2	3	21	7.8	
MC GRATH	334	997.0	1009.4	63	44	52.3	- 1.2	72	15	33	30	2	0	45	79	3.02	-0.61	1.51	15	0	0.0	0	6.1	S	23*	SSW	19	2	5	24	8.3	
NOME	13	1006.4	1006.9	55	42	48.7	- 0.4	61	23+	35	28+	0	0	45	84	1.94	-1.82	0.69	11	0	0.0	0	10.7	S	29*	N	23+	1	10	20	7.9	43
ST. PAUL ISLAND	22	1005.8	1006.6	50	43	46.6	- 1.4	54	16	39	20+	0	0	44	83	1.35	-1.64	0.44	12	0	0.0	0	14.4	NW	30*	NW	22+	0	3	28	9.5	
SHEMYA	122	1006.8	1010.2	[illegible]	46	48.1		54	21+	42	15	0	0	46	95	4.67		1.67	14	0	0.0	0	15.8	NW	35*	NW	12	0	2	29	9.5	
YAKUTAT	28	1013.9	1014.8	[illegible]	47	[illegible]	0.1	64	17+	39	15	0	0	51	[illegible]	20.73	10.19	4.77	20	0	0.0	0	8.1	ESE	33*	ESE	10	0	5	26	9.1	
ARIZONA																																
FLAGSTAFF	6993			77	51	64.1	0.7	86	8	44	27	0	0			4.37	0.77	0.87	15	18	0.0	0						2	17	12	6.8	
PHOENIX	1109	973.2	1011.6	100	75	88.6	0.3	110	8+	69	31	30	0	62	[illegible]	1.11	1.12	0.94	10	10	0.0	0	7.0	SE	37*	ESE	18	14	12	5	4.0	93
PRESCOTT	5014	851.0	1015.0	87	60	73.3	- 0.6	97	8	53	31	3	0	54	58	2.61	-1.09	0.58	15	21	0.0	0	5.8	NW	31	SW	10+	6	17	8	5.5	62
TUCSON	2584	826.4	1012.4	94	70	81.9	- 2.2	105	9	64	31	24	0	61	55	4.28	2.13	2.48	18	29	0.0	0	9.1	SE	54	E	8	10	13	8	4.9	78
WINSLOW	4847	855.1	1013.2	81	52	[illegible]	1.6	98	9+	57	31+	23	0	53	51	2.29	0.67	0.78	12	11	0.0	0	8.3	SW	43*	NW	30	9	15	7	5.2	
YUMA	149	1006.1	1011.7	106	80	[illegible]	- 3.5	115	21	74	31	31	0	63	42	0.39	-0.11	0.17	5	4	0.0	0	7.7	WSW	36	SE	9	18	9	4	2.9	85
ARKANSAS																																
FORT SMITH	449	1000.7	1017.4	[illegible]	[illegible]	77.2	- 4.4	98		57	21	16	0	69	78	5.17	2.55	2.17	6	5	0.0	0	9.6	ENE	26	NE	30	12	7	12	5.5	65
LITTLE ROCK	257	1005.2	1018.0	90	69	78.0	- 3.5	99	5	60	22	17	0	68	73	3.14	-0.01	1.43	7	6	0.0	0	6.6	WSW	35	N	5	11	10	10	5.5	62
TEXARKANA	261		1017.4	89	70	79.0	- 3.7	[illegible]	3	62	25	16	0	71	82	2.17	-0.71	1.17	6	5	0.0	0	6.4	ENE								
CALIFORNIA																																
BAKERSFIELD	494	945.6	1013.5	[illegible]	71	83.2	1.7	102	9	61	27	28	0	56	41	0.02	0.01	0.02	1	0	0.0	0	7.7	NW	21*	ESE	4	20	9	2	2.5	
BISHOP	4108	876.1		83	57	74.9	1.2	102	9	47	27	22	0			0.28	0.14	0.26	4	8	0.0	0						16	11	4	2.0	
BLUE CANYON	5280	842.4		78	[illegible]	69.0	1.9	87	3	53	28	0	0			0.12	0.07	0.06	4	4	0.0	0	6.1	WSW	23	ENE	28+	16	9	6	4.0	
BURBANK	699	988.6	1014.5	85	64	75.7	2.1	109	20	56	31	8	0	50	66	0.27	0.25	0.21	2	1	0.0	0	7.5	S	30*	ENE	18+	23	6	2	2.5	
EUREKA	43	1015.2		61	53	[illegible]	0.2	66	31	50	23+	0	0			0.10	0.19	0.17	3	0	0.0	0	5.0	NW*	17	SW	21	4	7	20	7.0	38
FRESNO	331	1001.5	1012.4	96	66	81.1	1.6	103	9	58	27+	29	0	53	43	0.10	0.10	0.10	1	1	0.0	0	7.1	NW	31	S	5	22	5	3	2.3	86
LONG BEACH	44	1013.2	1014.3	83	65	73.5		92	21+	59	27	4	0	62	74	0.19		0.18	2	2	0.0	0	6.9	WNW	24*	W	20	15	15	1	3.6	
LOS ANGELES	9	1011.2	1015.2	76	64	70.1	1.1	83	3+	60	[illegible]	0	0	61	81	0.30	0.28	0.21	3	1	0.0	0	7.5	WSW	20*	W	21	13	16	2	4.3	
LOS ANGELES	312			84	65	74.5	1.4	94	21	60	31	4	0	60	59	0.03	0.01	0.02	0	0	0.0	0	5.2	WSW	18	W	1	20	10	1	2.4	86
MT. WASHTA R	3544	894.7		36	51	68.6	2.8	96	3	43	19+	7	0			0.26	0.15	0.20	4	1	0.0	0						19	7	5	3.7	
OAKLAND	3	1015.1	1016.7	74	[illegible]	[illegible]	3.1	88	6	54	2+	0	0	55	74	0.04	0.07	0.04	3	1	0.0	0	9.7	WNW	21*	W	[illegible]	4	22	5	5.3	
POINT ARGUELLO	367	1002.7		66	54	59.6		74	19+	45	18	0	0			0.05		0.01	5	0	0.0	0	6.7		23*	W	24	0	6	21	7.8	
RED BLUFF	341	1000.3	1012.9	96	67	81.7	1.2	105	9	58	17	27	0	50	36	0.07	0.02	0.03	4	2	0.0	0	8.4	SSE	30	SW	28	19	6	6	3.1	84
SACRAMENTO	27	1012.9	1013.7	95	60	77.5	4.0	104	20+	52	17	25	0	55	55	0.03	0.03	0.03	1		0.0	0	8.7	SW	21	S	4	21	7	3	2.7	91
SACRAMENTO	23			92	61	76.4	2.4	101	20+	54	17+	19	0			0.01	0.01	0.01	1		0.0	0										
SANDBERG R	4517	865.2		86	64	74.6	1.1	93	23+	54	29	7	0			0.53	0.43	0.50	2	4	0.0	0	9.6	S	31*	E	22	22	9	0	2.0	
SAN DIEGO	13	1011.2	1014.4	7[illegible]	66	72.6	2.3	88	5	64	31	0	0	61	72	0.04	-0.01	0.02	2	1	0.0	0	6.9	WNW	22	NW	20	14	15	2	3.8	71
SAN FRANCISCO	9	1015.5	1016.2	7[illegible]	56	64.4	3.3	85	6+	51	18+	0	0	55	78	0.05	0.04	0.04	2	1	0.0	0	13.6	WNW	38	W	31	13	13	5	4.6	
SAN FRANCISCO C.O.	52			66	56	61.0	1.7	77	19	50	2	0	0			0.02	0.01	0.02	1	0	0.0	0	10.1	W*	39	W	31					57
SANTA MARIA	238	1007.5	1016.2	73	56	64.4	2.0	85	23	52	18+	0	0	56	80	0.11	0.08	0.11	1	1	0.0	0	6.8	WNW	24*	NW	13	13	16	2	4.0	
COLORADO																																
ALAMOSA	7546	778.2		78	49	63.5	1.7	87	7	41	31	0	0			0.03	0.93	0.79	11	2	0.0	0						4	16	11	6.1	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

AUGUST 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h		M.p.h							%
COLORADO																																
COLORADO SPRINGS	6173	817.5	1018.7	82	55	68.4	- 1.3	89	9+	49	23	0	0	51	61	2.26	-0.43	0.62	10	15	0.0	0	8.6	N	23*	NW	11	5	19	7	5.7	
DENVER	5283	842.9	1017.1	87	58	72.2	0.9	96	6	53	22	9	0	51	54	1.21	-0.22	0.32	12	11	0.0	0	7.4	SSW	27	S	11	9	14	8	5.2	77
GRAND JUNCTION	4849	862.2	1015.2	89	64	76.2	0.6	96	8+	55	31	18	0	47	41	1.63	0.43	0.76	7	8	0.0	0	9.2	ESE	42	NW	31	7	14	10	5.5	72
PUEBLO	4639	860.5	1016.4	87	60	73.7	0.4	94	9	54	23	11	0	55	59	2.62	0.84	0.99	14	11	0.0	0	7.0	SE	41	N	8	10	13	8	5.2	75
CONNECTICUT																																
BRIDGEPORT	7	1018.2	1019.2	79	64	71.6	- 0.1	87	10	51	14	0	0	64	78	3.42	-1.01	1.37	9	3	0.0	0	10.5	WSW	25*	ESE	21	7	13	11	6.1	
HARTFORD	169	1012.4	1018.4	83	61	71.8	0.4	94	10	47	18+	6	0	60	70	3.64	0.10	1.44	10	4	0.0	0	6.3	S	28	SW	29	3	12	16	7.0	62
NEW HAVEN	6	1018.6		79	64	71.5	1.7	88	29+	52	15	0	0			3.54	-0.57	1.42	9	3	0.0	0	6.5		18	SW	22+	7	12	12	6.0	62
DELAWARE																																
WILMINGTON	78	1015.1	1018.7	83	65	74.0	0.2	89	31+	53	14	0	0	65	77	3.75	-1.53	1.66	11	4	0.0	0	8.3	WSW	20*	S	25+	8	5	18	6.3	
DIST. OF COLUMBIA																																
WASHINGTON U	72			85	68	76.5	0.7	92	28+	59	14	6	0			7.05	2.56	2.84	12													
WASH NATL AP	14	1014.3	1018.8	85	70	77.6	2.2	94	16	58	14	6	0	68	76	6.31	1.56	2.40	10	6	0.0	0	6.8	S	29	SW	9	10	7	14	6.0	64
FLORIDA																																
APALACHICOLA U	13	1016.0		86	74	79.7	- 1.6	94	1	68	20	3	0			10.90	3.42	3.45	20	17	0.0	0	6.9		27	S	31	2	16	13	7.0	51
DAYTONA BEACH	31	1016.5	1018.3	88	73	80.5	- 0.4	95	1	69	23	8	0	72	78	7.68	1.86	2.92	15	19	0.0	0	7.8	E	32*	SW	26	2	12	17	7.4	
FORT MYERS	13	1016.6		92	76	83.8	1.3	95	7	73	22+	29	0			13.41	5.60	3.69	19	21	0.0	0	6.4		31*	SW	1	3	16	12	6.7	
JACKSONVILLE	24	1017.2	1018.5	90	73	81.2	- 0.6	98	1	66	21	15	0	73	81	10.64	4.21	3.23	15	11	0.0	0	9.9	SW	40	W	13	0	16	15	7.4	47
KEY WEST	5	1015.6	1017.0	90	80	84.9	1.0	93	20	74	21	22	0	74	71	2.97	-1.70	0.67	11	13	0.0	0	8.4	ESE	33	S	15	5	20	6	5.5	74
LAKELAND U	214			91	73	81.7	0.0	98	1	67	1	24	0			9.05	1.92	2.84	17	23	0.0	0	5.8					2	15	14	7.2	58
MIAMI BEACH	9			88	79	83.2	0.2	89	16+	75	22+	0	0			2.29	-2.10	0.72	16		0.0	0	6.4		22	S	28+	6	12	13	6.3	63
MIAMI	7	1015.9	1017.2	90	77	83.4	0.5	93	2	71	17	18	0	73	74	4.68	-1.93	1.47	15	17	0.0	0	7.7	ESE	22*	NW	21	3	15	13	6.6	
ORLANDO	106	1013.4	1017.9	93	73	82.9	0.4	99	13	67	1	23	0	73	79	6.99	0.12	2.81	16	15	0.0	0	7.5	ESE	23*	E	16+	3	17	11	6.6	
PENSACOLA U	13			87	73	80.0	- 1.2	95	29	68	27	9	0			11.13	3.70	3.65	16	19	0.0	0	8.4		25	NE	3					64
TALLAHASSEE	58	1015.2	1018.0	88	71	79.2	- 1.7	96	1	66	22	11	0	72	83	10.07	3.15	3.39	17	20	0.0	0	8.1	ENE	40*	SW	5	1	12	18	7.6	
TAMPA	19	1016.2	1017.8	91	74	82.7	0.7	97	14	71	21	24	0	72	77	6.22	-1.84	1.33	19	23	0.0	0	9.6	E	38*	ESE	9	0	16	15	7.2	57
WEST PALM BEACH	15	1016.2	1017.4	91	75	82.7	0.5	94	20+	70	18	26	0	74	77	6.39	-1.01	2.12	12	15	0.0	0	8.4	ESE	23*	N	16+	4	10	17	7.0	
GEORGIA																																
ATHENS	803	990.8	1019.6	86	67	76.6	- 3.1	96	1	60	16	8	0	69	81	7.43	3.45	2.60	11	8	0.0	0	4.8	NE	23*	S	31+	3	12	16	7.0	
ATLANTA	975	977.8	1018.8	84	67	75.6	- 3.0	92	2+	61	23+	3	0	66	75	4.94	1.13	1.69	12	11	0.0	0	7.9	NE	29*	SSE	6	6	11	14	6.6	56
AUGUSTA	143	1011.5	1018.2	89	69	78.7	- 1.1	97	3	58	17	17	0	70	81	5.44	1.34	3.59	9	13	0.0	0	5.4	SE	23*	E	18	4	6	21	7.7	
COLUMBUS	385	1004.2		89	70	79.4	- 0.8	97	3	62	22	14	0			4.96	0.03	2.63	10	10	0.0	0	6.8		32*	SW	7	4	15	12	6.7	
MACON	356	1004.7	1018.3	90	70	79.7	- 2.0	99	1	64	18	13	0	69	77	5.58	0.94	1.30	16	10	0.0	0	7.5	NE	70	S	8	4	12	15	7.1	54
ROME	637	995.4		88	65	76.2	- 2.6	96	1	56	16	13	0			2.09	-1.80	0.84	9	9	0.0	0						5	17	9	6.0	
SAVANNAH	48	1016.2	1018.8	88	70	79.1	- 1.3	98	1	62	21	12	0	72	84	12.80	6.55	2.99	18	15	0.0	0	7.2	SE	43	N	12	5	13	13	6.7	54
THOMASVILLE U	283			89	71	79.8	- 0.8	97	1	66	22+	16	0			3.51	-2.40	1.07	14	18	0.0	0										
HAWAII																																
HILO	31	1016.0	1017.2	84	69	76.1	0.7	86	28+	65	21	0	0	68	79	7.63	-4.29	1.05	29	0	0.0	0	7.5	WSW	23*	ENE	20	1	14	16	7.4	41
HONOLULU	7	1016.3	1016.7	87	74	80.4	1.0	88	16+	71	3	0	0	66	64	0.47	-0.33	0.21	12	0	0.0	0	12.5	NE	30	NE	11	8	14	9	5.6	90
LIHUE	115	1012.5	1017.7	86	74	79.7	1.6	88	17	69	30	0	0	69	71	2.19	-0.08	1.09	16	0	0.0	0	13.7	NE	24	NE	26+	3	18	10	6.6	74
IDAHO																																
BOISE	2838	919.4	1013.2	93	63	77.8	5.3	110	4	53	27	22	0	47	37	0.21	0.00	0.19	3	1	0.0	0	7.7	SE	35*	SW	25	14	9	8	4.6	78
IDAHO FALLS 42NW R	4790			88	51	69.4	4.1	100	4	39	31	12	0			0.69	-0.11	0.29	7				6.2	NNE	28A	SSW	31					
IDAHO FALLS 46W R	4933	851.7		87	53	70.2	3.3	98	4	44	31	10	0			0.96	0.32	0.41	6	6	0.0	0	5.4	NNE	30A	SW	31					
LEWISTON	1413	963.4		95	62	78.4	5.3	115	4	55	26+	23	0			0.68	0.30	0.32	3	3	0.0	0						13	11	7	4.3	
POCATELLO	4444	865.9	1015.7	89	57	73.1	3.0	101	4	50	18+	12	0	48	45	0.15	-0.57	0.04	7	7	0.0	0	8.7	SW	31	W	31	8	14	9	5.6	67
ILLINOIS																																
CAIRO U	314	1005.2		86	69	77.5	- 2.0	94	1	58	21	11	0			4.69	1.48	1.85	10	6	0.0	0	5.8	S#	22	S	18	10	10	11	5.3	72
CHICAGO O HARE	658	993.6	1018.1	82	60	70.9		93	27	48	21+	4	0	61	74	1.34		0.43	7	4	0.0	0	8.0	SW	23*	ESE	4	12	11	8	5.2	
CHICAGO MIDWAY	610	995.9	1018.5	83	66	74.4	1.7	95	31	54	21	5	0	62	69	6.07	2.88	2.55	9	6	0.0	0	8.4	SW	29	N	4	10	12	9	5.3	72
MOLINE	582	995.7	1017.8	86	62	73.9	0.9	95	27	51	21	7	0	64	73	2.37	-1.20	0.96	7	6	0.0	0	5.5	SW	36	NW	3	10	14	7	4.8	74
PEORIA	652	996.5	1018.8	83	62	72.3	- 1.4	90	31+	49	21	3	0	63	74	1.94	-1.05	0.81	6	6	0.0	0	7.1	S	26	SW	1	15	10	6	4.4	69

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⌀	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max. 90 F. or above	No of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: .01 inch or more	Precipitation: No of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Fastest mile: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
ILLINOIS	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h		M.p.h.							%
ROCKFORD	728	991.3	1018.4	84	61	72.4	- 0.1	93	31+	50	21	6	0	61	72	1.12	-2.61	0.60	7	5	0.0	0	7.3	WSW	25*	SE	31+	10	14	7	5.0	
SPRINGFIELD	588	995.2	1018.3	84	64	73.6	- 0.4	91	1	50	21	3	0	66	78	3.08	0.05	1.66	8	6	0.0	0	7.0	SW	30	N	1	18	6	7	4.3	73
INDIANA																																
EVANSVILLE	383	1002.5	1018.3	86	65	75.1	- 1.2	94	1	52	22	8	0	67	79	5.23	2.19	1.52	10	6	0.0	0	5.9	NW	30	S	31	9	13	9	5.5	79
FORT WAYNE	801	987.7	1018.7	81	62	71.8	0.4	89	28	52	21+	0	0	63	74	4.16	1.36	1.58	10	6	0.0	0	9.7	SW	42	W	19	9	13	9	5.6	67
INDIANAPOLIS	793	988.8	1018.7	82	61	71.4	- 2.6	89	31	51	21	0	0	64	79	2.70	-0.82	1.49	8	6	0.0	0	5.0	SW	30	W	1	10	12	9	5.4	70
SOUTH BEND	768	990.1	1018.1	81	62	71.2	- 0.2	89	30+	50	21	0	0	62	77	2.82	-0.43	1.49	8	6	0.0	0	7.8	SSW	24*	NNW	19	4	18	9	5.9	
IOWA																																
BURLINGTON	694	993.2	1018.7	85	63	73.8	- 0.6	94	27	53	21	5	0	64	75	3.07	-0.24	1.25	5	5	0.0	0	7.1	S	38	N	4	16	8	7	4.0	85
DES MOINES	948	987.8	1018.9	84	63	73.2	- 0.6	94	26	52	20	4	0	65	79	2.77	-0.99	1.82	8	2	0.0	0	6.9	S	37	NE	3	15	9	7	4.4	72
DUBUQUE	1065	992.9		81	61	71.0	0.3	88	30+	52	20	0	0			5.18	1.58	2.92	6	6	0.0	0						13	12	6	4.6	
SIOUX CITY	1095	976.3	1017.1	83	63	73.1	- 0.5	94	3	53	22	3	0	64	74	7.00	4.28	4.28	7	7	0.0	0	8.2	SSE	37	NW	9	20	6	5	3.7	85
WATERLOO	868	986.2	1018.1	84	60	71.7	0.0	93	30+	49	20	4	0	63	77	1.51	-2.15	0.97	6	2	0.0	0	6.0	S	25*	NNE	4	13	12	6	4.7	
KANSAS																																
CONCORDIA U	1375	967.8		87	67	76.7	- 1.8	100	4	55	23	14	0	63	66	4.74	1.54	1.47	10	11	0.0	0	5.7	S*	22	W	11	13	10	8	4.7	73
DODGE CITY	2594	929.9	1016.3	87	65	75.6	- 3.0	100	9	52	23	11	0	60	66	4.57	1.89	2.30	13	12	0.0	0	9.2	SSW	31	SW	26	11	7	13	5.5	58
GOODLAND	3645	891.5	1016.2	88	60	74.0	0.1	97	9+	52	31+	14	0	57	62	2.33	-0.22	0.83	5	8	0.0	0	10.7	SSE	40*	NW	10	10	12	9	4.9	
TOPEKA	877	982.1	1017.6	85	64	74.4	- 3.2	94	10	50	23	10	0	65	76	1.92	-2.74	0.75	6	6	0.0	0	9.7	S	30	NE	1	10	11	10	5.3	68
WICHITA	1321	968.7	1016.8	87	67	76.8	- 3.1	102	10	52	23	14	0	64	69	3.80	0.84	2.30	6	7	0.0	0	8.9	SSE	29	SE	30	12	4	15	5.8	62
KENTUCKY																																
COVINGTON	869	987.4	1019.2	85	64	74.4	0.9	92	31	56	21+	4	0	63	72	1.07	-2.27	0.51	7	5	0.0	0	6.4	SSW	21*	S	9	9	7	15	6.2	
LEXINGTON	979	983.4	1019.0	84	65	74.1	- 0.9	90	31+	56	14	3	0	65	78	2.62	-0.75	1.08	12	10	0.0	0	5.8	S				8	13	10	5.6	
LOUISVILLE	474	1000.9	1018.4	86	65	75.1	- 1.0	94	1	54	14	7	0	65	75	1.56	-1.50	0.64	10	9	0.0	0	5.5	N	24	W	2	8	13	10	5.9	61
LOUISIANA																																
ALEXANDRIA	92	1012.7	1017.2	89	68	78.3		93	2	57	22	14	0	70	81	3.60		1.10	9	12	0.0	0	3.8	NE				7	20	4	5.5	
BATON ROUGE	64	1014.1	1017.2	88	68	78.1	- 2.6	92	31+	61	22	7	0	72	86	2.54	-3.33	0.98	9	13	0.0	0	6.9	NE				5	14	12	6.2	
BURWOOD R	5		1017.2	86	77	81.6	- 1.5	91	2+	72	28	3	0	74	79	9.00	1.69	3.91	12	15	0.0	0	8.7	SE								
LAKE CHARLES	12	1015.7	1016.7	89	74	81.4	- 0.9	94	3	67	22	16	0	72	76	4.04	-0.62	1.36	11	14	0.0	0	3.4	NE	21*	N	20	3	18	10	6.4	
NEW ORLEANS U	9	1014.7		88	75	81.8	- 1.6	94	2	65	21	11	0	72	75	3.86	-2.55	0.98	14	16	0.0	0	5.3		26	NE	21	5	16	10	6.0	66
NEW ORLEANS	3	1014.8	1017.0	88	71	79.7	- 2.5	94	2	67	23+	11	0	73	83	7.26	1.62	1.87	17	17	0.0	0	5.5	ENE	31*	E	3	4	17	10	6.3	
SHREVEPORT	252	1008.5	1017.6	89	70	79.0	- 5.2	93	3	64	25+	16	0	69	76	2.26	-0.11	1.36	6	5	0.0	0	7.5	SE				11	11	9	4.9	76
MAINE																																
CARIBOU	624	992.9	1016.1	75	52	63.2	1.4	85	19	40	2	0	0	55	77	4.95	1.42	2.20	11	4	0.0	0	8.8	SW	35*	NW	20	2	17	12	6.8	
PORTLAND	61	1013.5	1017.7	78	55	66.3	- 0.1	90	11	42	17	1	0	58	77	2.25	-0.34	1.12	7	2	0.0	0	7.1	S	24	S	15	7	12	12	6.2	66
MARYLAND																																
BALTIMORE	146	1014.1	1019.0	84	65	74.6	0.2	92	29+	51	14	4	0	64	74	4.31	-0.07	1.48	11	4	0.0	0	9.8	W	26	SW	9	9	11	11	5.7	57
BALTIMORE U	14			85	71	77.9	1.5	95	28	60	14	9	0			5.17	0.79	2.05	8													
FREDERICK	294			84	63	73.5	- 1.1	93	31	48	14	4	0			2.64	-1.39	0.65	9													
MASSACHUSETTS																																
BLUE HILL OBS R	629	994.3	1017.3	79	61	69.6		88	11+	49	17+	0	0		76	2.86	-1.22	1.06	7		0.0	0	12.2	WSW	35	SW	15					59
BOSTON	15	1013.0	1017.7	81	64	72.5	1.0	92	11	55	17	3	0	60	70	3.17	-0.06	1.65	8	1	0.0	0	10.0	SW	29	SSW	26	7	14	10	6.1	69
NANTUCKET	43	1017.8	1018.5	74	62	67.9	0.8	80	12+	53	2+	0	0	63	86	1.91	-1.52	0.80	8	3	0.0	0	11.1	WSW	29	SW	29	8	7	16	6.9	47
PITTSFIELD	1170			76	56	66.1	0.3	84	9	40	14	0	0			1.67	-2.64	0.56	13		0.0	0										
WORCESTER	986	981.9	1018.4	76	59	67.8	- 0.3	85	10	47	14	0	0	59	77	4.90	1.49	1.69	9	3	0.0	0	7.0	W	20*	SW	26	5	15	11	6.3	
MICHIGAN																																
ALPENA	689	992.6		78	51	64.3	- 1.5	90	31	33	17	1	0			2.66	-0.47	1.23	10	8	0.0	0	6.0	SW*	25	SW	15	12	9	10	5.4	65
DETROIT	619	991.9	1018.4	81	63	72.2	0.9	90	31	53	13	1	0	62	73	5.12	2.50	2.18	13	8	0.0	0	7.9	SW	30	W	15	7	10	14	6.2	53
DETROIT M WAYNE CO	630	994.0	1018.0	81	62	71.1		88	19	50	13	0	0	61	75	7.30		2.37	13	8	0.0	0	8.8	SW				8	11	12	5.9	
DETROIT WILLOW RUN	722	989.9	1018.0	82	62	72.0	0.9	89	31+	51	13	0	0	61	73	5.40	2.69	2.18	13	9	0.0	0	6.8	SW	35*	SSE	5	7	11	13	6.2	
ESCANABA U	594	994.9		76	58	66.8	1.9	92	30	47	13	2	0	59	78	2.17	-0.72	0.87	10	7	0.0	0	8.6		33	N	15+	13	10	8	4.6	70
FLINT	766	990.9	1018.8	79	58	68.6	- 0.2	88	31	45	17+	0	0	60	78	6.93	4.16	2.23	13	10	0.0	0	6.7	SW	24*	SW	24	6	11	14	6.5	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

AUGUST 1961

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90° F or above	No. of days: Min. 32° F or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 0.1 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days sunrise to sunset: Clear, 0-3	No. of days sunrise to sunset: Partly cloudy, 4-7	No. of days sunrise to sunset: Cloudy, 8-10	Sky cover, tenths: Sunrise to sunset	Possible sunshine
	Ft	Mb	Mb	F	F	F	F	F		F				F	%	In	In	In			In	In	Mph		Mph								
MICHIGAN																																	
GRAND RAPIDS	681	993.2	1018.3	80	60	70.0	0.3	90	31	46	13	1	0	60	73	2.06	-0.52	0.54	8	6	0.0	0	8.0	WSW	28	SW	15	6	13	12	6.3	63
LANSING	852	986.4	1018.2	80	58	68.7	- 0.3	88	31+	43	13	0	0	60	77	3.33	0.65	0.74	9	7	0.0	0	10.1	S	34	W	15	4	13	14	6.6	65
MARQUETTE U	677	989.9		77	57	67.4	2.1	93	31	46	13	2	0			0.98	-1.73	0.34	12	6	0.0	0	7.5	SW#	26	NW	30	8	16	7	5.2	75
MUSKEGON	627	995.0	1018.2	78	61	69.5	1.1	86	9	48	13	0	0	60	74	2.13	-0.53	0.76	8	7	0.0	0	7.0	SSW	21*	SW	15+	9	12	10	5.9	
SAULT STE MARIE	721	994.6	1017.4	75	54	64.4	1.5	87	31	39	14	0	0	56	77	1.64	-1.58	0.43	7	6	0.0	0	8.3	WNW	23*	NW	16+	7	16	8	5.6	66
MINNESOTA																																	
DULUTH	1426	975.7	1017.0	81	55	67.6	2.8	95	30	44	19	4	0	53	65	0.71	-2.72	0.55	7	7	0.0	0	7.7	NW	41	NW	2	10	11	10	5.3	74
INTERNATIONAL FALLS	1179	975.1	1016.2	79	52	65.6	2.8	92	14	37	19	2	0	55	71	2.76	-0.56	0.94	10	12	0.0	0	6.5	S	23*	NW	7	9	14	8	5.4	
MINNEAPOLIS	830	984.6	1017.3	82	60	71.3	- 0.2	93	31+	45	12	4	0	62	74	2.38	-0.41	1.70	5	1	0.0	0	7.8	SW	34	NW	2	13	13	5	4.3	70
ROCHESTER	1297	970.5	1018.0	81	60	70.2	0.8	91	29	49	20+	3	0	62	78	2.51	-0.97	0.92	10	6	0.0	0	8.3	S				17	9	5	4.0	
ST CLOUD	1034	979.3	1017.0	84	59	71.4	3.3	94	29	47	12	8	0		69	2.58	-0.30	1.38	6	4	0.0	0						14	12	5	4.3	
MISSISSIPPI																																	
JACKSON	305	1005.3	1017.4	90	69	79.1	- 2.3	94	30	58	22	20	0	69	76	3.96	0.68	1.24	12	14	0.0	0	3.1	E	30	NW	3	4	21	6	5.5	63
MERIDIAN	292	1004.1	1017.8	90	68	78.9	- 1.6	96	3	59	22	18	0	70	82	4.60	0.88	1.35	11	11	0.0	0	4.5	NE	29*	NW	3	3	22	6	5.8	
VICKSBURG U	234	1008.3		88	70	78.8	- 2.7	92	5	61	22	7	0			2.33	-0.38	0.82	8	13	0.0	0	5.5		26	N	3	6	19	6	5.7	47
MISSOURI																																	
COLUMBIA	778	989.3	1017.5	85	64	74.7	- 1.5	92	30+	49	23	7	0	65	75	1.97	-1.92	0.66	9	9	0.0	0	7.7	SSE	29	N	1	14	10	7	4.4	79
KANSAS CITY	742	983.3	1017.7	84	66	75.4	- 3.6	92	10	53	23	6	0	65	73	3.81	-0.08	1.97	7	6	0.0	0	7.4	SW	25	NW	1	11	13	7	4.8	76
ST JOSEPH	809	983.2		85	65	75.0	- 3.1	93	29+	54	23	9	0			4.06	0.33	2.01	8	5	0.0	0	7.8	S	32*	NNW	10	16	11	4	3.9	
ST LOUIS	535	997.7	1018.3	86	65	75.4	- 2.3	93	29+	56	25	10	0	63	67	1.88	-1.67	0.89	10	5	0.0	0	6.8	SE	26	N	11	10	12	9	5.1	70
ST LOUIS RFC	465			86	69	77.5	- 1.1	94	29+	59	21	11	0			1.68	-2.09	0.64	8		0.0	0										
SPRINGFIELD	1265	971.2	1018.3	88	62	75.0	- 1.5	95	29+	49	24+	15	0	63	72	1.05	-2.96	0.41	6	4	0.0	0	9.1	SSE	29	SW	10	7	13	11	6.1	63
MONTANA																																	
BILLINGS	3567	893.3	1014.2	91	61	76.2	5.2	105	5	52	11	19	0	45	38	0.23	-0.65	0.11	6	4	0.0	0	9.9	SW	38	W	31	14	11	6	4.5	83
GLASGOW	2277	941.8		90	60	75.0	6.1	102	5	50	28	18	0	43	36	0.38	-0.97	0.24	6	3	0.0	0						11	16	4	4.6	
GREAT FALLS	3662	891.0	1015.5	88	57	72.4	5.3	106	5	46	11	13	0	40	37	0.63	-0.57	0.38	5	3	0.0	0	7.8	SW	38	NW	29	11	11	9	5.1	69
HAVRE	2583	927.5		90	55	72.9	4.9	111	5	44	11	16	0			0.19	-0.87	0.14	2	1	0.0	0	7.1	SW#	40	SW	31	15	12	4	3.8	91
HELENA	3893	876.4	1015.6	88	55	71.3	5.5	103	5	48	30+	11	0	43	41	0.62	-0.31	0.32	9	7	0.0	0	7.6	W	38	SW	22	14	9	8	4.5	74
KALISPELL	2965	913.3		89	50	69.1	5.1	105	4	40	17+	14	0			0.67	-0.44	0.53	6	4	0.0	0	5.6					15	10	6	4.1	
MILES CITY	2629			94	63	78.3	6.0	105	3	50	11	24	0	45	36	0.36	-0.74	0.27	5	3	0.0	0	8.7	SSE	40*	NW	17	19	10	2	3.1	
MISSOULA	3190	904.2	1016.9	90	51	70.3	4.2	105	4	42	18	17	0	44	46	0.89	0.11	0.43	7	7	0.0	0	7.0	NW	42	NW	31	14	9	8	4.6	74
NEBRASKA																																	
GRAND ISLAND	1841	951.5		88	62	75.4	- 0.8	98	29	56	22	13	0	61	65	1.33	-1.06	0.86	7	7	0.0	0	9.6	S				15	9	7	4.2	
LINCOLN U	1150			87	65	75.9	- 1.0	98	4	55	22	12	0			4.36	1.28	1.74	8	4	0.0	0	9.4	S#	31	SE	21	12	15	4	4.5	75
NORFOLK	1544	961.6		87	62	74.4	0.5	98	29	53	22	11	0			0.65	-2.22	0.29	8	8	0.0	0						18	7	6	3.7	
NORTH PLATTE	2779	918.3	1015.3	89	61	74.8	1.1	102	4	52	23	16	0	58	61	1.08	-1.03	0.45	5	6	0.0	0	10.0	SSE	41*	N	4	12	12	7	4.8	70
OMAHA	978	978.0	1017.5	86	65	75.1	- 0.6	96	4	56	21	9	0	64	72	4.56	1.44	1.72	8	7	0.0	0	9.2	SSE	27	SE	21	14	13	4	4.0	81
OMAHA N OMAHA AP	1323	969.9		83	64	73.4	- 0.4	92	4	55	22+	4	0			2.60	-0.52	1.65	7	7	0.0	0						12	15	4	4.4	
SCOTTSBLUFF	3950	882.1	1015.2	88	59	73.8	1.4	97	4	52	22	11	0	55	58	0.23	-0.99	0.13	4	5	0.0	0	9.3	E	27*	NW	9	14	10	7	4.5	
VALENTINE	2587	926.1		89	59	73.9	1.7	99	4	53	24+	16	0	57	61	2.49	0.49	1.03	8	8	0.0	0	9.5	S#	43	N	21	15	10	6	4.0	74
NEVADA																																	
ELKO	5075	847.6	1015.5	88	54	70.8	3.2	98	4+	45	30+	10	0	44	43	2.15	1.86	1.34	9	10	0.0	0	5.6	SW	24*	SW	11	12	10	9	4.9	
ELY	6257	813.8		83	49	66.1	- 0.2	90	9+	40	31	2	0	43	48	1.16	0.27	0.35	10	24	0.0	0	11.1	S	38	SE	28	3	19	9	6.0	82
LAS VEGAS	2162	947.2	1011.3	101	75	87.7	- 0.7	110	8	64	30	30	0	51	33	0.80	0.27	0.44	7	8	0.0	0	8.2	SW	48*	NW	21	17	9	5	4.1	79
RENO	4404	864.5	1016.1	89	49	69.1	1.7	101	3	39	18	14	0	46	49	0.47	0.24	0.25	8	12	0.0	0	4.6	W	27	SE	4	11	14	6	4.7	89
WINNEMUCCA	4299	870.0		91	53	71.5	1.8	104	4	42	17+	12	0	43	41	1.08	0.90	0.48	7	9	0.0	0	7.2	S	40	S	22	11	11	9	5.4	76
NEW HAMPSHIRE																																	
CONCORD	339	1007.3	1018.1	81	56	68.5	2.0	92	9	40	17	2	0	58	72	3.55	0.45	1.39	6	3	0.0	0	4.2	NW	20	SW	16	8	14	9	6.1	60
MT WASHINGTON OBS	6262	811.4		54	43	48.7	1.0	63	19+	29	14	0	4		89	4.11	-2.04	1.10	15	3	T	T	23.2	W	82Y	W	16	4	11	16	7.3	35
NEW JERSEY																																	
ATLANTIC CITY	58	1016.3	1019.0	84	66	74.9	2.0	92	29+	52	19	5	0	66	76	1.73	-2.85	0.59	8	4	0.0	0	7.3	S	18*	NE	1	8	5	18	6.5	55
ATLANTIC CITY U	10			79	69	74.3	1.2	88	29	60	19	0	0			2.12	-2.60	0.78	7				8.5		20*	S	21+					

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW JERSEY																																
NEWARK	11	1017.3	1018.7	84	68	75.8	2.7	93	31	58	14	8	0	65	72	4.22	0.03	1.42	9	4	0.0	0	8.1	SW	22*	NW	12	9	11	11	5.6	
TRENTON U	56	1010.9		82	66	74.1	0.9	90	31+	55	14	3	0			4.08	-0.51	1.62	9	2	0.0	0	7.0	S	23	NW	13	10	10	11	5.7	65
NEW MEXICO																																
ALBUQUERQUE	5310	852.0	1014.2	87	63	75.2	- 1.7	98	7	56	31	11	0	52	50	1.69	0.31	0.77	11	10	0.0	0	7.8	N	36	S	14+	11	15	5	4.8	75
CLAYTON	4969	850.3		85	59	71.7	- 1.2	94	9	53	30	5	0			2.59	0.58	1.01	13	10	0.0	0						8	12	11	5.6	
RATON	6379	812.1		80	55	67.4	0.0	88	7	48	31	0	0			5.07	2.58	0.93	16	19	0.0	0						6	13	12	6.4	
ROSWELL	3612	895.7		93	61	76.8	- 1.2	103	7	52	29	26	0	55	53	1.37	-0.08	0.88	7	6	0.0	0	8.1		35	NW	31	9	13	9	5.2	
SILVER CITY	5373	836.8		88	62	75.0		101	8	57	28	13	0			1.99		0.69	12	18	0.0	0						10	13	8	5.1	
NEW YORK																																
ALBANY	277	1013.8	1017.9	80	60	69.7	0.1	90	9	46	17+	1	0	61	76	4.76	1.87	3.26	10	5	0.0	0	6.7	S	23	SW	13	5	8	18	6.7	68
BINGHAMTON	1590	959.8	1018.6	75	59	66.9	0.3	84	31	46	17	0	0	60	82	4.87	1.21	1.76	13	5	0.0	0	7.2	SSW	24	SW	11	2	13	16	6.9	57
BUFFALO	705	990.4	1018.5	78	61	69.6	0.7	84	10+	46	17	0	0	62	80	4.03	1.49	1.74	15	11	0.0	0	7.7	SW	34	SW	6	3	16	12	6.5	61
NEW YORK U	132	1007.0		84	69	76.4	2.1	93	10	57	14	6	0	66	74	3.13	-1.27	1.07	10	1	0.0	0	7.2	SW	23	NE	21	8	12	11	5.5	57
NEW YORK	19	1016.5	1018.6	82	69	75.3	0.9	90	31	60	14	1	0	63	70	3.37	-0.90	1.44	8	2	0.0	0	10.8	SSW	32	W	10	10	10	11	5.8	
ROCHESTER	543	998.6	1018.0	79	61	69.9	1.0	89	31	47	17	0	0	61	76	3.09	0.61	0.76	12	7	0.0	0	9.7	SW	36	W	15	5	15	11	6.3	52
SCHENECTADY	217			79	60	69.4	- 1.0	87	15+	48	17	0	0			3.66	0.39	2.48	10	4	0.0	0						15	9	7	4.4	
SYRACUSE	424	996.0	1017.9	79	61	70.4	0.1	88	9	48	17	0	0	60	73	1.78	-1.31	0.92	10	6	0.0	0	8.6	WSW	31	S	2	4	13	14	6.7	56
NORTH CAROLINA																																
ASHEVILLE U	2203	941.2		82	62	72.0	- 0.7	90	1	55	21+	1	0			8.13	4.55	3.03	17	14	0.0	0	4.9		23	W	2	1	19	11	6.7	52
CAPE HATTERAS R	7	1017.7	1018.6	84	72	78.2	- 0.1	88	10	58	17	0	0	72	82	8.32	2.49	2.94	14	12	0.0	0	10.9	SW	29	S	28+	11	6	14	5.9	64
CHARLOTTE	725	990.8	1018.7	86	68	76.9	- 0.4	93	1	60	21	8	0	68	78	4.07	-0.29	0.68	15	9	0.0	0	5.6	SW	33	SW	6	2	15	14	7.2	66
GREENSBORO	891	987.5	1019.2	85	66	75.3	- 0.5	91	1	55	15	6	0	67	80	7.17	2.46	1.87	16	12	0.0	0	6.4	SW	29	NNW	5	4	13	14	6.8	64
RALEIGH	433	1004.7	1018.6	86	67	76.6	- 0.6	92	12+	55	15	9	0	68	80	6.52	1.56	1.90	13	11	0.0	0	6.0	SSW	23*	NW	20+	6	10	15	6.8	53
WILMINGTON	30	1015.8	1018.7	88	71	79.5	0.2	97	1	63	17	12	0	72	84	9.21	2.81	2.80	17	11	0.0	0	8.0	SW	28	SW	20	4	13	14	6.6	69
WINSTON SALEM	967	984.1	1019.2	85	67	75.6	- 0.6	91	29+	57	15	5	0	65	75	4.46	0.36	1.50	17	13	0.0	0	7.0	ENE	31*	NNE	20	5	10	16	6.7	
NORTH DAKOTA																																
BISMARCK	1647	956.0	1015.4	92	56	73.7	4.4	104	29+	41	12	20	0	45	40	0.43	-1.07	0.24	7	8	0.0	0	9.8	SSE	34	N	30	13	11	7	4.7	81
DEVILS LAKE U	1471	962.3		88	57	72.6	5.8	100	6	44	12	14	0			0.42	-1.75	0.21	6	8	0.0	0	7.0	S*	24	SW	31+	18	6	7	4.0	78
FARGO	900	982.0	1016.0	89	58	73.5	4.4	99	29+	42	12	14	0	56	60	1.02	-1.71	1.00	2	2	0.0	0	9.6	S	29	NW	11	14	11	6	4.4	84
WILLISTON U	1877	948.4		89	61	74.9	6.8	99	5	51	11+	16	0			0.14	-1.27	0.07	4	1	0.0	0	5.7	S*	19	W	21	9	18	4	4.9	82
OHIO																																
AKRON	1210	981.1	1019.4	81	61	71.3	0.7	90	31	51	17	1	0	61	74	2.14	-1.12	1.10	10	6	0.0	0	7.7	SW				11	9	11	5.6	
CINCINNATI OBS	761			85	64	74.5	- 0.3	91	29	57	21+	4	0			1.92	-1.46	0.71	9	7	0.0	0	3.7	W	17	W	2					61
CINCINNATI	553	996.1		86	67	76.5	0.3	92	31	59	14	10	0			2.71	-0.67	1.14	8	6	0.0	0										
CLEVELAND	777	990.6	1018.4	81	61	70.9	- 1.0	88	31+	49	18	0	0	63	78	4.28	1.64	2.71	10	5	0.0	0	8.4	S	29	W	5	10	11	11	5.6	60
COLUMBUS	812	989.3	1019.2	84	63	73.1	0.7	89	2	51	13	0	0	64	78	2.73	-0.48	0.87	12	6	0.0	0	4.9	S	26	SW	10	7	12	12	5.8	57
COLUMBUS U	724			84	65	74.6	0.8	89	19+	55	13	0	0			3.53	0.52	1.28	10	8	0.0	0										
DAYTON	1002	982.9	1019.0	82	63	72.8	- 0.1	88	31+	54	13	0	0	62	73	3.16	0.30	1.91	9	6	0.0	0	6.8	SSW	32	W	5	11	9	11	5.4	64
MANSFIELD	1296			80	61	70.9		88	31	52	13	0	0			3.20		0.95	10	8	0.0	0									5.9	
YOUNGSTOWN	1178	976.4	1018.8	81	60	70.5	0.1	89	31	47	13	0	0	60	72	2.73	-0.08	1.15	10	8	0.0	0	6.9	SW	46	NW	19	14	13	4	4.3	79
SANDUSKY U	603	996.5		83	64	73.4	0.6	91	31	55	18	5	0			2.02	-0.67	1.06	8	4	0.0	0	7.0	SW	29	W	19	7	16	8	5.6	67
TOLEDO	676	993.3	1018.8	81	58	69.8	- 1.2	88	31+	44	18	0	0	63	82	2.18	-1.28	1.01	10	4	0.0	0	7.0	SW	21*	SW	10	6	13	12	5.9	
OKLAHOMA																																
OKLAHOMA CITY	1280	974.4	1017.2	89	68	78.4	- 3.6	99	3	55	24	15	0	67	73	2.91	0.41	0.85	9	7	0.0	0	10.6	SSE	54	NW	6	10	10	11	5.6	71
TULSA	650	993.0	1017.3	87	67	77.3	- 4.6	96	10+	55	24	16	0	68	76	3.16	-0.07	2.70	6	3	0.0	0	8.2	SSE	23*	NNE	13	12	10	9	5.2	70
OREGON																																
ASTORIA	8	1017.6	1018.3	69	54	61.3	- 0.5	81	10	47	21	0	0	56	85	1.30	-0.15	1.08	9	0	0.0	0	7.9	W	28*	SW	31	4	12	15	6.8	
BURNS U	4151	875.0		88	54	70.9	3.7	103	4	41	26	11	0	41	36	0.12	-0.15	0.06	5	6	0.0	0						9	14	8	5.1	
EUGENE	361	1003.4		84	53	68.6	2.6	97	21	42	25	9	0			0.34	-0.04	0.48	2	0	0.0	0	9.0		32*	W	19	15	7	9	4.3	
MEACHAM	4050			82	57	69.2	6.6	105	4	48	27+	6	0			1.36	0.85	1.03	7	4	0.0	0						13	11	7	4.4	
MEDFORD	1298	968.5	1015.7	94	56	75.1	4.0	106	3	50	25+	24	0	51	49	0.15	-0.04	0.08	3	3	0.0	0	5.5	WNW	23*	SSW	12	16	11	4	3.7	
PENDLETON	1482	961.7	1014.5	92	62	76.9	4.2	113	4	52	25+	19	0	43	34	0.09	-0.24	0.03	3	1	0.0	0	8.9	SE	40*	W	14	17	7	7	4.0	
PORTLAND	21	1010.8	1016.4	83	58	70.3	3.0	98	11+	51	25	6	0	56	66	1.07	0.46	0.52	4	4	0.0	0	8.0	NW	29	SW	31	13	9	9	5.0	66

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

AUGUST 1961

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb.	Mb	F.	F.	F.	F	F		F.				F	%	In	In	In			In	In	M.p.h		M.p.h							%
OREGON																																
PORTLAND U	30			84	61	72.2	3.8	100	11	54	25	7	0			0.98	0.37	0.76	4		0.0	0										
ROSEBURG	505	998.0		89	55	71.9	5.1	100	21+	50	29+	14	0			0.02	-0.30	0.02	1	2	0.0	0	5.4	N#	19	SW	13	15	11	5	3.9	78
SALEM	195	1009.1	1016.6	86	53	69.3	2.3	100	10	45	25	11	0	54	64	0.28	-0.21	0.14	3	3	0.0	0	5.2	N	21*	SSE	31	15	7	9	4.4	
SEXTON SUMMIT R	3836	886.6		79	56	67.3	3.6	91	3	44	24	2	0			0.27	-0.02	0.20	4	1	0.0	0	10.4	N				20	7	4	2.8	
PACIFIC AREA																																
CANTON ISLAND	8	1009.2	1009.6	89	78	83.7	- 0.5	90	25+	75	18+	9	0	73	73	1.55	-0.85	0.42	11	0	0.0	0	15.8	E	37*	E	1	14	8	9	5.1	
ENIWETOK	13	1008.8		88	78	83.1		90	25+	74	10	2	0	76	78	6.38		2.11	18	1	0.0	0	12.8									
JOHNSTON	7	1012.5		83	75	79.4		85	7	72	24	0	0	74	80	3.37		1.81	17	0	0.0	0	18.8		34	E	18	0	18	13	6.6	70
KOROR R	94	1006.1	1008.8	86	76	80.9	0.2	89	29+	73	30+	0	0	75	86	17.37	2.52	4.37	25	4	0.0	0	7.0	SW	19	N	27+	0	0	31	9.8	41
KWAJALEIN	8	1008.6	1009.5	86	77	81.4		88	30+	73	31+	0	0	75	81	10.60		2.39	25	1	0.0	0	9.2	ENE	30*	E	9	0	11	20	8.3	
MAJURO	10	1009.5	1009.7	86	77	81.3		88	5	72	31+	0	0	74	79	11.31		2.41	24	4	0.0	0	8.7	ENE	32	E	1	1	6	24	8.8	62
PONAPE R	123	1004.4	1009.0	87	73	80.1	0.1	90	30	72	25+	1	0	75	89	17.52	2.15	2.64	29	3	0.0	0	3.2	ESE	23	E	7	0	2	29	9.4	49
TAGUAC GUAM R	361			85	72	78.2	- 1.0	88	28+	68	2+	0	0			16.61	2.11	2.65	29	10	0.0	0	3.9	SE#	16	SE	18+					24
TRUK MOEN ISLAND	5	1008.5	1008.8	86	75	80.7	0.4	89	31	73	24	0	0	76	87	17.86	5.26	3.51	26	2	0.0	0	4.5	S	22	SW	18+	0	3	28	9.5	85
WAKE ISLAND	11	1012.5	1012.9	88	77	82.2	- 0.3	90	12+	70	21	4	0	75	79	8.06	-0.84	2.06	19	0	0.0	0	13.9	E	46*	SE	22	4	6	21	7.6	
YAP R	55	1006.8	1007.9	86	74	80.3	- 1.3	88	29+	72	21+	0	0	76	88	17.25	1.32	2.87	26	2	0.0	0	6.5	SW	23	W	14	0	0	31	10.0	38
PENNSYLVANIA																																
ALLENTOWN	376	1004.9	1019.1	81	63	72.0	0.2	91	31	50	14	1	0	63	77	2.70	-1.79	0.90	10	3	0.0	0	7.2	SW	29*	W	10	10	12	9	5.4	
ERIE	732	992.0	1018.1	78	63	70.4	1.4	88	10	50	17	0	0	62	75	3.12	0.64	0.62	14	11	0.0	0	10.9	S	28*	W	15	7	14	10	5.7	
HARRISBURG	335	1004.9	1018.7	83	64	73.5	0.5	91	31+	47	14	4	0	63	73	5.49	2.15	2.36	9	4	0.0	0	6.9	W	18	SW	25	9	8	14	6.2	69
PHILADELPHIA	5	1013.5	1018.4	82	65	73.5	- 0.5	91	9	51	14	1	0	63	71	3.42	-1.16	1.45	9	4	0.0	0	7.4	WSW	19	NE	21	8	6	17	6.2	67
PHILADELPHIA U	35			84	69	76.5	1.3	93	31+	60	20	8	0																			
PITTSBURGH	1151	989.0	1019.5	82	60	71.2	1.1	95	31	51	30	1	0	62	77	2.11	-1.02	0.94	8	6	0.0	0	6.3	SW	23*	SW	19	5	13	13	6.3	67
PITTSBURGH U	749			83	66	74.6	1.5	92	31	57	14	1	0			2.62	-0.46	0.80	9		0.0	0										46
READING U	266	1006.2		83	66	74.5	1.1	91	31	55	14	2	0			2.54	-1.34	0.83	11	6	0.0	0	7.6		28	N	13	8	10	13	6.0	65
SCRANTON	940	984.8	1019.1	80	62	71.0	1.0	87	31+	49	17	0	0	61	73	3.98	-0.10	2.32	9	3	0.0	0	6.8	WSW	21	SW	10	8	11	12	5.8	57
WILLIAMSPORT	527	999.7	1018.9	82	61	71.2	0.3	91	31	49	14	1	0	62	77	3.69	0.08	1.29	10	3	0.0	0	5.4	W	25*	W	3	5	14	12	6.3	
RHODE ISLAND																																
BLOCK ISLAND	110	1013.8	1018.1	75	64	69.3	0.3	82	12	53	14	0	0			4.06	0.60	1.89	10	5	0.0	0						5	11	15	6.9	
PROVIDENCE	55	1012.0	1018.2	80	62	71.0	1.6	89	11+	50	14	0	0	62	76	3.86	0.23	1.17	9	2	0.0	0	9.7	S	28*	S	15	8	11	12	6.3	56
SOUTH CAROLINA																																
CHARLESTON	41	1016.2	.018.4	87	71	79.0	- 0.6	94	1	62	21	10	0	72	85	6.07	-0.54	1.36	19	13	0.0	0	7.0	S	36	SW	20	3	13	15	7.0	70
CHARLESTON U	9			85	74	79.7	- 1.3	94	1	66	21	4	0			11.75	5.21	6.33	19		0.0	0	9.0		40	NE	13					
COLUMBIA	217	1005.0	1018.3	88	69	78.6	- 1.4	98	1	58	17	16	0	70	80	14.94	9.41	4.07	18	12	0.0	0	5.1	NE	44	SSE	3	3	11	17	7.3	44
FLORENCE	146	1012.2	1018.1	88	69	78.7	- 0.6	95	12+	62	21+	12	0	72	85	4.75	-0.03	1.27	15	12	0.0	0	7.0	SSW	23*	ENE	18	4	16	11	6.4	
GREENVILLE	1018	981.7	1018.6	86	68	76.9	- 0.3	95	2+	60	21	7	0	68	80	8.46	3.66	2.17	12	10	0.0	0	6.4	NE	26	W	8	2	11	18	7.4	47
SPARTANBURG	801	989.3	1019.0	86	67	76.3	- 1.4	95	1	58	21	8	0	67	78	9.82	5.13	4.13	14	11	0.0	0	5.1	NNE	69*	NE	1	3	12	16	7.1	
SOUTH DAKOTA																																
HURON	1282	969.3	1015.8	91	59	75.3	2.4	101	29	47	12	20	0	60	64	0.59	-1.39	0.54	5	4	0.0	0	8.7	S	36	S	30	12	14	5	4.5	88
RAPID CITY	3165	903.8	1015.4	92	62	77.2	6.3	104	6	53	11	21	0	47	38	0.43	-1.13	0.36	3	4	0.0	0	10.0	S	34	NW	9	15	11	5	4.1	72
SIOUX FALLS	1420	965.7	1016.5	87	61	74.0	1.6	98	4	51	22	11	0	59	65	1.79	-1.49	0.70	8	8	0.0	0	8.4	S	27*	ENE	21	13	12	6	4.4	
TENNESSEE																																
BRISTOL	1507	965.4	1019.0	84	64	74.1	0.5	91	2	54	15	3	0	65	81	4.66	0.77	1.96	13	10	0.0	0	4.3	NE	24*	SSW	23	3	15	13	6.7	
CHATTANOOGA	670	991.1	1018.5	88	68	78.1	0.8	95	30+	59	16	13	0	69	80	3.55	-0.15	1.78	12	10	0.0	0	4.3	NE	27	NW	12	6	12	13	6.6	55
KNOXVILLE	950	984.0	1019.2	84	64	74.2	- 2.8	90	1	58	23	1	0	66	81	3.04	-0.39	0.92	12	7	0.0	0	6.3	NE	50	S	22	4	12	15	7.0	40
MEMPHIS	263	1003.0	1017.6	87	69	77.8	- 2.5	94	2	57	21	13	0	67	72	1.71	-1.23	0.73	8	5	0.0	0	6.1	E	32	NW	5	7	14	10	5.9	72
MEMPHIS U	271			86	70	78.0	- 2.3	93	30+	58	21	11	0			1.29	-1.24	0.79	7													
NASHVILLE	577	998.1	1018.1	87	66	76.4	- 2.3	93	30+	58	22	13	0	66	75	2.62	-0.69	0.67	7	9	0.0	0	5.2	S	23	SSE	31	6	12	13	6.5	56
OAK RIDGE	905	986.7		85	65	75.1	- 0.2	91	1	60	23+	2	0			4.02	-0.04	0.95	12	10	0.0	0	2.7		37Y		23	9	9	13	5.8	
TEXAS																																
ABILENE	1759	959.1	1015.9	92	67	79.7	- 3.1	97	4+	55	24	26	0	62	58	1.41	0.32	0.60	7	4	0.0	0	7.4	SSE	27	NE	6	13	15	3	4.1	81
AMARILLO	3607	892.6	1015.4	90	64	77.2	0.6	97	10	53	23	15	0	57	55	3.14	0.15	2.34	7	5	0.0	0	11.5	S	35	NE	16	11	14	6	5.1	84
AUSTIN	597	995.0	1016.5	93	71	81.8	- 2.7	101	4	64	24+	27	0	67	65	0.40	-1.27	0.20	4	5	0.0	0	6.3	SSE	34	NW	4	8	19	4	5.0	79

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

AUGUST 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
II TEXAS																																
BROWNSVILLE	16	1013.1	1015.6	92	73	82.9	- 1.2	97	31+	69	28+	26	0	72	76	3.10	0.65	1.40	10	7	0.0	0	9.2	ESE	35	E	8	14	9	8	4.9	74
CORPUS CHRISTI	43	1015.0	1016.2	92	73	82.9	- 1.1	98	4	68	26+	27	0	71	71	3.30	1.22	1.54	8	5	0.0	0	8.3	ESE	25	SE	8	8	16	7	5.2	72
DALLAS	481	998.2	1016.7	94	72	83.1	- 2.7	100	3	61	24	29	0	65	59	0.19	-1.64	0.09	5	3	0.0	0	9.4	S	27	N	22	14	10	7	4.5	77
DEL RIO U	957			95	72	83.1	- 2.0	101	4	66	27+	30	0			2.97	1.53	2.63	4	8	0.0	0										
EL PASO	3918	887.9	1013.3	93	68	80.5	0.7	101	10+	63	21	25	0	54	44	1.40	0.08	0.66	10	11	0.0	0	6.6	SE	40	SE	1	10	16	5	4.8	76
FORT WORTH	544	995.8	1016.4	95	71	82.7	- 2.7	100	4+	60	24	28	0	65	59	0.02	-1.86	0.02	1	2	0.0	0	10.3	S	32*	ESE	7	14	10	7	4.4	
GALVESTON U	7			86	76	80.7	- 2.9	91	6	71	28+	2	0			4.48	0.93	1.44	11		0.0	0	9.6		41	NE	6					72
GALVESTON	5	1014.6	1016.8	87	76	81.2	- 2.5	92	6+	70	28+	4	0	70	69	5.34	1.72	2.33	10	10	0.0	0	8.1	SE				9	12	10	5.6	
HOUSTON U	41			91	74	82.6	- 1.6	97	3	68	27+	22	0			3.23	0.14	1.17	17		0.0	0										
HOUSTON	50	1014.1	1016.8	91	73	82.2	- 0.7	96	3	66	24	25	0	72	76	4.17	0.05	1.26	11	14	0.0	0	6.4	ESE				5	16	10	6.1	65
LAREDO	500	999.8	1015.0	99	75	86.6	- 1.2	104	4	70	27	31	0	65	56	1.12	-0.18	0.88	5	1	0.0	0	10.6	SE	32*	SSE	1	13	12	6	4.7	
LUBBOCK	3243	906.9	1016.5	89	63	76.0	- 2.4	94	7	55	23	17	0	59	59	1.78	-0.01	0.76	5	5	0.0	0	11.8	SSE	33*	S	31	9	19	3	4.5	
MIDLAND	2854	917.8	1015.1	91	66	78.3	- 3.1	96	4	60	29+	25	0	58	52	0.21	-1.44	0.20	3	2	0.0	0	9.5	SE	23*	SSW	31	12	15	4	4.5	
PORT ARTHUR	16	1015.1	1016.5	90	71	80.6	- 1.2	96	3	66	24	20	0	72	81	3.91	-1.23	0.98	17	15	0.0	0	6.9	NE	38	NE	26+	2	19	10	6.4	50
SAN ANGELO	1903	949.5	1015.6	94	67	80.4	- 2.8	98	31+	55	24	30	0	61	55	1.02	-0.57	0.58	6	5	0.0	0	9.5	S	35*	ENE	17	16	15	0	3.6	
SAN ANTONIO	792	991.6	1016.2	93	72	82.5	- 1.9	100	4	62	24	30	0	67	64	0.15	-1.83	0.10	3	4	0.0	0	7.7	SSE	25	SSE	4	10	18	3	4.6	77
VICTORIA	104	1011.8		92	72	81.7		97	4	64	24	25	0			2.20		1.01	9	8	0.0	0	5.0		39Y	N	4	7	20	4	5.0	
WACO	500	998.1	1016.4	93	71	82.3	- 3.2	101	4	63	24	26	0	67	64	0.90	-0.48	0.56	2	4	0.0	0	10.3	SSE	49*	NNW	4	14	14	3	4.5	
WICHITA FALLS	994	979.8	1015.9	95	69	82.0	- 2.2	102	5+	57	24	26	0	63	58	1.58	-0.49	1.26	5	5	0.0	0	10.2	SE	35*	NNE	6	14	11	6	4.2	
UTAH																																
MILFORD	5028	848.0		90	56	72.9	1.2	97	9	46	27	20	0			0.84	0.03	0.31	12	22	0.0	0						10	11	10	5.4	
SALT LAKE CITY	4220	870.3	1015.0	92	64	77.8	3.4	99	19+	56	14	23	0	52	46	1.20	0.23	0.67	8	8	0.0	0	9.5	S	49	W	6	12	13	6	5.1	71
WENDOVER	4237	872.7		90	67	78.8		97	2	60	31	18	0			0.70		0.50	6	11	0.0	0						13	13	5	4.5	
VERMONT																																
BURLINGTON	331	999.4	1017.2	78	56	66.8	- 1.3	91	10	42	17	1	0	59	79	3.24	0.23	0.84	13	4	0.0	0	6.3	SSW	27	N	12	6	11	14	6.6	55
VIRGINIA																																
LYNCHBURG	947	994.6		84	66	74.9	0.7	90	29+	57	15	2	0			4.12	-0.23	1.18	12	7	0.0	0	6.6		30	SW	7	5	12	14	6.5	60
NORFOLK	26	1017.7	1019.1	85	70	77.7	1.3	94	12	58	16	8	0	70	81	7.42	2.34	4.45	12	6	0.0	0	8.1	SW	34	W	3	6	14	11	6.2	60
RICHMOND	162	1013.3	1019.5	87	67	77.1	1.2	96	12	55	15	12	0	68	80	3.90	-1.15	1.69	11	5	0.0	0	6.9	SW	19	SW	10	8	6	17	6.5	55
ROANOKE	1174	977.7	1019.5	86	65	75.6	1.3	94	1	56	15+	9	0	64	74	5.41	0.87	1.87	15	9	0.0	0	5.6	SE				5	13	13	6.5	
WASHINGTON																																
OLYMPIA	190	1010.5	1017.6	83	50	66.1	3.2	96	11	43	28+	5	0	53	68	1.01	0.35	0.75	5	2	0.0	0	6.3	SW	23*	SW	14	11	9	11	5.1	
SEATTLE TACOMA	400	1003.1	1017.2	80	56	68.4	4.8	93	11	51	25	1	0	53	64	0.82	-0.06	0.56	4	0	0.0	0	8.6	N	23*	SW	31	12	10	9	4.9	
SEATTLE	14		1017.1											56	66								7.2	NW								
SEATTLE U	14			80	59	69.3	4.1	92	11	55	1	1	0			0.57	-0.30	0.50	3		0.0	0			33	S	31					60
SPOKANE	2357	946.8	1015.0	90	58	74.0	6.1	108	4	51	28	15	0	44	39	0.30	-0.19	0.13	7	3	0.0	0	6.8	NE	34	SW	31	15	8	8	4.5	76
STAMPEDE PASS R	3958	882.8		72	52	61.8	5.2	86	4	39	31	0	0			1.44	-0.64	1.08	6	2	0.0	0						14	7	10	4.5	
TATOOSH ISLAND	101	1015.6	1018.4	61	53	56.7	1.0	67	11	48	10	0	0	54	92	2.66	0.65	2.14	11	0	0.0	0	11.3	S	59	SW	31	6	7	18	7.1	39
WALLA WALLA U	949	978.0		92	66	79.1	4.9	113	4	58	31+	18	0			0.39	0.05	0.46	3	4	0.0	0	5.0	W*	24	W	31	18	7	6	4.2	84
YAKIMA	1061	976.0	1014.4	92	55	73.6	4.1	108	4	43	25	20	0	49	46	0.22	0.00	0.20	3	1	0.0	0	8.2	WNW	29*	SW	8	14	11	6	3.8	
WEST INDIES																																
SAN JUAN P.R. U	47			85	76	80.4	- 0.1	87	24	73	29	0	0			6.59	0.33	2.88	19	7	0.0	0										
SAN JUAN P.R.	15	1013.4	1016.4	88	75	81.6	1.2	92	30	72	29	10	0	73	80	5.19	-2.32	2.14	21	8	0.0	0	7.0	ENE	21	SE	24+	2	16	13	6.5	59
SWAN ISLAND	28	1012.9		89	78	83.5	0.7	90	19+	73	7	7	0			1.86	-2.74	0.57	11	6	0.0	0						1	16	14	7.1	
WEST VIRGINIA																																
CHARLESTON	939	984.1	1019.4	84	64	73.7	0.1	92	31	55	14	1	0	65	78	1.19	-3.36	0.39	13	7	0.0	0	3.0	WSW	16*	SW	11	1	18	12	6.8	
HUNTINGTON U	567			86	65	75.3	- 0.1	94	31	56	14	7	0			3.24	-0.13	1.17	13		0.0	0										
PARKERSBURG U	621			86	64	74.7	0.7	92	31	54	14	4	0			3.69	-0.46	1.63	8	6	0.0	0	4.0		24	W	11+					62
WISCONSIN																																
GREEN BAY	689	994.9	1017.7	80	56	68.1	0.3	91	30	47	23+	2	0	59	73	2.84	-0.19	1.77	10	5	0.0	0	9.0	SW	30	SW	14	14	11	6	4.5	70
LA CROSSE	652	992.7		83	63	73.1	1.7	93	30	52	6	5	0	63	75	1.39	-1.90	0.62	8	4	0.0	0	7.6	S	30*	NW	4	10	16	5	4.8	
MADISON	858	982.8	1017.8	82	57	69.4	- 1.3	93	30	45	23+	2	0	62	78	1.78	-1.11	0.77	8	4	0.0	0	7.2	SW	32	S	9	11	14	6	4.7	73
MILWAUKEE	670	993.9	1018.8	81	60	70.3	0.4	94	30	48	13	3	0	61	75	2.35	-0.27	1.13	9	4	0.0	0	8.0	SSW	29	NW	5+	11	11	9	4.7	66

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

AUGUST 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90°F. or above	Temperature: No. of days: Min. 32°F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		°F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
II WYOMING																																
CASPER	5319	841.5	1014.6	87	58	72.1	3.2	96	6	50	11	9	0	42	39	0.08	-0.78	0.03	5	6	0.0	0	10.0	WSW	32*	SW	31	12	10	9	4.7	
CHEYENNE	6131	817.8	1017.6	81	55	68.1	1.3	94	6	49	22+	2	0	47	53	3.12	1.51	1.96	9	9	0.0	0	10.8	WNW	36	NW	8	11	9	11	5.3	66
LANDER	5563	839.5		86	57	71.6	3.2	98	5	48	31	9	0	44	41	0.42	-0.18	0.30	5	7	0.0	0	6.2	SW#	45	SW	6	13	11	7	4.8	81
SHERIDAN	3942	887.2	1011.6	90	56	73.1	4.5	102	5	48	11+	18	0	45	39	0.15	-0.67	0.08	4	6	0.0	0	6.6	NW	40	W	8	15	10	6	4.2	76

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

A Maximum hourly average.

\+ And also on an earlier date or dates.

B Number of days maximum 70°F. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

CLIMATOLOGICAL DATA

METRIC UNITS

AUGUST 1961

State and Station	Elevation (ground)	Pressure: Station, O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb	C.	C.	C	C	C		C				C.	%	Mm.	Mm	Mm			Mm.	Mm.	M.p.s		M.p.s							%
ALABAMA																																
BIRMINGHAM	186	993.2	1018.4	31.7	20.6	25.7	-0.2	35.6	29	16.7	21+	13	0	21.1	80	90	- 25	27	9	5	0	0	2.6	ENE	13.0	SW	22	5	17	9	6.4	64
HUNTSVILLE	184	995.4	1018.5	31.7	19.4	25.5		35.0	30+	15.6	22	13	0	19.4	73	137		79	9	7	0	0	2.1	ESE	8.9*	NW	20	6	13	12	6.4	
MOBILE	64	1009.5	1017.6	32.2	21.7	26.8	-0.3	35.0	2	18.9	21	17	0	21.1	78	145	- 16	32	12	14	0	0	3.3	NE	13.0*	SW	7	2	18	11	6.8	
MONTGOMERY	59	1009.8	1017.3	31.7	21.1	26.2	-0.9	34.4	29+	17.8	22	17	0	21.7	82	176	55	128	14	13	0	0	2.8	E	15.2	N	20	1	18	12	6.8	54
ALASKA												B																				
ANCHORAGE	27	1005.8	1010.7	16.1	8.9	12.5	-0.6	20.6	1	3.9	31+	0	0	7.8	74	49	- 16	21	12	1	0	0	2.3	SSE	9.8*	SE	3	3	4	24	8.3	35
ANNETTE	34	1013.9	1017.8	14.4	12.2	15.7	1.2	27.2	19	9.4	8	11	0	11.7	79	191	57	62	14	0	0	0	3.0	SSE	9.4*	SSE	6	5	9	17	7.1	
BARROW	7	1010.8	1011.6	3.3	0.0	1.9	-1.7	10.6	19	- 2.2	24	0	18	1.1	94	33	13	9	17	0	28	T	7.0	E	16.1*	E	31	0	1	30	9.7	
BARTER ISLAND	12	1009.5	1011.4	6.1	0.6	3.4	-0.6	16.7	18	- 2.2	13	0	14	1.7	88	28	- 2	8	12	0	T	0	7.1	E	19.7*	WSW	1	1	6	24	8.4	
BETHEL	38	1005.8	1006.9	15.0	7.2	11.1	-0.4	20.0	16	3.9	27	0	0	8.3	86	69	- 34	12	18	0	0	0	5.1	SSW	14.3*	SSE	19	0	4	27	9.0	
COLD BAY	29	1004.1	1007.6	12.8	7.8	10.3	-0.9	23.9	1	4.4	23	1	0	8.3	88	89	- 12	23	21	0	0	0	7.2	SSE	16.5*	SSE	18	0	1	30	9.5	
CORDOVA	12	1011.5	1013.2	15.0	6.1	10.7	-1.2	21.1	1	0.0	26	1	1	8.9	88	342	145	100	21	2	0	0	2.6	E	8.9*	ESE	3	1	2	28	9.1	
FAIRBANKS	133	992.2	1009.2	17.8	7.8	12.9	-0.2	23.3	22	1.7	27	8	0	8.3	75	72	15	30	10	1	0	0	3.0	N	10.3*	SW	23+	2	6	23	8.4	
JUNEAU	5	1014.6	1015.5	16.1	8.3	12.2	-0.2	22.2	18	3.9	30	4	0	9.4	85	313	182	61	21	0	0	0	3.8	ESE	14.8*	ESE	11	4	1	26	8.6	25
KING SALMON	13	1006.4	1008.2	15.0	7.2	11.1	-1.5	20.0	31	0.0	24	0	1	7.8	81	77	- 25	18	20	0	0	0	4.2	SSE	13.4*	SSE	18+	1	4	26	8.9	
KOTZEBUE	3	1007.5	1007.9	14.4	8.3	11.4	1.1	18.9	16	5.6	23+	0	0	8.9	85	10	- 39	4	7	0	0	0	5.3	WNW	14.3*	WNW	1	2	8	21	7.8	
MC GRATH	102	997.0	1009.4	16.1	6.7	11.3	-0.7	22.2	15	0.6	30	2	0	7.2	79	77	- 15	38	15	0	0	0	2.7	S	10.3*	SSW	19	2	5	24	8.3	
NOME	4	1006.4	1006.9	12.8	6.1	9.3	-0.2	16.1	23+	1.7	28+	0	0	7.2	84	49	- 46	18	11	0	0	0	4.8	S	13.0*	N	23+	1	10	20	7.9	43
ST. PAUL ISLAND	7	1005.8	1006.6	10.0	6.1	8.1	-0.8	12.2	16	3.9	20+	0	0	6.7	93	34	- 42	11	19	0	0	0	6.4	NW	13.4*	NW	22+	0	3	28	9.5	
SHEMYA	37	1006.8	1010.2	10.0	7.8	8.9		12.2	21+	5.6	15	0	0	7.8	95	119		42	14	0	0	0	7.1	NW	15.6*	NW	12	0	2	29	9.5	
YAKUTAT	9	1013.9	1014.8	15.0	8.3	11.6	0.1	17.8	17+	3.9	15	0	0	10.6	92	527	259	121	20	0	0	0	3.6	ESE	14.8*	ESE	10	0	5	26	9.1	
ARIZONA																																
FLAGSTAFF	2131			25.0	10.6	17.8	0.4	30.0	8	6.7	27	0	0			86	20	22	15	18	0	0						2	17	12	6.8	
PHOENIX	338	973.2	1011.6	38.9	23.9	31.4	0.2	43.3	8+	20.6	31	30	0	16.7	47	54	28	24	10	11	0	0	3.1	SE	16.5*	ESE	18	14	12	5	4.0	93
PRESCOTT	1528	851.0	1015.0	30.6	15.6	22.9	-0.3	36.1	8	11.7	31	8	0	12.2	58	66	- 28	17	15	21	0	0	2.6	SSW	13.9	SW	30+	6	17	8	5.5	69
TUCSON	788	926.2	1012.4	34.4	21.1	27.7	-1.1	39.4	8	17.8	31	24	0	16.1	55	109	54	63	18	19	0	0	4.1	SE	24.1	E	8	10	13	8	4.9	78
WINSLOW	1487	855.1	1013.2	32.8	16.7	24.8	0.9	36.7	9+	13.9	31+	23	0	11.7	51	58	17	20	12	11	0	0	3.9	SW	19.2*	WNW	30	9	15	7	5.2	
YUMA	61	1006.1	1011.3	41.1	26.7	34.0	-0.3	46.1	21	23.3	31	31	0	17.2	42	10	- 3	4	5	4	0	0	3.4	WSW	16.1	SE	9	18	9	4	2.9	88
ARKANSAS																																
FORT SMITH	137	1000.7	1017.4	31.1	19.4	25.4	-2.4	36.7	2	13.9	21	16	0	20.6	78	131	65	55	6	5	0	0	2.5	ENE	11.6	NE	30	12	7	12	5.5	65
LITTLE ROCK	78	1005.0	1018.0	31.7	20.6	26.0	-1.4	37.2	5	15.6	22	17	0	20.0	73	80	0	36	7	6	0	0	3.0	WSW	15.6	N	5	11	10	10	5.5	62
TEXARKANA	110		1017.4	31.1	21.1	26.1	-2.1	35.6	3	16.7	25	16	0	21.7	82	55	- 18	30	6	6	0	0	2.9	ENE								
CALIFORNIA																																
BAKERSFIELD	151	995.6	1013.5	35.6	21.7	28.6	0.9	38.9	9	16.1	27	28	0	13.3	41	1	0	1	1	0	0	0	3.4	NW	9.4*	ESE	4	20	9	2	2.5	
BISHOP	1252	876.1		33.9	13.9	23.7	0.7	38.9	9	8.3	27	22	0			7	4	7	4	8	0	0						16	11	4	3.8	
BLUE CANYON	1609	842.9		25.6	15.6	20.7	1.1	30.6	3	11.7	28	0	0			3	2	2	4	4	0	0	2.7	WSW	10.3	ENE	28+	16	9	6	4.0	
BURBANK	213	988.5	1014.6	31.1	17.8	24.3	1.2	37.8	20	13.3	31	8	0	15.6	66	7	6	5	3	1	0	0	3.4	S	8.9*	SSE	18+	23	6	2	2.5	
EUREKA U	13	1015.2		16.1	11.7	14.0	0.1	20.0	31	10.0	23+	0	0			8	5	4	3	0	0	0	2.2	NW#	7.6	SW	21	4	7	20	7.8	38
FRESNO	101	1001.0	1012.8	35.6	18.9	27.3	0.9	39.4	9	14.4	27+	29	0	11.7	43	3	3	3	1	1	0	0	3.2	NW	13.9	S	5	23	5	3	2.3	86
LONG BEACH	10	1013.2	1014.8	28.3	18.3	23.1		33.3	21+	15.0	27	4	0	16.7	74	5		5	2	2	0	0	3.1	WNW	10.3*	W	20	15	15	1	3.6	
LOS ANGELES	30	1011.2	1015.1	24.4	17.8	21.2	1.1	28.3	23+	15.6	31	0	0	17.2	81	8	7	5	2	1	0	0	3.4	WSW	8.9*	W	21	13	16	2	4.3	
LOS ANGELES U	95			28.9	18.3	23.5	0.8	34.4	21	15.6	31	4	0	15.6	69	1	0	1	2	2	0	0	2.3	W#	8.0	W	1	20	10	1	2.9	86
MT SHASTA R	1080	894.7		30.0	10.6	20.3	1.6	35.6	3	6.1	18+	7	0			7	4	5	4	7	0	0						19	7	5	3.7	
OAKLAND	1	1015.2	1015.7	23.3	14.4	18.9	1.7	31.1	6	12.2	2+	0	0	12.8	74	2	2	1	3	1	0	0	4.3	WNW	9.4*	W	25	4	22	5	5.3	
POINT ARGUELLO	112	1002.0		18.9	12.2	15.3		23.3	19+	9.4	18	0	0			1		0	5	2	0	0	3.0		10.3*	W	24	2	8	21	7.8	
RED BLUFF	104	1000.3	1012.9	35.6	19.4	27.6	0.7	40.6	3	14.4	17	27	0	10.0	36	2	1	1	4	2	0	0	3.8	SSE	13.4	SW	28	19	6	6	3.1	88
SACRAMENTO	5	1012.9	1013.7	35.0	15.6	25.1	2.2	40.0	20+	11.1	17	25	0	12.8	55	1	1	1	1	0	0	0	3.9	SW	9.4	S	4	21	7	3	2.7	91
SACRAMENTO U	7			33.3	16.1	24.7	1.3	38.3	20+	12.2	17+	19	0			T	0	0	1		0	0										
SANDBERG R	1377	865.2		30.0	17.8	23.7	0.6	33.9	21+	12.2	28	7	0			13	11	13	2	4	0	0	4.3	S	13.9*	E	22	22	9	0	2.0	
SAN DIEGO	4	1011.2	1014.4	26.1	18.9	22.6	1.3	31.1	5	17.8	31	0	0	16.1	72	1	0	1	2	1	0	0	3.1	WNW	9.8	NW	20	14	15	2	3.8	71
SAN FRANCISCO	2	1015.6	1016.2	22.8	13.3	18.0	2.1	29.4	6+	10.6	18+	0	0	12.8	78	1	1	1	2	1	0	0	6.1	WNW	17.0	W	31	13	13	5	4.6	
SAN FRANCISCO U	16			18.9	13.3	16.1	0.9	25.0	19	10.0	2	0	0			1	0	1	1	0	0	0	4.5	W#	13.0	W	31					57
SANTA MARIA	73	1007.5	1016.2	22.8	13.3	18.0	1.1	29.4	23	11.1	18+	0	0	13.3	80	3	2	3	1	1	0	0	3.0	WNW	10.7*	WNW	13	13	16	2	4.0	
COLORADO																																
ALAMOSA	2297	778.2		25.6	9.4	17.5	0.9	30.6	7	5.0	31	0	0			52	24	19	11	20	0	0						4	16	11	6.1	
COLORADO SPRINGS	1882	817.5	1018.7	27.8	12.8	20.2	-0.7	31.7	9+	9.4	23	0	0	10.6	61	57	- 11	16	10	15	0	0	3.8	N	10.3*	WNW	11	5	19	7	5.7	
DENVER	1610	842.9	1017.1	30.6	14.4	22.3	0.5	35.6	6	11.7	22	9	0	10.6	54	31	- 6	8	12	11	0	0	3.3	SSW	12.1	S	11	9	14	8	5.2	77
GRAND JUNCTION	1478	862.2	1015.2	31.7	17.8	24.6	0.3	35.6	8+	12.8	31	18	0	8.3	41	41	11	19	7	8	0	0	4.1	ESE	18.8	NW	31	7	14	10	5.5	72

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

AUGUST 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
PUEBLO	1414	860.5	1016.4	30.6	15.6	23.2	0.2	34.4	9	12.2	23	11	0	12.8	59	67	21	25	14	11	0	0	3.1	SE	18.3	N	8	10	13	8	5.2	75
CONNECTICUT																																
BRIDGEPORT	2	1018.2	1019.2	26.1	17.8	22.0	-0.1	30.6	10	10.6	14	0	0	17.8	78	87	- 26	35	9	3	0	0	4.7	WSW	11.2*	ESE	21	7	13	11	6.1	
HARTFORD	52	1012.4	1018.4	28.3	16.1	22.1	0.2	34.4	10	8.3	18+	6	0	15.6	70	92	3	37	10	4	0	0	2.8	S	12.5	SW	29	3	12	16	7.0	62
NEW HAVEN	2	1018.6		26.1	17.8	21.9	0.9	31.1	29+	11.1	15	0	0			90	- 14	36	9	3	0	0	2.9		8.0	SW	22+	7	12	12	6.0	62
DELAWARE																																
WILMINGTON	24	1015.1	1018.7	28.3	18.3	23.3	0.1	31.7	31+	11.7	14	0	0	18.3	77	95	- 39	42	11	4	0	0	3.7	WSW	8.9*	S	25+	8	5	18	6.3	
DIST. OF COLUMBIA																																
WASHINGTON U	22			29.4	20.0	24.7	0.4	33.3	28+	15.0	14	6	0			179	65	72	12													
WASH NATL AP	4	1014.3	1018.8	29.4	21.1	25.3	1.2	34.4	16	14.4	14	6	0	20.0	76	160	40	61	10	6	0	0	3.0	S	13.0	SW	9	10	7	14	6.0	64
FLORIDA																																
APALACHICOLA U	4	1016.0		30.0	23.3	26.5	-0.9	34.4	1	20.0	20	3	0			277	87	88	20	17	0	0	3.1		12.1	S	31	2	16	13	7.0	51
DAYTONA BEACH	9	1016.5	1018.3	31.1	22.8	26.9	-0.2	35.0	1	20.6	23	8	0	22.2	78	195	47	74	15	19	0	0	3.5	E	14.3*	SW	26	2	12	17	7.4	
FORT MYERS	4	1016.6		33.3	24.4	28.8	0.7	35.0	7	22.8	22+	29	0			341	142	94	19	21	0	0	2.9		13.9*	SW	1	3	16	12	6.7	
JACKSONVILLE	7	1017.2	1018.5	32.2	22.8	27.3	-0.3	36.7	1	18.9	21	15	0	22.8	81	270	107	82	15	11	0	0	4.4	SW	17.9	W	13	0	16	15	7.4	47
KEY WEST	2	1015.6	1017.0	32.2	26.7	29.4	0.6	33.9	20	23.3	21	22	0	23.3	71	75	- 43	17	11	13	0	0	3.8	ESE	14.8	S	15	5	20	6	5.5	74
LAKELAND U	65			32.8	22.8	27.6	0.0	36.7	1	19.4	1	24	0			230	49	72	17	23	0	0	2.6					2	15	14	7.2	58
MIAMI BEACH	3			31.1	26.1	28.4	0.1	31.7	16+	23.9	22+	0	0			58	- 53	18	16		0	0	2.9		9.8	S	28+	6	12	13	6.3	63
MIAMI	2	1015.9	1017.2	32.2	25.0	28.6	0.3	33.9	2	21.7	17	18	0	22.8	74	119	- 49	37	15	17	0	0	3.4	ESE	9.8*	WNW	21	3	15	13	6.6	
ORLANDO	32	1013.4	1017.9	33.9	22.8	28.3	0.2	37.2	13	19.4	1	23	0	22.8	79	178	3	71	16	15	0	0	3.4	ESE	10.3*	E	16+	3	17	11	6.6	
PENSACOLA U	4			30.6	22.8	26.7	-0.7	35.0	29	20.0	27	9	0			283	94	93	16	19	0	0	3.8		11.2	NE	3					64
TALLAHASSEE	18	1015.2	1018.0	31.1	21.7	26.2	-0.9	35.6	1	18.9	22	11	0	22.2	83	256	80	86	17	20	0	0	3.6	ENE	17.9*	WSW	5	1	12	18	7.6	
TAMPA	6	1016.2	1017.8	32.8	23.3	28.2	0.4	36.1	14	21.7	21	24	0	22.2	77	158	- 47	34	19	23	0	0	4.3	E	17.0*	ESE	9	0	16	15	7.2	57
WEST PALM BEACH	5	1016.2	1017.4	32.8	23.9	28.2	0.3	34.4	20+	21.1	18	26	0	23.3	77	162	- 26	54	12	15	0	0	3.8	ESE	10.3*	N	16+	4	10	17	7.0	
GEORGIA																																
ATHENS	245	990.8	1019.6	30.0	19.4	24.8	-1.7	35.6	1	15.6	16	8	0	20.6	81	189	88	66	11	8	0	0	2.1	NE	10.3*	S	31+	3	12	16	7.0	
ATLANTA	297	977.8	1018.8	28.9	19.4	24.2	-1.7	33.3	2+	16.1	23+	3	0	18.9	75	125	29	43	12	11	0	0	3.5	NE	13.0*	SSE	6	6	11	14	6.6	56
AUGUSTA	44	1011.5	1018.2	31.7	20.6	25.9	-0.6	36.1	3	14.4	17	17	0	21.1	81	138	34	91	9	13	0	0	2.4	SE	10.3*	E	18	4	6	21	7.7	
COLUMBUS	117	1004.2		31.7	21.1	26.3	-0.4	36.1	3	16.7	22	14	0			126	1	67	10	10	0	0	3.0		14.3*	SW	7	4	15	12	6.7	
MACON	109	1004.7	1018.3	32.2	21.1	26.5	-1.1	37.2	1	17.8	18	13	0	20.6	77	142	24	33	16	10	0	0	3.4	NE	31.3	S	8	4	12	15	7.1	54
ROME	194	995.4		31.1	18.3	24.6	-1.4	35.6	1	13.3	16	13	0			53	- 46	21	9	9	0	0						5	17	9	6.0	
SAVANNAH	15	1016.2	1018.8	31.1	21.1	26.2	-0.7	36.7	1	16.7	21	12	0	22.2	84	325	166	76	18	15	0	0	3.2	SE	19.2	N	12	5	13	13	6.7	54
THOMASVILLE U	86			31.7	21.7	26.6	-0.4	36.1	1	18.9	22+	16	0			89	- 61	27	14	18	0	0										
HAWAII																																
HILO	9	1016.0	1017.2	28.9	20.6	24.5	0.4	30.0	28+	18.3	21	0	0	20.0	79	194	-109	27	29	0	0	0	3.4	WSW	10.3*	ENE	20	1	14	16	7.4	41
HONOLULU	2	1016.3	1016.7	30.6	23.3	26.9	0.6	31.1	16+	21.7	3	0	0	18.9	64	12	- 8	5	12	0	0	0	5.6	NE	13.4	NE	11	8	14	9	5.6	90
LIHUE	35	1012.5	1017.7	30.0	23.3	26.5	0.9	31.1	17	20.6	30	0	0	20.6	71	56	- 2	28	16	0	0	0	6.1	NE	10.7	NE	26+	3	18	10	6.6	74
IDAHO																																
BOISE	865	919.4	1013.2	33.9	17.2	25.4	2.9	43.3	4	11.7	27	22	0	8.3	37	5	0	5	3	1	0	0	3.4	SE	15.6*	WSW	25	14	9	8	4.6	78
IDAHO FALLS 42NW R	1460			31.1	10.6	20.8	2.3	37.8	4	3.9	31	12	0			18	- 3	7	7				2.8	NNE	12.5A	SSW	31					
IDAHO FALLS 46W R	1504	851.7		30.6	11.7	21.2	1.8	36.7	4	6.7	31	10	0			24	8	10	6	6	0	0	2.4	NNE	13.4A	WSW	31					
LEWISTON	431	963.4		35.0	16.7	25.8	2.9	46.1	4	12.8	26+	23	0			17	8	8	3	3	0	0						13	11	7	4.3	
POCATELLO	1355	865.9	1015.7	31.7	13.9	22.8	1.7	38.3	4	10.0	18+	12	0	8.9	45	4	- 14	1	7	7	0	0	3.9	SW	13.9	W	31	8	14	9	5.6	67
ILLINOIS																																
CAIRO U	96	1005.2		30.0	20.6	25.3	-1.1	34.4	1	14.4	21	11	0			119	38	47	10	6	0	0	2.6	S#	9.8	S	18	10	10	11	5.3	72
CHICAGO O HARE	201	993.6	1018.1	27.8	15.6	21.6		33.9	27	8.9	21+	4	0	16.1	74	34		11	7	4	0	0	3.6	SW	10.3*	ESE	4	12	11	8	5.2	
CHICAGO MIDWAY	186	995.9	1018.5	28.3	18.9	23.6	0.9	35.0	31	12.2	21	5	0	16.7	69	154	73	65	9	6	0	0	3.8	SW	13.0	N	4	10	12	9	5.3	72
MOLINE	177	995.7	1017.8	30.0	16.7	23.3	0.5	35.0	27	10.6	21	7	0	17.8	73	60	- 30	24	7	6	0	0	2.5	SW	16.1	NW	3	10	14	7	4.8	74
PEORIA	199	996.5	1018.8	28.3	16.7	22.4	-0.8	32.2	31+	9.4	21	3	0	17.2	74	49	- 27	21	6	6	0	0	3.2	S	11.6	SW	1	15	10	6	4.4	69
ROCKFORD	222	991.3	1018.4	28.9	16.1	22.4	-0.1	33.9	31+	10.0	21	6	0	16.1	72	28	- 66	15	7	5	0	0	3.3	WSW	11.2*	SE	31+	10	14	7	5.0	
SPRINGFIELD	179	995.2	1018.3	28.9	17.8	23.1	-0.2	32.8	1	10.0	21	3	0	18.9	78	78	1	42	8	6	0	0	3.1	SW	13.4	N	1	18	6	7	4.3	73
INDIANA																																
EVANSVILLE	117	1002.5	1018.3	30.0	18.3	23.9	-0.7	34.4	1	11.1	22	8	0	19.4	79	133	56	39	10	6	0	0	2.6	NW	13.4	S	31	9	13	9	5.5	79
FORT WAYNE	244	987.7	1018.7	27.2	16.7	22.1	0.2	31.7	28	11.1	21+	0	0	17.2	74	106	35	40	10	6	0	0	4.3	SW	18.8	W	19	9	13	9	5.6	67

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
INDIANAPOLIS	242	988.8	1018.7	27.8	16.1	21.9	-1.4	31.7	31	10.6	21	0	0	17.8	79	69	- 21	38	8	6	0	0	2.2	SW	13.4	W	1	10	12	9	5.4	70
SOUTH BEND	234	990.1	1018.1	27.2	16.7	21.8	-0.1	31.7	30+	10.0	21	0	0	16.7	77	72	- 11	38	8	6	0	0	3.5	SSW	10.7*	NNW	19	4	18	9	5.9	
IOWA																																
BURLINGTON	212	993.2	1018.7	29.4	17.2	23.2	-0.3	34.4	27	11.7	21	5	0	17.8	75	78	- 6	32	5	5	0	0	3.2	S	17.0	N	4	16	8	7	4.0	85
DES MOINES	289	987.8	1018.9	28.9	17.2	22.9	-0.3	34.4	26	11.1	20	4	0	18.3	79	70	- 25	46	8	2	0	0	3.1	S	16.5	NE	3	15	9	7	4.4	72
DUBUQUE	325	992.9		27.2	16.1	21.7	0.2	31.1	30+	11.1	20	0	0			132	40	74	6	6	0	0						13	12	6	4.6	
SIOUX CITY	334	976.3	1017.1	28.3	17.2	22.8	-0.3	34.4	3	11.7	22	3	0	17.8	74	178	109	109	7	7	0	0	3.7	SSE	16.5	NW	9	20	6	5	3.7	85
WATERLOO	265	986.2	1018.1	28.9	15.6	22.1	0.0	33.9	30+	9.4	20	4	0	17.2	77	38	- 55	25	6	2	0	0	2.7	S	11.2*	NNE	4	13	12	6	4.7	
KANSAS																																
CONCORDIA U	419	967.8		30.6	19.4	24.8	-1.0	37.8	4	12.8	23	14	0	17.2	66	120	39	37	10	11	0	0	2.5	S#	9.8	W	11	13	10	8	4.7	73
DODGE CITY	791	929.9	1016.3	30.6	18.3	24.2	-1.7	37.8	9	11.1	23	11	0	15.6	66	116	48	58	13	12	0	0	4.1	SSW	13.9	SW	26	11	7	13	5.5	58
GOODLAND	1111	891.5	1016.2	31.1	15.6	23.3	0.1	36.1	9+	11.1	31+	14	0	13.9	62	59	- 6	21	5	8	0	0	4.8	SSE	17.9*	NW	10	10	12	9	4.9	
TOPEKA	267	982.1	1017.6	29.4	17.8	23.6	-1.8	34.4	10	10.0	23	10	0	18.3	76	49	- 70	19	6	6	0	0	4.3	S	13.4	NE	1	10	11	10	5.3	68
WICHITA	403	968.7	1016.8	30.6	19.4	24.9	-1.7	38.9	10	11.1	23	14	0	17.8	69	97	21	58	6	7	0	0	4.0	SSE	13.0	SE	30	12	4	15	5.8	62
KENTUCKY																																
COVINGTON	265	987.4	1019.2	29.4	17.8	23.6	0.5	33.3	31	13.3	21+	4	0	17.2	72	27	- 58	13	7	5	0	0	2.9	SSW	9.4*	S	9	9	7	15	6.2	
LEXINGTON	298	983.4	1019.0	28.9	18.3	23.4	-0.5	32.2	31+	13.3	14	3	0	18.3	78	67	- 19	27	12	10	0	0	2.6	S				8	13	10	5.6	
LOUISVILLE	144	1000.9	1018.4	30.0	18.3	23.9	-0.6	34.4	1	12.2	14	7	0	18.3	75	40	- 38	16	10	9	0	0	2.5	N	10.7	W	2	8	13	10	5.9	61
LOUISIANA																																
ALEXANDRIA	28	1012.7	1017.2	31.7	20.0	25.7		33.9	2	13.9	22	14	0	21.1	81	91		28	9	12	0	0	1.7	NE				7	20	4	5.5	
BATON ROUGE	20	1014.1	1017.2	31.1	20.0	25.6	-1.4	33.3	31+	16.1	22	7	0	22.2	86	65	- 85	25	9	13	0	0	3.1	NE				5	14	12	6.2	
BURWOOD R	2		1017.2	30.0	25.0	27.6	-0.8	32.8	2+	22.2	28	3	0	23.3	79	229	43	99	12	15	0	0	3.9	SE								
LAKE CHARLES	4	1015.7	1016.7	31.7	23.3	27.4	-0.5	34.4	3	19.4	22	16	0	22.2	76	103	- 16	35	11	14	0	0	1.5	NE	9.4*	N	20	3	18	10	6.4	
NEW ORLEANS U	3	1014.7		31.1	23.9	27.7	-0.9	34.4	2	18.3	21	11	0	22.2	75	98	- 65	25	14	16	0	0	2.4		11.6	NE	21	5	16	10	6.0	66
NEW ORLEANS	1	1014.8	1017.0	31.1	21.7	26.5	-1.4	34.4	2	19.4	23+	11	0	22.8	83	184	41	47	17	17	0	0	2.5	ENE	13.9*	E	3	4	17	10	6.3	
SHREVEPORT	77	1008.5	1017.6	31.7	21.1	26.1	-2.9	33.9	3	17.8	25+	16	0	20.6	76	57	- 3	35	6	5	0	0	3.4	SE				11	11	9	4.9	76
MAINE																																
CARIBOU	190	992.9	1016.1	23.9	11.1	17.3	0.8	29.4	19	4.4	2	0	0	12.8	77	126	36	56	11	4	0	0	3.9	SW	15.6*	NW	20	2	17	12	6.8	
PORTLAND	19	1013.5	1017.7	25.6	12.8	19.1	-0.1	32.2	11	5.6	17	1	0	14.4	77	57	- 9	28	7	2	0	0	3.2	S	10.7	S	15	7	12	12	6.2	66
MARYLAND																																
BALTIMORE	45	1014.1	1019.0	28.9	18.3	23.7	0.1	33.3	29+	10.6	14	4	0	17.8	74	109	- 2	38	11	4	0	0	4.4	W	11.6	SW	9	9	11	11	5.7	57
BALTIMORE U	4			29.4	21.7	25.5	0.8	35.0	28	15.6	14	9	0			131	20	52	8													
FREDERICK	90			28.9	17.2	23.1	-0.6	33.9	31	8.9	14	4	0			67	- 35	17	9													
MASSACHUSETTS																																
BLUE HILL OBS R	192	994.3	1017.3	26.1	16.1	20.9		31.1	11+	9.4	17+	0	0		76	73	- 31	27	7		0	0	5.5	WSW	15.6	SW	15					59
BOSTON	5	1013.0	1017.7	27.2	17.8	22.5	0.6	33.3	11	12.8	17	3	0	15.6	70	81	- 2	42	8	1	0	0	4.5	SW	13.0	SSW	26	7	14	10	6.1	69
NANTUCKET	13	1017.8	1018.5	23.3	16.7	19.9	0.4	26.7	12+	11.7	2+	0	0	17.2	86	49	- 39	20	8	3	0	0	5.0	WSW	13.0	SW	29	8	7	16	6.9	47
PITTSFIELD	357			24.4	13.3	18.9	0.2	28.9	9	4.4	14	0	0			42	- 67	14	13		0	0										
WORCESTER	301	981.9	1018.4	24.4	15.0	19.9	-0.2	29.4	10	8.3	14	0	0	15.0	77	124	38	43	9	3	0	0	3.1	W	8.9*	SW	26	5	15	11	6.3	
MICHIGAN																																
ALPENA	210	992.6		25.6	10.6	17.9	-0.8	32.2	31	0.6	17	1	0			68	- 12	31	10	8	0	0	2.7	SW#	11.2	SW	15	12	9	10	5.4	65
DETROIT	189	991.9	1018.4	27.2	17.2	22.3	0.5	32.2	31	11.7	13	1	0	16.7	73	130	64	55	13	8	0	0	3.5	SW	13.4	W	15	7	10	14	6.2	53
DETROIT M WAYNE CO	192	994.0	1018.0	27.2	16.7	21.7		31.1	19	10.0	13	0	0	16.1	75	185		60	13	8	0	0	3.9	SW				8	11	12	5.9	
DETROIT WILLOW RUN	220	989.9	1018.0	27.8	16.7	22.2	0.5	31.7	31+	10.6	13	0	0	16.1	73	137	68	55	13	9	0	0	3.0	SW	15.6*	SSE	5	7	11	13	6.2	
ESCANABA U	181	994.9		24.4	14.4	19.3	1.1	33.3	30	8.3	13	2	0	15.0	78	55	- 18	22	10	7	0	0	3.8		14.8	N	15+	13	10	8	4.6	70
FLINT	233	990.9	1018.8	26.1	14.4	20.3	-0.1	31.1	31	7.2	17+	0	0	15.6	78	176	106	57	13	10	0	0	3.0	SW	10.7*	SW	24	6	11	14	6.5	
GRAND RAPIDS	208	993.2	1018.3	26.7	15.6	21.1	0.2	32.2	31	7.8	13	1	0	15.6	73	52	- 13	14	8	6	0	0	3.6	WSW	12.5	SW	15	6	13	12	6.3	63
LANSING	260	986.4	1018.2	26.7	14.4	20.4	-0.2	31.1	31+	6.1	13	0	0	15.6	77	85	17	19	9	7	0	0	4.5	S	15.2	W	15	4	13	14	6.6	65
MARQUETTE U	206	989.9		25.0	13.9	19.7	1.2	33.9	31	7.8	13	2	0			25	- 44	9	12	6	0	0	3.4	SW#	11.6	NW	30	8	16	7	5.2	75
MUSKEGON	191	995.0	1018.2	25.6	16.1	20.8	0.6	30.0	9	8.9	13	0	0	15.6	74	54	- 13	19	8	7	0	0	3.1	SSW	9.4*	WSW	15+	9	12	10	5.9	
SAULT STE MARIE	220	994.6	1017.4	23.9	12.2	18.0	0.8	30.6	31	3.9	14	0	0	13.3	77	26	- 40	11	7	6	0	0	3.7	WNW	10.3*	NW	15+	7	16	8	5.6	66
MINNESOTA																																
DULUTH	435	975.7	1017.0	27.2	12.8	19.8	1.6	35.0	30	6.7	19	4	0	11.7	65	18	- 69	14	7	7	0	0	3.4	NW	18.3	NW	2	10	11	10	5.3	74
INTERNATIONAL FALLS	359	975.1	1016.2	26.1	11.1	18.7	1.6	33.3	14	2.8	19	2	0	12.8	71	70	- 14	24	10	12	0	0	2.9	S	10.3*	WNW	7	9	14	8	5.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C		C.				C	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MINNESOTA																																
MINNEAPOLIS	253	984.6	1017.3	27.8	15.6	21.8	-0.1	33.9	31+	7.2	12	4	0	16.7	74	60	- 10	43	5	1	0	0	3.5	SW	15.2	NW	2	13	13	5	4.3	70
ROCHESTER	395	970.5	1018.0	27.2	15.6	21.2	0.4	32.8	29	9.4	20+	3	0	16.7	78	64	- 25	23	10	6	0	0	3.7	S				17	9	5	4.0	
ST CLOUD	315	979.3	1017.0	28.9	15.0	21.9	1.8	34.4	29	8.3	12	8	0		69	66	- 8	35	6	4	0	0						14	12	5	4.3	
MISSISSIPPI																																
JACKSON	93	1005.3	1017.4	32.2	20.6	26.2	-1.3	34.4	30	14.4	22	20	0	20.6	76	101	17	31	12	14	0	0	1.4	E	13.4	NW	3	4	21	6	5.5	63
MERIDIAN	89	1004.1	1017.8	32.2	20.0	26.1	-0.9	35.6	3	15.0	22	18	0	21.1	82	117	22	34	11	11	0	0	2.0	NE	13.0*	NW	3	3	22	6	5.8	
VICKSBURG U	71	1008.3		31.1	21.1	26.0	-1.5	33.3	5	16.1	22	7	0			59	- 10	21	8	13	0	0	2.5		11.6	N	3	6	19	6	5.7	47
MISSOURI																																
COLUMBIA	237	989.3	1017.5	29.4	17.8	23.7	-0.8	33.3	30+	9.4	23	7	0	18.3	75	50	- 49	17	9	8	0	0	3.4	SSE	13.0	N	1	14	10	7	4.4	79
KANSAS CITY	226	983.3	1017.7	28.9	18.9	24.1	-2.0	33.3	10	11.7	23	6	0	18.3	73	97	- 2	50	7	6	0	0	3.3	SW	11.2	NW	1	11	13	7	4.8	76
ST JOSEPH	247	983.2		29.4	18.3	23.9	-1.7	33.9	29+	12.2	23	9	0			103	8	51	8	5	0	0	3.5	S	14.3*	NNW	10	16	11	4	3.9	
ST LOUIS	163	997.7	1018.3	30.0	18.3	24.1	-1.3	33.9	29+	13.3	25	10	0	17.2	67	48	- 42	23	10	5	0	0	3.0	SE	11.6	N	11	10	12	9	5.1	70
ST LOUIS RFC	142			30.0	20.6	25.3	-0.6	34.4	29+	15.0	21	11	0			43	- 53	16	8		0	0										
SPRINGFIELD	386	971.2	1018.3	31.1	16.7	23.9	-0.8	35.0	29+	9.4	24+	15	0	17.2	72	27	- 75	10	6	4	0	0	4.1	SSE	13.0	SW	10	7	13	11	6.1	63
MONTANA																																
BILLINGS	1087	893.3	1014.2	32.8	16.1	24.6	2.9	40.6	5	11.1	11	19	0	7.2	38	6	- 17	3	6	4	0	0	4.4	SW	17.0	W	31	14	11	6	4.5	83
GLASGOW	694	941.8		32.2	15.6	23.9	3.4	38.9	5	10.0	28	18	0	6.1	36	10	- 25	6	6	3	0	0						11	16	4	4.6	
GREAT FALLS	1116	891.0	1015.5	31.1	13.9	22.4	2.9	41.1	5	7.8	11	13	0	4.4	37	16	- 14	10	5	3	0	0	3.5	SW	17.0	NW	29	11	11	9	5.1	69
HAVRE	787	927.5		32.2	12.8	22.7	2.7	43.9	5	6.7	11	16	0			5	- 22	4	2	1	0	0	3.2	SW#	17.9	SW	31	15	12	4	3.8	91
HELENA	1187	876.4	1015.6	31.1	12.8	21.8	3.1	39.4	5	8.9	30+	11	0	6.1	41	16	- 8	8	9	7	0	0	3.4	W	17.0	SW	22	14	9	8	4.5	74
KALISPELL	904	913.3		31.7	10.0	20.6	2.8	40.6	4	4.4	17+	14	0			17	- 11	13	6	4	0	0	2.5					15	10	6	4.1	
MILES CITY	801			34.4	17.2	25.7	3.3	40.6	3	10.0	11	24	0	7.2	36	9	- 19	7	5	3	0	0	3.9	SSE	17.9*	WNW	17	19	10	2	3.1	
MISSOULA	972	904.2	1016.9	32.2	10.6	21.3	2.3	40.6	4	5.6	18	17	0	6.7	46	23	3	11	7	7	0	0	3.1	NW	18.8	NW	31	14	9	8	4.6	74
NEBRASKA																																
GRAND ISLAND	561	951.5		31.1	16.7	24.1	-0.4	36.7	29	13.3	22	13	0	16.1	65	34	- 27	22	7	7	0	0	4.3	S				15	9	7	4.2	
LINCOLN U	351			30.6	18.3	24.4	-0.6	36.7	4	12.8	22	12	0			111	33	44	8	4	0	0	4.2	S#	13.9	SE	21	12	15	4	4.5	75
NORFOLK	471	961.6		30.6	16.7	23.6	0.3	36.7	29	11.7	22	11	0			17	- 56	7	8	8	0	0						18	7	6	3.7	
NORTH PLATTE	847	918.3	1015.3	31.7	16.1	23.8	0.6	38.9	4	11.1	23	16	0	14.4	61	27	- 26	11	5	6	0	0	4.5	SSE	18.3*	N	4	12	12	7	4.8	70
OMAHA	298	978.0	1017.5	30.0	18.3	23.9	-0.3	35.6	4	13.3	21	9	0	17.8	72	116	37	44	8	7	0	0	4.1	SSE	12.1	SE	21	14	13	4	4.0	81
OMAHA N OMAHA AP	403	969.9		28.3	17.8	23.0	-0.2	33.3	4	12.8	22+	4	0			66	- 13	42	7	7	0	0						12	15	4	4.4	
SCOTTSBLUFF	1204	882.1	1015.2	31.1	15.0	23.2	0.8	36.1	4	11.1	22	11	0	12.8	58	6	- 25	3	4	5	0	0	4.2	E	12.1*	WNW	9	14	10	7	4.5	
VALENTINE	789	926.1		31.7	15.0	23.3	0.9	37.2	4	11.7	24+	16	0	13.9	61	63	12	26	8	8	0	0	4.2	S#	19.2	N	21	15	10	6	4.0	74
NEVADA																																
ELKO	1547	847.6	1015.5	31.1	12.2	21.6	1.8	36.7	4+	7.2	30+	10	0	6.7	43	55	47	34	9	10	0	0	2.5	SW	10.7*	WSW	11	12	10	9	4.9	
ELY	1907	813.8		28.3	9.4	18.9	-0.1	32.2	9+	4.4	31	2	0	6.1	48	29	7	9	10	24	0	0	5.0	S	17.0	SE	28	3	19	9	6.0	82
LAS VEGAS	659	947.2	1011.3	38.3	23.9	30.9	-0.4	43.3	8	17.8	30	30	0	10.6	33	20	7	11	7	8	0	0	3.7	SW	21.5*	NW	21	17	9	5	4.1	79
RENO	1342	864.5	1016.1	31.7	9.4	20.6	0.9	38.3	3	3.9	18	14	0	7.8	49	12	6	6	8	12	0	0	2.1	W	12.1	SE	4	11	14	6	4.7	89
WINNEMUCCA	1310	870.0		32.8	11.7	21.9	1.0	40.0	4	5.6	17+	12	0	6.1	41	27	23	12	7	9	0	0	3.2	S	17.9	S	22	11	11	9	5.4	76
NEW HAMPSHIRE																																
CONCORD	103	1007.3	1018.1	27.2	13.3	20.3	1.1	33.3	9	4.4	17	2	0	14.4	72	90	11	35	6	3	0	0	1.9	NW	8.9	SW	16	8	14	9	6.1	60
MT WASHINGTON OBS	1909	811.4		12.2	6.1	9.3	0.6	17.2	19+	- 1.7	14	0	4		89	104	- 52	28	15	3	T	T	10.4	W	36.7Y	W	16	4	11	16	7.3	35
NEW JERSEY																																
ATLANTIC CITY	18	1016.3	1019.0	28.9	18.9	23.8	1.1	33.3	29+	11.1	19	5	0	18.9	76	44	- 72	15	8	4	0	0	3.3	S	8.0*	NE	1	8	5	18	6.5	55
ATLANTIC CITY U	3			26.1	20.6	23.5	0.7	31.1	29	15.6	19	0	0			54	- 66	20	7				3.8		8.9*	S	21+					
NEWARK	3	1017.3	1018.7	28.9	20.0	24.3	1.5	33.9	31	14.4	14	8	0	18.3	72	107	1	36	9	4	0	0	3.6	SW	9.8*	WNW	12	9	11	11	5.6	
TRENTON U	17	1010.9		27.8	18.9	23.4	0.5	32.2	31+	12.8	14	3	0			104	- 13	41	9	2	0	0	3.1	S	10.3	NW	13	10	10	11	5.7	65
NEW MEXICO																																
ALBUQUERQUE	1618	852.0	1014.2	30.6	17.2	24.0	-0.9	36.7	7	13.3	31	11	0	11.1	50	43	8	20	11	10	0	0	3.5	N	16.1	S	14+	11	15	5	4.8	75
CLAYTON	1515	850.3		29.4	15.0	22.1	-0.7	34.4	9	11.7	30	5	0			66	15	26	13	10	0	0						8	12	11	5.6	
RATON	1944	812.1		26.7	12.8	19.7	0.0	31.1	7	8.9	31	0	0			129	66	24	16	19	0	0						6	13	12	6.4	
ROSWELL	1101	895.7		33.9	16.1	24.9	-0.7	39.4	7	11.1	29	26	0	12.8	53	35	- 2	22	7	6	0	0	3.6		15.6	NW	31	9	13	9	5.2	
SILVER CITY	1638	836.8		31.1	16.7	23.9		38.3	8	13.9	28	13	0			51		18	12	18	0	0						10	13	8	5.1	
NEW YORK																																
ALBANY	84	1013.8	1017.9	26.7	15.6	20.9	0.1	32.2	9	7.8	17+	1	0	16.1	76	121	47	83	10	5	0	0	3.0	S	10.3	SW	13	5	8	18	6.7	68

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

AUGUST 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
NEW YORK																																
BINGHAMTON	485	959.8	1018.6	23.9	15.0	19.4	0.2	28.9	31	7.8	17	0	0	15.6	82	124	31	45	13	5	0	0	3.2	SSW	10.7	SW	11	2	13	16	6.9	57
BUFFALO	215	990.4	1018.5	25.6	16.1	20.9	0.4	28.9	10+	7.8	17	0	0	16.7	80	102	38	44	15	11	0	0	3.4	SW	15.2	SW	6	3	16	12	6.5	61
NEW YORK U	40	1007.0		28.9	20.6	24.7	1.2	33.9	10	13.9	14	6	0	18.9	74	80	- 32	27	10	1	0	0	3.2	SW	10.3	NE	21	8	12	11	5.5	57
NEW YORK	6	1016.5	1018.6	27.8	20.6	24.1	0.5	32.2	31	15.6	14	1	0	17.2	70	86	- 23	37	8	2	0	0	4.8	SSW	14.3	W	10	10	10	11	5.8	
ROCHESTER	166	998.6	1018.0	26.1	16.1	21.1	0.6	31.7	31	8.3	17	0	0	16.1	76	78	15	19	12	7	0	0	4.3	SW	16.1	W	15	5	15	11	6.3	52
SCHENECTADY	66			26.1	15.6	20.8	-0.6	30.6	15+	8.9	17	0	0			93	10	63	10	4	0	0						15	9	7	4.4	
SYRACUSE	129	996.0	1017.9	26.1	16.1	21.3	0.1	31.1	9	8.9	17	0	0	15.6	73	45	- 33	23	10	6	0	0	3.8	WSW	13.9	S	2	4	13	14	6.7	56
NORTH CAROLINA																																
ASHEVILLE U	671	941.2		27.8	16.7	22.2	-0.4	32.2	1	12.8	21+	1	0			207	116	77	17	14	0	0	2.2		10.3	W	2	1	19	11	6.7	52
CAPE HATTERAS R	2	1017.7	1018.6	28.9	22.2	25.7	-0.1	31.1	10	14.4	17	0	0	22.2	82	211	63	75	14	12	0	0	4.9	SW	13.0	S	28+	11	6	14	5.9	64
CHARLOTTE	221	990.8	1018.7	30.0	20.0	24.9	-0.2	33.9	1	15.6	21	8	0	20.0	78	103	- 7	17	15	9	0	0	2.5	SW	14.8	SW	6	2	15	14	7.2	66
GREENSBORO	272	987.5	1019.2	29.4	18.9	24.1	-0.3	32.8	1	12.8	15	6	0	19.4	80	182	62	47	16	12	0	0	2.9	SW	13.0	NNW	5	4	13	14	6.8	64
RALEIGH	132	1004.7	1018.6	30.0	19.4	24.8	-0.3	33.3	12+	12.8	15	9	0	20.0	80	166	40	48	13	11	0	0	2.7	SSW	10.3*	WNW	20+	6	10	15	6.8	53
WILMINGTON	9	1015.8	1018.7	31.1	21.7	26.4	0.1	36.1	1	17.2	17	12	0	22.2	84	234	71	71	17	11	0	0	3.6	SW	12.5	SW	20	4	13	14	6.6	69
WINSTON SALEM	295	984.1	1019.2	29.4	19.4	24.2	-0.3	32.8	29+	13.9	15	5	0	18.3	75	113	9	38	17	13	0	0	3.1	ENE	13.9*	NNE	20	5	10	16	6.7	
NORTH DAKOTA																																
BISMARCK	502	956.0	1015.4	33.3	13.3	23.2	2.4	40.0	29+	5.0	12	20	0	7.2	40	11	- 27	6	7	8	0	0	4.4	SSE	15.2	N	30	13	11	7	4.7	81
DEVILS LAKE U	448	962.3		31.1	13.9	22.6	3.2	37.8	6	6.7	12	14	0			11	- 44	5	6	8	0	0	3.1	S#	10.7	SW	31+	18	6	7	4.0	78
FARGO	274	982.0	1016.0	31.7	14.4	23.1	2.4	37.2	29+	5.6	12	14	0	13.3	60	26	- 43	25	2	2	0	0	4.3	S	13.0	NW	11	14	11	6	4.4	84
WILLISTON U	572	948.4		31.7	16.1	23.8	3.8	37.2	5	10.6	11+	16	0			4	- 32	2	4	1	0	0	2.5	S#	8.5	W	21	9	18	4	4.9	82
OHIO																																
AKRON	369	981.1	1019.4	27.2	16.1	21.8	0.4	32.2	31	10.6	17	1	0	16.1	74	54	- 28	28	10	6	0	0	3.4	SW				11	9	11	5.6	
CINCINNATI OBS	232			29.4	17.8	23.6	-0.2	32.8	29	13.9	21+	4	0			49	- 37	18	9	7	0	0	1.7	W	7.6	W	2					61
CINCINNATI	169	996.1		30.0	19.4	24.7	0.2	33.3	31	15.0	14	10	0			69	- 17	29	8	6	0	0										
CLEVELAND	237	990.6	1018.4	27.2	16.1	21.6	-0.6	31.1	31+	9.4	18	0	0	17.2	78	109	42	69	10	5	0	0	3.8	S	13.0	W	5	10	11	11	5.6	60
COLUMBUS	247	989.3	1019.2	28.9	17.2	22.8	0.4	31.7	2	10.6	13	0	0	17.8	78	69	- 12	22	12	6	0	0	2.2	S	11.6	SW	10	7	12	12	5.8	57
COLUMBUS U	221			28.9	18.3	23.7	0.4	31.7	19+	12.8	13	0	0			90	13	33	10	8	0	0										
DAYTON	305	982.9	1019.0	27.8	17.2	22.7	-0.1	31.1	31+	12.2	13	0	0	16.7	73	80	8	49	9	6	0	0	3.0	SSW	14.3	W	5	11	9	11	5.4	64
MANSFIELD	395			26.7	16.1	21.6		31.1	31	11.1	13	0	0			81		24	10	8	0	0									5.9	
SANDUSKY U	184	996.5		28.3	17.8	23.0	0.3	32.8	31	12.8	18	5	0			69	- 2	29	10	8	0	0	3.1	SW	20.6	NW	19	14	13	4	4.3	79
TOLEDO	206	993.3	1018.8	27.2	14.4	21.0	-0.7	31.1	31+	6.7	18	0	0	17.2	82	51	- 17	27	8	4	0	0	3.1	SW	13.0	W	19	7	16	8	5.6	67
YOUNGSTOWN	359	976.4	1018.8	27.2	15.6	21.4	0.1	31.7	31	8.3	13	0	0	15.6	72	55	- 33	26	10	4	0	0	3.1	SW	9.4*	SW	10	6	13	12	5.9	
OKLAHOMA																																
OKLAHOMA CITY	390	974.4	1017.2	31.7	20.0	25.8	-2.0	37.2	3	12.8	24	15	0	19.4	73	74	10	22	9	7	0	0	4.7	SSE	24.1	NW	6	10	10	11	5.6	71
TULSA	198	993.0	1017.3	30.6	19.4	25.2	-2.6	35.6	10+	12.8	24	16	0	20.0	76	80	- 2	69	6	3	0	0	3.7	SSE	10.3*	NNE	13	12	10	9	5.2	70
OREGON																																
ASTORIA	2	1017.6	1018.3	20.6	12.2	16.3	-0.3	27.2	10	8.3	21	0	0	13.3	85	33	- 4	27	9	0	0	0	3.5	W	12.5*	SW	31	4	12	15	6.8	
BURNS U	1265	875.0		31.1	12.2	21.6	2.1	39.4	4	5.0	26	11	0	5.0	36	3	- 4	2	5	6	0	0						9	14	8	5.1	
EUGENE	110	1003.4		28.9	11.7	20.3	1.4	36.1	21	5.6	25	9	0			9	- 1	12	2	0	0	0	4.0		14.3*	W	19	15	7	9	4.3	
MEACHAM	1234			27.8	13.9	20.7	3.7	40.6	4	8.9	27+	6	0			35	22	26	7	4	0	0						13	11	7	4.4	
MEDFORD	396	968.5	1015.7	34.4	13.3	23.9	2.2	41.1	3	10.0	25+	24	0	10.6	49	4	- 1	2	3	3	0	0	2.5	WNW	10.3*	SSW	12	16	11	4	3.7	
PENDLETON	452	961.7	1014.5	33.3	16.7	24.9	2.3	45.0	4	11.1	25+	19	0	6.1	34	2	- 6	1	3	1	0	0	4.0	SE	17.9*	W	14	17	7	7	4.0	
PORTLAND	6	1010.8	1016.4	28.3	14.4	21.3	1.7	36.7	11+	10.6	25	6	0	13.3	66	27	12	13	4	4	0	0	3.6	NW	13.0	SW	31	13	9	9	5.0	66
PORTLAND U	9			28.9	16.1	22.3	2.1	37.8	11	12.2	25	7	0			25	9	19	4		0	0										
ROSEBURG	154	998.0		31.7	12.8	22.2	2.8	37.8	21+	10.0	29+	14	0			1	- 8	1	1	2	0	0	2.4	N#	8.5	SW	13	15	11	5	3.9	78
SALEM	59	1009.1	1016.6	30.0	11.7	20.7	1.3	37.8	10	7.2	25	11	0	12.2	64	7	- 5	4	3	3	0	0	2.3	N	9.4*	SSE	31	15	7	9	4.4	
SEXTON SUMMIT R	1169	886.6		26.1	13.3	19.6	2.0	32.8	3	6.7	24	2	0			7	- 1	5	4	1	0	0	4.6	N				20	7	4	2.8	
PACIFIC AREA																																
CANTON ISLAND	2	1009.2	1009.6	31.7	25.6	28.7	-0.3	32.2	25+	23.9	18+	9	0	22.8	73	39	- 22	11	11	0	0	0	7.1	E	16.5*	E	1	14	8	9	5.1	
ENIWETOK	4	1008.8		31.1	25.6	28.4		32.2	25+	23.3	10	2	0	24.4	78	162		54	18	1	0	0	5.7									
JOHNSTON	2	1012.5		28.3	23.9	26.3		29.4	7	22.2	24	0	0	23.3	80	86		46	17	0	0	0	8.4		15.2	E	18	0	18	13	6.6	70
KOROR R	29	1006.1	1008.8	30.0	24.4	27.2	0.1	31.7	29+	22.8	30+	0	0	23.9	86	441	64	111	25	4	0	0	3.1	SW	8.5	N	27+	0	0	31	9.8	41
KWAJALEIN	2	1008.6	1009.5	30.0	25.0	27.4		31.1	30+	22.8	31+	0	0	23.9	81	269		61	25	1	0	0	4.1	ENE	13.4*	E	9	0	11	20	8.3	
MAJURO	3	1009.5	1009.7	30.0	25.0	27.4		31.1	5	22.2	31+	0	0	23.3	79	287		61	24	4	0	0	3.9	ENE	14.3	E	1	1	6	24	8.8	62
PONAPE R	37	1004.4	1009.0	30.6	22.8	26.7	0.1	32.2	30	22.2	25+	1	0	23.9	89	445	55	67	29	3	0	0	1.4	ESE	10.3	E	7	0	2	29	9.4	49
TAGUAC GUAM R	110			29.4	22.2	25.7	-0.6	31.1	28+	20.0	2+	0	0			422	54	67	29	10	0	0	1.7	SE#	7.2	SE	18+					24

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days: Partly cloudy, 4-7	No. of days: Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
PACIFIC AREA	M.	Mb.	Mb.	C.	C.	C.	C.	C		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm	M p.s		M.p.s.							%
TRUK MOEN ISLAND	2	1008.5	1008.8	30.0	23.9	27.1	0.2	31.7	31	22.8	24	0	0	24.4	87	454	134	89	26	2	0	0	2.0	S	9.8	SW	18+	0	3	28	9.5	85
WAKE ISLAND	3	1012.5	1012.9	31.1	25.0	27.9	-0.2	32.2	12+	21.1	21	4	0	23.9	79	205	- 21	52	19	0	0	0	6.2	E	20.6*	SE	22	4	6	21	7.6	
YAP R	17	1006.8	1007.9	30.0	23.3	26.8	-0.7	31.1	29+	22.2	21+	0	0	24.4	88	438	34	73	26	2	0	0	2.9	SW	10.3	W	14	0	0	31	10.0	38
PENNSYLVANIA																																
ALLENTOWN	115	1004.9	1019.1	27.2	17.2	22.2	0.1	32.8	31	10.0	14	1	0	17.2	77	69	- 45	23	10	3	0	0	3.2	SW	13.0*		10	10	12	9	5.4	
ERIE	223	992.0	1018.1	25.6	17.2	21.3	0.8	31.1	10	10.0	17	0	0	16.7	75	79	16	16	14	11	0	0	4.9	S	12.5*		15	7	14	10	5.7	
HARRISBURG	102	1004.9	1018.7	28.3	17.8	23.1	0.3	32.8	31+	8.3	14	4	0	17.2	73	139	55	60	9	4	0	0	3.1	W	8.0	SW	25	9	8	14	6.2	69
PHILADELPHIA	2	1013.5	1018.4	27.8	18.3	23.1	-0.3	32.8	9	10.6	14	1	0	17.2	71	87	- 29	37	9	4	0	0	3.3	WSW	8.5	NE	21	8	6	17	6.2	67
PHILADELPHIA U	11			28.9	20.6	24.7	0.7	33.9	31+	15.6	20	8	0																			
PITTSBURGH	351	989.0	1019.5	27.8	15.6	21.8	0.6	35.0	31	10.6	30	1	0	16.7	77	54	- 26	24	8	6	0	0	2.8	SW	10.3*	WSW	19	5	13	13	6.3	67
PITTSBURGH U	228			28.3	18.9	23.7	0.8	33.3	31	13.9	14	1	0			67	- 12	20	9		0	0										46
READING U	81	1006.2		28.3	18.9	23.6	0.6	32.8	31	12.8	14	2	0			65	- 34	21	11	6	0	0	3.4		12.5	N	13	8	10	13	6.0	65
SCRANTON	287	984.8	1019.1	26.7	16.7	21.7	0.6	30.6	31+	9.4	17	0	0	16.1	73	101	- 3	59	9	3	0	0	3.0	WSW	9.4	SW	10	8	11	12	5.8	57
WILLIAMSPORT	161	999.7	1018.9	27.8	16.1	21.8	0.2	32.8	31	9.4	14	1	0	16.7	77	94	2	33	10	3	0	0	2.4	W	11.2*	W	3	5	14	12	6.3	
RHODE ISLAND																																
BLOCK ISLAND	34	1013.8	1018.1	23.9	17.8	20.7	0.2	27.8	12	11.7	14	0	0			103	15	48	10	5	0	0						5	11	15	6.9	
PROVIDENCE	17	1012.0	1018.2	26.7	16.7	21.7	0.9	31.7	11+	10.0	14	0	0	16.7	76	98	6	30	9	2	0	0	4.3	S	12.5*	S	15	8	11	12	6.3	56
SOUTH CAROLINA																																
CHARLESTON	12	1016.2	1018.4	30.6	21.7	26.1	-0.3	34.4	1	16.7	21	10	0	22.2	85	154	- 14	35	19	13	0	0	3.1	S	16.1	SW	20	3	13	15	7.0	70
CHARLESTON U	3			29.4	23.3	26.5	-0.7	34.4	1	18.9	21	4	0			298	132	161	19		0	0	4.0		17.9	NE	13					
COLUMBIA	66	1005.0	1018.3	31.1	20.6	25.9	-0.8	36.7	1	14.4	17	16	0	21.1	80	379	239	103	18	12	0	0	2.3	NE	19.7	SSE	3	3	11	17	7.3	44
FLORENCE	45	1012.2	1018.1	31.1	20.6	25.9	-0.3	35.0	12+	16.7	21+	12	0	22.2	85	121	- 1	32	15	12	0	0	3.1	SSW	10.3*	ENE	18	4	16	11	6.4	
GREENVILLE	310	981.7	1018.6	30.0	20.0	24.9	-0.2	35.0	2+	15.6	21	7	0	20.0	80	215	93	55	12	10	0	0	2.9	NE	11.6	W	8	2	11	18	7.4	47
SPARTANBURG	244	989.3	1019.0	30.0	19.4	24.6	-0.8	35.0	1	14.4	21	8	0	19.4	78	249	130	105	14	11	0	0	2.3	NNE	30.8*	NE	1	3	12	16	7.1	
SOUTH DAKOTA																																
HURON	391	969.3	1015.8	32.8	15.0	24.1	1.3	38.3	29	8.3	12	20	0	15.6	64	15	- 35	14	5	4	0	0	3.9	S	16.1	S	30	12	14	5	4.5	88
RAPID CITY	965	903.8	1015.4	33.3	16.7	25.1	3.5	40.0	6	11.7	11	21	0	8.3	38	11	- 29	9	3	4	0	0	4.5	S	15.2	NW	9	15	11	5	4.1	72
SIOUX FALLS	433	965.7	1016.5	30.6	16.1	23.3	0.9	36.7	4	10.6	22	11	0	15.0	65	45	- 38	18	8	8	0	0	3.8	S	12.1*	ENE	21	13	12	6	4.4	
TENNESSEE																																
BRISTOL	459	965.4	1019.0	28.9	17.8	23.4	0.3	32.8	2	12.2	15	3	0	18.3	81	118	20	50	13	10	0	0	1.9	NE	10.7*	SSW	23	3	15	13	6.7	
CHATTANOOGA	204	991.1	1018.5	31.1	20.0	25.6	0.4	35.0	30+	15.0	16	13	0	20.6	80	90	- 4	45	12	10	0	0	1.9	NE	12.1	NW	12	6	12	13	6.6	55
KNOXVILLE	290	984.0	1019.2	28.9	17.8	23.4	-1.6	32.2	1	14.4	23	1	0	18.9	81	77	- 10	23	12	7	0	0	2.8	NE	22.4	S	22	4	12	15	7.0	40
MEMPHIS	80	1003.0	1017.6	30.6	20.6	25.4	-1.4	34.4	2	13.9	21	13	0	19.4	72	43	- 31	19	8	5	0	0	2.7	E	14.3	NW	5	7	14	10	5.9	72
MEMPHIS U	83			30.0	21.1	25.6	-1.3	33.9	30+	14.4	21	11	0			33	- 31	20	7													
NASHVILLE	176	998.1	1018.1	30.6	18.9	24.7	-1.3	33.9	30+	14.4	22	13	0	18.9	75	67	- 18	17	7	9	0	0	2.3	S	10.3	SSE	31	6	12	13	6.5	56
OAK RIDGE	276	986.7		29.4	18.3	23.9	-0.1	32.8	1	15.6	23+	2	0			102	- 1	24	12	10	0	0	1.2		16.5Y		23	9	9	13	5.8	
TEXAS																																
ABILENE	536	959.1	1015.9	33.3	19.4	26.5	-1.7	36.1	4+	12.8	24	26	0	16.7	58	36	8	15	7	4	0	0	3.3	SSE	12.1	NE	6	13	15	3	4.1	81
AMARILLO	1099	892.6	1015.4	32.2	17.8	25.1	0.3	36.1	10	11.7	23	15	0	13.9	55	80	4	59	7	5	0	0	5.1	S	15.6	NE	16	11	14	6	5.1	84
AUSTIN	182	995.0	1016.5	33.9	21.7	27.7	-1.5	38.3	4	17.8	24+	27	0	19.4	65	10	- 32	5	4	5	0	0	2.8	SSE	15.2	NW	4	8	19	4	5.0	79
BROWNSVILLE	5	1013.1	1015.6	33.3	22.8	28.3	-0.7	36.1	31+	20.6	28+	26	0	22.2	76	79	17	36	10	7	0	0	4.1	ESE	15.6	E	8	14	9	8	4.9	74
CORPUS CHRISTI	13	1015.0	1016.2	33.3	22.8	28.3	-0.6	36.7	4	20.0	26+	27	0	21.7	71	84	31	39	8	5	0	0	3.7	ESE	11.2	SE	8	8	16	7	5.2	72
DALLAS	147	998.2	1016.7	34.4	22.2	28.4	-1.5	37.8	3	16.1	24	29	0	18.3	59	5	- 42	2	5	3	0	0	4.2	S	12.1	N	22	14	10	7	4.5	77
DEL RIO U	292			35.0	22.2	28.4	-1.1	38.3	4	18.9	27+	30	0			75	39	67	4	8	0	0										
EL PASO	1194	887.9	1013.3	33.9	20.0	26.9	0.4	38.3	10+	17.2	21	25	0	12.2	44	36	2	17	10	11	0	0	3.0	SE	17.9	SE	1	10	16	5	4.8	76
FORT WORTH	166	995.8	1016.4	35.0	21.7	28.2	-1.5	37.8	4+	15.6	24	28	0	18.3	59	1	- 47	1	1	2	0	0	4.6	S	14.3*	ESE	7	14	10	7	4.4	
GALVESTON U	2			30.0	24.4	27.1	-1.6	32.8	6	21.7	28+	2	0			114	24	37	11		0	0	4.3		18.3	NE	6					72
GALVESTON	2	1014.6	1016.8	30.6	24.4	27.3	-1.4	33.3	6+	21.1	28+	4	0	21.1	69	136	44	59	10	10	0	0	3.6	SE				9	12	10	5.6	
HOUSTON U	12			32.8	23.3	28.1	-0.9	36.1	3	20.0	27+	22	0			82	4	30	17		0	0										
HOUSTON	15	1014.1	1016.8	32.8	22.8	27.9	-0.4	35.6	3	18.9	24	25	0	22.2	76	106	1	32	11	14	0	0	2.9	ESE				5	16	10	6.1	65
LAREDO	152	999.8	1015.0	37.2	23.9	30.3	-0.7	40.0	4	21.1	27	31	0	18.3	56	28	- 5	22	5	1	0	0	4.7	SE	14.3*	SSE	1	13	12	6	4.7	
LUBBOCK	988	906.9	1016.5	31.7	17.2	24.4	-1.3	34.4	7	12.8	23	17	0	15.0	59	45	- 0	19	5	5	0	0	5.3	SSE	14.8*	S	31	9	19	3	4.5	
MIDLAND	870	917.8	1015.1	32.8	18.9	25.7	-1.7	35.6	4	15.6	29+	25	0	14.4	52	5	37	5	3	2	0	0	4.2	SE	10.3*	SSW	31	12	15	4	4.5	
PORT ARTHUR	5	1015.1	1016.5	32.2	21.7	27.0	-0.7	35.6	3	18.9	24	20	0	22.2	81	99	- 31	25	17	15	0	0	3.1	NE	17.0	NE	26+	2	19	10	6.4	50
SAN ANGELO	580	949.5	1015.6	34.4	19.4	26.9	-1.6	36.7	31+	19.8	24	30	0	16.1	55	26	- 14	15	6	5	0	0	4.2	S	15.6*	ENE	17	16	15	0	3.6	
SAN ANTONIO	241	991.6	1016.2	33.9	22.2	28.1	-1.1	37.8	4	16.7	24	30	0	19.4	64	4	- 46	3	3	4	0	0	3.4	SSE	11.2	SSE	4	10	18	3	4.6	77
VICTORIA	32	1011.8		33.3	22.2	27.6		36.1	4	17.8	24	25	0			56		26	9	8	0	0	2.2		17.4Y	N	4	7	20	4	5.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

AUGUST 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
TEXAS	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s.							%
WACO	152	998.1	1016.4	33.9	21.7	27.9	-1.8	38.3	4	17.2	24	26	0	19.4	64	23	- 12	14	2	4	0	0	4.6	SSE	21.9*	NNW	4	14	14	3	4.5	
WICHITA FALLS	303	979.8	1015.9	35.0	20.6	27.8	-1.2	38.9	5+	13.9	24	26	0	17.2	58	40	- 12	32	5	5	0	0	4.6	SE	15.6*	NNE	6	14	11	6	4.2	
UTAH																																
MILFORD	1533	848.0		32.2	13.3	22.7	0.7	36.1	9	7.8	27	20	0			21	1	8	12	22	0	0						10	11	10	5.4	
SALT LAKE CITY	1286	870.3	1015.0	33.3	17.8	25.4	1.9	37.2	19+	13.3	14	23	0	11.1	46	30	6	17	8	8	0	0	4.2	S	21.9	W	6	12	13	6	5.1	71
WENDOVER	1291	872.7		32.2	19.4	26.0		36.1	2	15.6	31	18	0			18		13	6	11	0	0						13	13	5	4.5	
VERMONT																																
BURLINGTON	101	999.4	1017.2	25.6	13.3	19.3	-0.7	32.8	10	5.6	17	1	0	15.0	79	82	6	21	13	4	0	0	2.8	SSW	12.1	N	12	6	11	14	6.6	55
VIRGINIA																																
LYNCHBURG	289	994.6		28.9	18.9	23.8	0.4	32.2	29+	13.9	15	2	0			105	- 6	30	12	7	0	0	3.0		13.4	SW	7	5	12	14	6.5	60
NORFOLK	8	1017.7	1019.1	29.4	21.1	25.4	0.7	34.4	12	14.4	16	8	0	21.1	81	188	59	113	12	6	0	0	3.6	SW	15.2	W	3	6	14	11	6.2	60
RICHMOND	49	1013.3	1019.5	30.6	19.4	25.1	0.7	35.6	12	12.8	15	12	0	20.0	80	99	- 29	43	11	5	0	0	3.1	SW	8.5	SW	10	8	6	17	6.5	55
ROANOKE	358	977.7	1019.5	30.0	18.3	24.2	0.7	34.4	1	13.3	15+	9	0	17.8	74	137	22	47	15	9	0	0	2.5	SE				5	13	13	6.5	
WASHINGTON																																
OLYMPIA	58	1010.5	1017.6	28.3	10.0	18.9	1.8	35.6	11	6.1	28+	5	0	11.7	68	26	9	19	5	2	0	0	2.8	SW	10.3*	WSW	14	11	9	11	5.1	
SEATTLE TACOMA	122	1003.1	1017.2	26.7	13.3	20.2	2.7	33.9	11	10.6	25	1	0	11.7	64	21	- 2	14	4	0	0	0	3.8	N	10.3*	SW	31	12	10	9	4.9	
SEATTLE	4		1017.1											12.3	66								3.2	NW								
SEATTLE U	4			26.7	15.0	20.7	2.3	33.3	11	12.8	1	1	0			14	- 8	13	3		0	0			14.8	S	31					60
SPOKANE	718	946.8	1015.0	32.2	14.4	23.3	3.4	42.2	4	10.6	28	15	0	6.7	39	8	- 5	3	7	3	0	0	3.0	NE	15.2	SW	31	15	8	8	4.5	76
STAMPEDE PASS R	1206	882.8		22.2	11.1	16.6	2.9	30.0	4	3.9	31	0	0			37	- 16	27	6	2	0	0						14	7	10	4.5	
TATOOSH ISLAND	31	1015.6	1018.4	16.1	11.7	13.7	0.6	19.4	11	8.9	10	0	0	12.2	92	68	17	54	11	0	0	0	5.1	S	26.4	SW	31	6	7	18	7.1	39
WALLA WALLA U	289	978.0		33.3	18.9	26.2	2.7	45.0	4	14.4	31+	18	0			10	1	12	3	4	0	0	2.2	W#	10.7	W	31	18	7	6	4.2	84
YAKIMA	323	976.0	1014.4	33.3	12.8	23.1	2.3	42.2	4	6.1	25	20	0	9.4	46	6	0	5	3	1	0	0	3.7	WNW	13.0*	WSW	8	14	11	6	3.8	
WEST INDIES																																
SAN JUAN P.R. U	14			29.4	24.4	26.9	-0.1	30.6	24	22.8	29	0	0			167	8	73	19	7	0	0										
SAN JUAN P.R.	5	1013.4	1016.4	31.1	23.9	27.6	0.7	33.3	30	22.2	29	10	0	22.8	80	132	- 59	54	21	8	0	0	3.1	ENE	9.4	SE	24+	2	16	13	6.5	59
SWAN ISLAND	9	1012.9		31.7	25.6	28.6	0.4	32.2	19+	22.8	7	7	0			47	- 70	14	11	6	0	0						1	16	14	7.1	
WEST VIRGINIA																																
CHARLESTON	286	984.1	1019.4	28.9	17.8	23.2	0.1	33.3	31	12.8	14	1	0	18.3	78	30	- 85	10	13	7	0	0	1.3	WSW	7.2*	WSW	11	1	18	12	6.8	
HUNTINGTON U	173			30.0	18.3	24.1	-0.1	34.4	31	13.3	14	7	0			82	- 3	30	13		0	0										
PARKERSBURG U	189			30.0	17.8	23.7	0.4	33.3	31	12.2	14	4	0			94	- 12	41	8	6	0	0	1.8		10.7	W	11+					62
WISCONSIN																																
GREEN BAY	210	994.9	1017.7	26.7	13.3	20.1	0.2	32.8	30	8.3	23+	2	0	15.0	73	72	- 5	45	10	5	0	0	4.0	SW	13.4	SW	14	14	11	6	4.5	70
LA CROSSE	199	992.7		28.3	17.2	22.8	0.9	33.9	30	11.1	6	5	0	17.2	75	35	- 48	16	3	4	0	0	3.4	S	13.4*	NW	4	10	16	5	4.8	
MADISON	262	982.8	1017.8	27.8	13.9	20.8	-0.7	33.9	30	7.2	23+	2	0	16.7	78	45	- 28	20	8	4	0	0	3.2	SW	14.3	S	9	11	14	6	4.7	73
MILWAUKEE	204	993.9	1018.8	27.2	15.6	21.3	0.2	34.4	30	8.9	13	3	0	16.1	75	60	- 7	29	9	4	0	0	3.6	SSW	13.[illegible]	NW	5+	11	11	9	4.7	66
WYOMING																																
CASPER	1621	841.5	1014.6	30.6	14.4	22.3	1.8	35.6	6	10.0	11	9	0	5.6	39	2	- 20	1	5	6	0	0	4.5	WSW	14.3*	WSW	31	12	10	9	4.7	
CHEYENNE	1869	817.8	1017.6	27.2	12.8	20.1	0.7	34.4	6	9.4	22+	2	0	7.3	53	79	38	50	9	9	0	0	4.8	WNW	16.1	NW	8	11	9	11	5.3	66
LANDER	1696	839.5		30.0	13.9	22.0	1.8	36.7	5	8.9	31	9	0	6.7	41	11	- 5	8	5	7	0	0	2.8	SW*	20.1	SW	6	13	11	7	4.8	81
SHERIDAN	1202	887.2	1011.6	32.2	13.3	22.8	2.5	38.9	5	8.9	11+	18	0	7.2	38	4	- 17	2	4	6	0	0	3.0	NW	17.9	W	8	15	10	6	4.2	76

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

A Maximum hourly average.

\+ And also on an earlier date or dates.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

B Number of days maximum 21.1 C. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

Data in this table is obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

AUGUST 1961

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	0	0	0
Huntsville	0	0	
Mobile	0	0	0
Montgomery	0	0	0
ALASKA			
Anchorage	318	539	530
Annette	146	262	479
Barrow	911	1716	1609
Barter Island	825	1577	
Bethel	396	817	707
Cold Bay	442	912	865
Cordova	421	790	723
Fairbanks	294	473	445
Juneau	339	601	654
King Salmon	399	784	644
Kotzebue	378	798	827
McGrath	389	700	563
Nome	498	1034	970
St. Paul	562	1180	1119
Shemya	520	1145	
Yakutat	368	728	759
ARIZONA			
Flagstaff	50	71	127
Phoenix (U)	0	[illegible]	0
Phoenix	0	0	0
Prescott	1	1	0
Tucson	0	[illegible]	0
Winslow	0	0	0
Yuma	0	0	0
ARKANSAS			
Ft. Smith	[illegible]	0	0
Little Rock	0	0	0
Texarkana	0	0	0
CALIFORNIA			
Bakersfield	0	0	0
Bishop	0	0	0
Blue Canyon	10	42	77
Burbank	0	0	0
Eureka (U)	234	484	515
Fresno	0	[illegible]	[illegible]
Long Beach	[illegible]	0	
Los Angeles (U)	0	[illegible]	0
Los Angeles	0	0	53
Mt. Shasta (R)	11	35	83
Oakland	19	69	161
Point Arguello (R)	159	364	
Red Bluff	0	0	0
Sacramento (U)	[illegible]	0	0
Sacramento	0	0	0
Sandberg (R)	[illegible]	6	0
San Diego	0	0	18
San Francisco (U)	127	294	366
San Francisco	33	110	280
San Jose (U)	[illegible]	6	18
Santa Maria	38	97	192
COLORADO			
Alamosa	53	110	185
Colorado Springs	5	34	29
Denver	0	14	16
Grand Junction	0	0	0
Pueblo	0	4	0
CONNECTICUT			
Bridgeport	3	4	0
Hartford	8	13	14
Middletown	1	5	
New Haven	1	1	18
DELAWARE			
Wilmington	0	0	0
DIST. OF COLUMBIA			
Washington (U)	0	0	0
Washington	0	0	0
FLORIDA			
Apalachicola (U)	0	0	0
Daytona Beach	0	0	0
Fort Myers	0	0	0
Jacksonville	0	0	0
Key West	[illegible]	[illegible]	0
Lakeland (U)	0	0	0
Miami	0	0	0
Miami Beach	0	0	0
Orlando	0	0	0
Pensacola (U)	0	0	0
Tallahassee	0	[illegible]	0
Tampa	0	0	0
West Palm Beach	0	0	0
GEORGIA			
Athens	0	0	0
Atlanta	0	0	0
Augusta	0	0	0
Columbus	0	0	0
Macon	0	0	0
Rome	0	0	0
Savannah	0	0	0
Thomasville (U)	[illegible]	0	0
IDAHO			
Boise	0	0	0
Idaho Falls 46W (R)	4	12	87
IDAHO (Cont'd.)			
Idaho Falls 42NW(R)	14	24	113
Lewiston	0	0	0
Pocatello	0	2	0
ILLINOIS			
Cairo (U)	0	0	0
Chicago (Midway)	2	5	0
Chicago (O'Hare)	11	26	
Moline	0	1	8
Peoria	5	7	11
Rockford	3	12	
Springfield	4	4	6
INDIANA			
Evansville	1	1	0
Ft. Wayne	1	3	17
Indianapolis	3	3	0
South Bend	5	12	18
IOWA			
Burlington	0	0	0
Des Moines	0	0	17
Dubuque	1	11	36
Sioux City	6	6	25
Waterloo	3	3	21
KANSAS			
Concordia (U)	0	0	0
Dodge City	1	1	0
Goodland	0	0	0
Topeka	5	5	8
Wichita	[illegible]	2	0
KENTUCKY			
Lexington	0	0	0
Louisville	0	0	0
LOUISIANA			
Alexandria	0	0	
Baton Rouge	0	0	0
Lake Charles	0	0	0
New Orleans (U)	0	0	0
New Orleans	0	0	0
Shreveport	0	0	[illegible]
MAINE			
Caribou	104	165	218
Greenville (U)	78	168	
Portland	47	113	71
MARYLAND			
Baltimore (U)	0	0	0
Baltimore	0	0	0
Frederick	2	3	0
MASSACHUSETTS			
Blue Hill Obs. (R)	20	32	
Boston	3	9	7
Nantucket	9	30	56
Pittsfield	49	87	88
Worcester	29	53	
MICHIGAN			
Alpena	88	143	135
Detroit (City AP)	[illegible]	6	8
Detroit (M. Wayne Co.)	5	[illegible]	
Detroit (Willow Run)	3	5	10
Escanaba (U)	38	69	157
Flint	21	45	42
Grand Rapids	14	18	43
Lansing	26	43	
Marquette (U)	41	96	156
Muskegon	8	18	74
S. Ste. Marie	65	131	235
MINNESOTA			
Duluth	32	90	147
Internat. Falls	49	79	188
Minneapolis	10	10	25
Rochester	11	15	62
St. Cloud	9	17	85
MISSISSIPPI			
Jackson	0	0	0
Meridian	0	0	0
Vicksburg (U)	0	0	0
MISSOURI			
Columbia	7	7	6
Kansas City	1	1	0
St. Joseph	0	0	5
St. Louis (RFC)	[illegible]	[illegible]	0
St. Louis	0	0	0
Springfield	4	4	8
MONTANA			
Billings	3	5	28
Butte	41	85	289
Glasgow	2	2	44
Great Falls	9	13	74
Havre	7	11	58
Helena	7	[illegible]	102
Kalispell	15	26	130
Miles City	3	3	17
Missoula	10	16	79
NEBRASKA			
Grand Island	0	0	6
Lincoln (U)	4	4	7
Norfolk	4	4	17
North Platte	0	0	18
Omaha	4	4	5
Omaha N. Omaha AP	6	6	
Scottsbluff	0	1	0
Valentine	0	0	21
NEVADA			
Elko	2	2	34
Ely	19	25	66
Las Vegas	0	0	0
Reno	7	16	88
Tonopah	1	1	5
Winnemucca	0	3	17
NEW HAMPSHIRE			
Concord	25	46	68
Mt. Washington Obs. (R)	502	1005	
NEW JERSEY			
Atlantic City	0	0	
Atlantic City (U)	0	0	0
Newark	0	0	0
Trenton (U)	0	0	0
NEW MEXICO			
Albuquerque	0	0	0
Clayton	0	2	0
Raton	3	12	53
Roswell	0	0	0
Silver City	0	0	
NEW YORK			
Albany	18	29	24
Binghamton	37	75	79
Buffalo	17	47	46
New York (U)	0	0	0
New York (LaGuardia)	0	0	0
Rochester	21	49	43
Schenectady	15	24	19
Syracuse	13	27	29
NORTH CAROLINA			
Asheville (U)	0	2	0
Cape Hatteras (R)	0	0	0
Charlotte	0	0	0
Greensboro	2	2	[illegible]
Raleigh	0	0	0
Wilmington	0	[illegible]	0
Winston-Salem	2	2	0
NORTH DAKOTA			
Bismarck	3	14	66
Devils Lake (U)	9	27	108
Fargo	9	11	66
Grand Forks CAA	6	19	
Pembina	8	32	
Williston (U)	7	15	71
OHIO			
Akron	3	17	17
Cincinnati (U)	0	0	0
Cincinnati	0	0	6
Cincinnati Obs.	0	0	0
Cleveland	3	22	10
Columbus	2	4	8
Columbus (U)	0	0	0
Dayton	2	2	5
Mansfield	4	19	
Sandusky (U)	0	1	0
Toledo	12	39	12
Youngstown	7	25	19
OKLAHOMA			
Oklahoma City	0	0	0
Tulsa	0	0	0
OREGON			
Astoria	110	215	249
Burns (U)	10	19	47
Eugene	12	47	67
Meacham	32	80	190
Medford	1	10	0
Pendleton	0	0	0
Portland (U)	3	11	27
Portland	4	15	47
Roseburg	4	25	53
Salem	9	35	44
Sexton Summit (R)	50	134	157
PENNSYLVANIA			
Allentown	1	1	9
Erie	10	33	40
Harrisburg	2	2	0
Philadelphia (U)	0	0	0
Philadelphia	0	0	0
Pittsburgh (U)	0	6	0
Pittsburgh	2	19	20
Reading (U)	0	0	5
Scranton	7	10	18
Williamsport	5	5	16
RHODE ISLAND			
Block Island	4	11	27
RHODE ISLAND (Cont'd.)			
Providence	6	6	26
SOUTH CAROLINA			
Charleston (U)	0	0	0
Charleston	0	0	0
Columbia	0	0	0
Florence	0	0	0
Greenville	0	0	0
Spartanburg	0	0	0
SOUTH DAKOTA			
Huron	2	2	26
Pierre	2	2	
Rapid City	0	2	56
Sioux Falls	5	5	37
TENNESSEE			
Bristol	0	2	0
Chattanooga	0	0	0
Knoxville	0	0	0
Memphis (U)	0	0	0
Memphis	0	0	0
Nashville	0	0	0
Oak Ridge	0	0	0
TEXAS			
Abilene	0	0	0
Amarillo	0	0	0
Austin	0	0	0
Brownsville	0	0	0
Corpus Christi	0	0	0
Dallas	0	0	0
Del Rio (U)	0	0	
El Paso	0	0	0
Ft. Worth	0	0	0
Galveston (U)	0	0	0
Galveston	0	0	0
Houston (U)	0	0	0
Houston	0	0	0
Laredo	0	0	0
Lubbock	0	0	0
Midland	0	0	0
Port Arthur	0	0	0
San Angelo	0	0	0
San Antonio	0	0	0
Victoria	0	0	0
Waco	0	0	0
Wichita Falls	0	[illegible]	0
UTAH			
Milford	0	0	0
Salt Lake City	0	0	0
Wendover	0	0	
VERMONT			
Burlington	47	81	66
VIRGINIA			
Lynchburg	2	2	0
Norfolk	0	0	0
Richmond	0	0	0
Roanoke	0	0	0
WASHINGTON			
Olympia	19	81	174
Seattle (U)	2	18	94
Seattle	3	11	103
Seattle-Tacoma	8	31	145
Spokane	0	1	45
Stampede Pass (R)	153	378	511
Tatoosh Island (R)	251	486	583
Walla Walla	0	0	
Walla Walla (U)	0	0	0
Yakima	3	9	7
WEST VIRGINIA			
Charleston	0	3	0
Huntington (U)	0	[illegible]	0
Parkersburg (U)	0	0	0
WISCONSIN			
Green Bay	29	43	90
La Crosse	0	1	31
Madison	18	29	44
Milwaukee	9	27	52
WYOMING			
Casper	0	24	37
Cheyenne	8	25	72
Lander	0	13	30
Sheridan	5	14	68

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

AUGUST 1961

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								† DAMAGE				† DAMAGE				† DAMAGE				† DAMAGE				† DAMAGE				† DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	† DAMAGE	DEATHS	INJURIES	PROP. ERTY	CROPS	DEATHS	INJURIES	PROP. ERTY	CROPS	DEATHS	INJURIES	PROP. ERTY	CROPS	DEATHS	INJURIES	PROP. ERTY	CROPS	DEATHS	INJURIES	PROP. ERTY	CROPS	DEATHS	INJURIES	PROP. ERTY	CROPS
Alabama														1	2	0	0									0	0	5	1
Alaska *																													
Arizona						0	0	0	2	0	0	5	0	0	0	5	0									0	0	5	0
Arkansas						0	0	5	6	0	0	4	0																
California										0	0	4	4	0	0	4	0									0	0	4	4
Colorado	4	4	0	0	0	0	0	5	5	0	2	4	4													0	0	4	4
Connecticut						0	0	0	5	0	0	4	4	0	0	4	0												
Delaware *																													
Florida	2	2	0	0	4									1	3														
Georgia	1	1	0	1	4					0	0	4	0	0	1	6	0												
Hawaii *																													
Idaho								2	4			4	3		2	4													
Illinois	2	2	0	0	3	0	0	5	6	0	4	4	5	0	3	4	0									1	3	6	6
Indiana	3	2	0	0	4									2	0	0	0												
Iowa	2	2	0	0	5	0	0	5	5	0	0	5	5													2	0	5	5
Kansas	1	1	0	0	3									0	1														
Kentucky								2	6			4	2			4													
Louisiana						0	0	4	C	0	0	°4	C																
Maine						0	0	3	5	0	0	2	0	0	1	5	0												
Maryland *																													
Massachusetts										0	0	4	0	0	1	5	0									0	0	4	3
Michigan	1	1	0	0	0	0	0	4	6	1	0	5	4	0	14	5	0												
Minnesota	1	1	0	1	5	0	0	5	6																				
Mississippi														3	0	0	0												
Missouri						0	0	4	6	0	0	4	4	0	0	4													
Montana						0	0	3	4																				
Nebraska						0	0	4	5	0	0	5	5																
Nevada																										0	0	4	0
New Hampshire	1	1	0	0	3									0	0	4	0												
New Jersey *																													
New Mexico	1	1	0	0	0	0	0	3	4																	0	0	5	0
New York	2	2	0	0	4					1		4				5											3	5	
North Carolina	2	2	0	2	5	0	0	4	6	0	0	5	4	0	0	4	0									1	0	6	5
North Dakota						0	0	4	4	0	0	4	0	1	0	0	0												
Ohio	1	1	0	0	3																					0	0	°5	C
Oklahoma						0	0	4	5	1	1	5	4	2	2	4	0												
Oregon						0	0	5	5	0	0	4	4	1	5	5	5									0	0	5	4
Pennsylvania														1	1	4	0												
Puerto Rico																										5	25	6	5
Rhode Island *																													
South Carolina	1	1	0	0	3									1	1	4	0												
South Dakota								4	5			4	4			4													
Tennessee						0	0	3	6	0	0	4	0	3	3	4	0									0	0	6	?
Texas	2	2	0	3	4	0	0	3	0	1	7	6	0	2	3	5	0												
Utah																										0	0	4	1
Vermont														0	0	4	0												
U. S. Virgin Is. *																													
Virginia						0	0	?	5	0	0	°4	C	2	11	?	?									1	0	4	C
Washington												3	4																
West Virginia																											1	5	
Wisconsin	2	2	0	0	5	0	0	5	5	0	0	4	0																
Wyoming														0	1	0	0												

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
C Crop Damage.
° Includes crop damage.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

AUGUST 1961

The most important flooding in continental United States during August were the flash-floods in the Missouri and Ohio Basins and in the Great Basin. Two lives were lost in the flash-flood on the Little Sioux River in Iowa which resulted from an 11-inch rain. Heavy damage resulted to truck farming from the flood along the tributaries of the French Broad River in North Carolina. Flash floods were frequent throughout the Great Basin. Three deaths resulted from a flash-flood in the Tucson, Ariz., area.

Record floods occurred in portions of the Guamani, Bayamon, and La Plata River Basins in Puerto Rico on Sunday, August 27, from heavy rains associated with the passage of an easterly wave. Preliminary reports by the Soil Conservation Service indicate that about 35,000 c.f.s. passed the bridge over the Bayamon River on the 27th, compared to 12,800 c.f.s. during the floods associated with Hurricane Donna in 1960. In the middle La Plata Basin near Aibonito, a crest of 32.5 feet was reported, which was 2 feet higher than the 1960 flood. In the lower basin, however, at Toa Alta, the 1960 crest of 35.8 feet was 2.7 feet higher. This flood was more widespread than the flood of 1960, covering the eastern and central sections from the Rio Grande de Manati on the north coastal plain to the Tallaboa on the south. Every river and stream in eastern and central Puerto Rico was in flood in some portion of its basin. The warnings and alerts of the flood were timely and adequate and enabled the Civil Defense, Police, and local disaster relief groups to take appropriate action and evacuate the people from flooded rivers and streams in time to prevent disaster. Preliminary estimates indicate that the damages to agriculture, roads, bridges, livestock, and houses might equal or exceed the 1960 floods since the areas of flooding were twice those of 1960. There were four deaths. Nine thousand people were evacuated.

ATLANTIC SLOPE DRAINAGE

Heavy rainfall over southeastern New York caused flash flooding in small creeks on the 11th and 26th. Only minor damage was reported.

Minor flooding occurred on the lower Neuse River in eastern North Carolina between the 27th and 29th from the moderately heavy rain on the 26th. No damage resulted.

Light flooding occurred on the North Fork of the Edisto River at Orangeburg, S. C., from the 27th to the 30th due to heavy rain on the 26th. The rise was rapid, but the duration was short. The public park and boat landing on the left bank upstream from the gage was flooded to a depth of 1.5 feet in the lowest areas, with shallow flooding extending 50 to 75 feet into the park. No damage or loss reported.

The flooding on the Saluda River at Pelzer, S. C., from the 25th to the 27th was due to heavy thundershowers beginning on the 23d, with some amounts over 4 inches. Damage was not extensive. Only a small amount of lowland flooding occurred on the Congaree below Columbia, S. C.

Light flooding occurred on the Savannah River at Clyo, Ga., from July 25 to August 1, due to general moderate showers above Clark Hill Dam from the 11th to the 18th. The accumulated precipitation averaged 3.25 inches. Moderate rises, but not quite to flood stage, occurred during the last week of August and the first part of September in the Savannah and Ogeechee Rivers in Georgia. The accumulated amounts of rainfall during the last week of August was variable to an extreme, ranging from 1 inch at Edgefield, S. C., to 11.5 inches at Lake Toxaway, N. C., for an average of 4.5 inches over the Savannah Basin.

EAST GULF OF MEXICO DRAINAGE

Heavy thundershowers in the Montgomery, Ala., area during the night of the 30th and 31st caused considerable damage by flooding streets and residences in the city and by washouts in the surrounding area. Numerous highways were closed for periods of 1 to 3 days. At Montgomery the 65-year maximum 1-hour precipitation record of 3.81 inches, which occurred on July 20-21, 1899, was broken when 4.16 inches fell between 3:10 a.m. and 4:10 a.m. on August 31. For the 2-hour period 3:10 a.m. to 5:10 a.m. on the same date, 4.51 inches fell, breaking the former 2-hour record of 4.38 inches on November 9, 1927.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--The flooding on the Turkey River at Garber, Iowa, during the first 3 days of the month was due to heavy rains which began on July 30. The rainfall had accumulated to as much as 8 inches by August 1 in a small area near the headwaters. Damage was confined to farmland flooding, including crop damage amounting to several thousands of dollars.

Intense rainfall in central and southern Illinois on July 28 and 29 cuased the Kaskaskia and Sangamon Rivers to rise a little above bankfull during the latter part of July at Vandalia and Riverton, Ill., respectively. The Kaskaskia continued in flood until August 1 and the Sangamon until August 6. No damage of consequence resulted from the minor flooding.

Missouri Basin.--Heavy local rain during the night of the 8th-9th, north of Washta, Iowa, caused flash flooding on the Little Sioux River south of Washta. An unofficial amount of 11 inches of rain was reported between Quimby and Washta, Iowa. Shortly after midnight some railroad tracks and highway bridges were washed out. Two people drowned as their automobile was swept off a highway into a creek flowing into the Little Sioux River. The damage from flooding was confined mostly to isolated farmland and a few small highway bridges.

Moderate flooding occurred on the Solomon River in the Glasco, Kans., area on the 18th and 19th from rainfall of 7.15 inches. Overflow from Christ Creek and overtaxed drainage facilities resulted in surface water accumulations of 1 to 2 feet in some western and southern parts of the town. Extreme lowland flooding extended downstream to near Delphos, Kans. Locally heavy rains of 3 to over 4 inches were centered in the Jewell, Mitchell, Ottawa, and Cloud County portion of the Solomon Basin. A flash flood occurred along Spring Creek in the Solomon Basin north of Hill City, where public reports indicated rainfall of 4 to 5 inches on the night of the 12th-13th. Brief inundation of Highway 24 at Williamstown in the Kansas River Valley, 8 miles northwest of Lawrence, Kans., on the night of the 18th-19th resulted from a very local downpour on nearby bluffs. The flooding on the Saline River at Wakeeney, Kans., resulted from heavy

rain on the 17th and 18th. Eight-inch rains were reported in an area 5 to 6 miles northwest of the town. Flood losses were comparatively light since most of the damage was from surface erosion.

Ohio Basin. --Locally heavy thundershowers in the Rowlesburg, W. Va., area in the Cheat River Basin on the 11th resulted in flash flooding along Wolfe Creek and Salt Lick Creek in Preston County, W. Va. The total rainfall reported from Rowlesburg, W. Va., was 5.41 inches in a 24-hour period, resulting in small bridges being washed out, cellars flooded, gardens destroyed, and many roads closed due to landslides. Considerable damage resulted with a large sawmill being completely destroyed and lumber valued at $40,000 lost.

Heavy rain in the headwaters of the Hocking River early in the morning of the 11th resulted in light flooding at Enterprise, Ohio, on the 11th and 12th. No damage was reported by the overflow.

Heavy rain in the early morning hours of the 17th in the Sparta, N. C., area caused flash flooding in creeks in the surrounding lowland area. Five families had to evacuate their homes as the flood waters rose into the ground floors. The rainfall at Sparta totalled 5.29 inches in 5-1/2 hours. The deluge and overflowing streams left highways under coats of mud and debris. Commercial farm crops and gardens in lowlands in the central section of Alleghany County were stricken.

Locally heavy rains in southeastern Illinois late in July resulted in minor overflow along the Skillet Fork at Wayne City, Ill., which continued in flood to August 1. No damages reported.

A flash flood occurred in the McMinnville, Tenn., area in Warren County during the evening of the 31st. Most damage was erosion to newly seeded fields and damage to public roads. Seven inches of rain fell in about 3 hours just west and north of McMinnville. The heavy rain covered a small area and did not cause important rises on any of the principal streams.

The flooding on the French Broad River in western North Carolina between the 24th and 26th was due to heavy rain, which ranged from 3 inches at Hot Springs, N. C., to as much as 10 to 12 inches at Hendersonville and Rosman, N. C., in a 30-hour period. Most of the flooding was confined to the headwaters of the French Broad River in Transylvania County and to the French Broad tributaries in Henderson County and the southern portions of Buncombe County. According to the U. S. Geological Survey, Mud Creek at Naples, N. C., and Cane Creek at Fletcher, N. C., were the highest since August 1940. Heavy damage resulted to truck farming along the tributaries of the French Broad. There was some damage to highways and industries. One person was drowned.

Arkansas Basin. --Slight flooding occurred on Walnut Creek at Albert, Kans., on the 15th. Only minor overflow of crop lands reported.

Flash-flooding occurred on Oklahoma tributaries north and east of Tulsa, Okla., from the 14th to the 16th, with 7.5 feet of flooding on Bird Creek at Sperry, Okla. The lower Caney River at Ramona, Okla., the Verdigris River near Inola, Okla., Big Cabin Creek at Big Cabin, Okla., and the Illinois River at Tahlequah, Okla., experienced light flooding between the 14th and 16th. Flash-flooding occurred briefly on Spring Creek in northeastern Oklahoma on the 14th and northeast of Alva, Okla., on the 19th. The heaviest rainfall during the period from the 13th to the 15th was at Chelsea, Okla., where 12.54 inches were reported. The majority of the flooding occurred in areas where crops had been harvested, so agricultural losses were at a minimum. Reports of roads being washed out were noted near Spavinaw, Okla. Woods County in Oklahoma reported 32 bridges and culverts lost.

WEST GULF OF MEXICO DRAINAGE

The minor flooding of the middle Nueces in Texas below Cotulla to below Tilden during the first part of the month was due to flood waters moving downstream from the upper Neuces. Flash flooding occurred during the early morning of the 20th as a squall line moved over the upper Nueces, upper Frio, and upper Sabinal Rivers. No damage was reported due to flooding during the month. Flood waters were confined to open farm and ranch country along the middle Nueces River.

During the late afternoon and early evening of the 11th, heavy rains fell over Albuquerque, N. Mex., and vicinity. The total for the storm was 0.77 inch at the Weather Bureau gage at the airport. Measurements from a number of unofficial privately-owned gages ranged from 0.23 inch in the extreme southwestern part of the city to well over 4 inches in the northeast section. As a result of these heavy rains, arroyos leading from the northeast mesa ran bankfull and even overflowed for several hours. A temporary flood control dam, constructed a couple of years ago across Embudo Arroyo adjoining the junction of State Highway 422 and Menaul Road, caught most of the flood waters, thereby preventing serious flooding of the lowland area between the dam and the Rio Grande. However, the water caught in the reservoir became so high that it overflowed the spillway for more than 24 hours causing moderate flooding in low portions of approximately 30 city blocks. A sharp rise occurred on the Rio Grande at Albuquerque on the 12th to over 5 feet, but it did not reach bankfull stage of 6 feet. Another rise occurred on the Rio Grande at Albuquerque from the moderate to heavy rains on the 22d, covering an area 30 to 100 miles north of the city. This time the river did exceed the bankfull stage of 6 feet, cresting 0.7 foot above during the afternoon of the 23d. Rainfall over this area ranged generally from 1 to 2 inches, and it fell on soil that was already quite moist from rains earlier in the month.

GULF OF CALIFORNIA DRAINAGE

A localized severe thunderstorm in the Tucson, Ariz., area on the night of the 22d-23d resulted in flash flooding in local washes. Three lives were lost when motorists were caught in low areas.

GREAT BASIN

Flash floods were frequent throughout the Great Basin. Most of the streams affected were parts of small local basins that flow into salt or alkali flats and evaporate.

Flash Floods in Central Nevada. --There were severe flash floods in the area from Carol Summit westward to Frenchman's Station. Heavy damage resulted to new U. S. Highway 50 between Eastgate and Westgate, which had not yet been opened to traffic. The 20-mile road south from U. S. 50 to the Nevada Sheelite Mine had 13 miles of the

road removed. The Gabbs Valley road, south from U. S. 50 was cut in several places. The usually dry lake at Frenchman's Station became a shallow lake some 6 to 7 miles long and about 3 to 4 miles wide and about 1 foot deep.

There were a series of floods in the Middlegate Valley area that damaged U. S. Highway 50. The borrow ditch on the north side of the new highway was about 20 feet wide and an average of 4 feet deep on the afternoon of the 14th. By midnight it was 60 feet wide and 30 feet deep for a little over 3 miles as a result of the flash flood out of Burrow Creek. It would probably have continued in the borrow ditch and joined the old channel, but just about a mile west of Middlegate Restaurant, another flash flood had come down from the north and buried the ditch and highway under rock and sand. When the main flow from Burrow Creek hit this dike it turned south and cut the road in two places, one as it crossed going south and the other as it crossed again coming back to the old channel on the north. Fortunately, no one was killed or injured.

There were several other flash floods that caused considerable damage to roads and highways in the State. U. S. Highway 40 was closed for several hours the night of the 7th and the morning of the 8th about 25 miles east of Reno in the Wadsworth Canyon. The highway was also closed at intervals between Battle Mountain and Elko, but this was the result of water and debris crossing the roadway, and the roadway itself suffered no major damage.

Flash-Floods in Utah. -- Flood waters in Henrieville Wash and Henrieville Creek washed out bridge abutment backslopes at Henrieville bridge and Smith Crossing bridge on the Utah State Highway U54 east of Henrieville on the 3d. Flood waters also washed out a 400-foot section of paved Highway U54, 7 miles east of Henrieville.

Extensive damage resulted to homes and businesses from flood waters in the towns of Kanab and Orderville on the 8th.

Heavy rains on the 25th caused the Fremont River near Cainville and the South Desert Wash to overflow. Sections of newly constructed grade and embankment protections east of the Capitol Reef National Monument were destroyed.

The Bar and Deep Creeks near Ibapah overflowed on the 25th, resulting in considerable damage to the small irrigation reservoir.

Flooding from Phelps Canyon of Dry Creek near Alpine caused damage to cars, pipeline, and other power station property.

There were many other floods reported in Utah during the month. A list of the location and dates of the heavier floods are:

Date	Stream and location
August	
3	Sheep Creek near Canonville
	East Fork Deer Creek near Boulder
	Paria River at Canonville
	Arches Canyon near Blanding
	Salt Wash near Thompson
8	East Fork Virgin near Orderville
10	Atkinville Creek near St. George
	Gould Wash near Hurricane
12	Coal Creek near Cedar City
23	Fort Pierce Creek at St. George
24, 30	Johnson Wash near Kanab
25	Dove Creek near Park Valley
	Pleasant Creek near Mount Pleasant
	Mill Creek near Moab
	Phelps Canyon of Dry Creek near Alpine
	Tributary to City Creek near Clarkston

FLOOD STAGE DATA

(All dates in August unless otherwise specified)

AUGUST 1961

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
	Ft.			Ft.	
ATLANTIC SLOPE DRAINAGE					
Neuse: Neuse, N. C.	14	27	27	#14.6	27
Smithfield, N. C.	13	28	29	#13.25	29
North Fork Edisto: Orangeburg, S.C.	8	27	30	9.5	28
Saluda: Pelzer. S. C.	6	25	27	9.5	26
Savannah: Clyo, Ga.	11	Jul. 25	1	11.4	Jul. 27-1
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Turkey: Garber, Iowa	11	1	3	18.0	2
Sangamon: Riverton, Ill.	13	Jul. 29	6	E16.0	3
LaMoine: Ripely, Ill.	22	Jul. 22	Jul. 28	25.85	Jul. 23
Kaskaskia: Vandalia, Ill.	18	Jul. 31	1	19.35	Jul. 31
Missouri Basin					
Saline: Wakeeney, Kans.	14			17.4	18
Solomon: Glasco, Kans.	22	18	19	25.45	18-19
Ohio Basin					
Hocking: Enterprise, Ohio	12	11	12	12.3	12

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
	Ft.			Ft.	
MISSISSIPPI SYSTEN (Cont'd.)					
Ohio Basin (Cont'd.)					
Skillet Fork: Wayne City, Ill.	15	Jul. 29	1	18.5	Jul. 30
French Broad: Asheville, N. C.	8	24	26	9.0	25
Marshall, N. C.	10	25	25	10.05	25
Hot Springs, N. C.	13	25	26	13.5	25
Rosman, N. C.	8	24	24	8.7	24
Arkansas Basin					
Big Cabin Creek: Big Cabin, Okla.	17	14	14	19.5	14
Caney: Ramona, Okla.	27	14	15	28.45	14
Bird Creek: Sperry, Okla.	21	14	16	27.7	15
Verdigris: Inola, Okla	42	15	17	42.2	16
Illinois: Tahlequah, Okla.	11	15	16	15.6	16
WEST GULF OF MEXICO DRAINAGE					
Nueces: Tilden, Tex.	14	8	10	15.0	9
Rio Grande: Albuquerque, N. Mex.	6	23	23	6.7	23

* Provisional
\# Highest stage observed
E Estimated

RAWINSONDE DATA

Average monthly values

AUGUST 1961

Standard pressure surface (mb.)	ALBANY, N. Y. (1008 MB.)						ALBUQUERQUE, N. MEX. (843 MB.)						AMARILLO, TEXAS (896 MB.)						ANCHORAGE, ALASKA (1008 MB.)						ANNETTE, ALASKA (1014 MB.)					
					Wind						Wind						Wind						Wind						Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	31	86	17.2	92	213	1.9	31	1,619	18.5	65	45	2.9	31	1,095	18.8	74	189	4.1	31	30	11.0	79	165	3.5	31	37	13.2	87	148	0.8
1,000--	31	154	17.2	89	227	2.5	31	121					31	138					31	92			169	4.9	31	151	13.6	81	180	1.4
950----	31	593	16.6	79	268	6.0	31	569					31	585					31	516	9.8	74	175	6.0	31	579	12.3	72	208	3.1
900----	31	1,053	14.8	74	287	8.7	31	1,044					31	1,061					31	968	7.1	74	158	5.8	31	1,036	10.1	67	214	5.6
850----	31	1,536	12.3	71	287	10.7	31	1,545					31	1,550	19.5	56	222	14.2	31	1,435	3.9	75	153	7.0	31	1,509	7.7	61	223	7.2
800----	31	2,043	9.9	62	284	12.4	31	2,067	18.1	58	129	3.7	31	2,070	17.0	54	237	11.1	31	1,925	.9	78	160	9.3	31	2,007	5.3	56	227	10.3
750----	31	2,575	7.1	56	273	14.6	31	2,611	14.6	60	194	3.3	31	2,612	13.2	61	265	6.0	31	2,439	- 2.1	77	168	11.5	31	2,531	2.8	52	232	12.6
700----	31	3,142	4.4	46	268	18.1	31	3,198	10.5	64	210	2.7	31	3,195	9.2	63	303	3.7	31	2,987	- 5.4	73	181	11.5	31	3,088	- .1	48	231	14.2
650----	31	3,736	1.6	42	267	20.4	31	3,803	6.0	68	244	2.1	31	3,799	4.9	62	13	2.3	31	3,559	- 8.6	43	187	10.9	31	3,671	- 3.9	46	233	14.2
600----	31	4,384	- 2.2	39	265	22.9	31	4,462	1.4	68	265	1.6	31	4,454	.8	59	53	2.3	31	4,182	-12.1	61	197	12.2	31	4,306	- 7.4	42	233	15.5
550----	30	5,059	- 5.9		267	26.6	31	5,152	- 3.0	66	254	2.3	31	5,142	- 3.1	52	14	3.3	31	4,838	-16.1	59	205	12.2	31	4,969	-11.3	38	241	16.1
500----	30	5,812	-10.6		265	26.6	31	5,907	- 7.5	60	173	1.6	31	5,899	- 7.2	44	358	4.1	31	5,553	-20.7	52	205	14.0	31	5,705	-15.8	40	241	16.3
450----	30	6,607	-15.6	32	258	31.3	31	6,715	-12.7	53	149	1.2	31	6,707	-12.7	34	358	6.4	31	6,318	-25.9	45	207	14.6	31	6,482	-21.3	42	243	17.7
400----	30	7,496	-21.8		257	34.8	31	7,610	-18.[illegible]	47	202	.6	31	7,604	-18.4	28	12	10.1	31	7,167	-32.0	45	206	15.0	30	7,358	-27.3	41	249	18.8
350----	30	8,466	-29.0		255	37.9	31	8,592	-25.5	45	299	1.0	31	8,586	-25.4		360	13.4	31	8,097	-38.8		212	18.8	30	8,305	-34.4		255	19.6
300----	30	9,551	-37.2		256	42.7	31	9,693	-33.7	39	286	2.1	31	9,687	-33.8		356	16.9	31	9,139	-45.4		216	18.5	30	9,364	-42.6		258	21.4
250----	30	10,787	-46.7		255	48.2	31	10,946	-43.7		279	2.3	31	10,939	-43.9		356	17.5	31	10,341	-50.0		222	24.7	30	10,572	-51.2		255	19.8
200----	30	12,239	-54.9		261	46.0	31	12,410	-55.1		288	3.7	31	12,400	-55.2		354	16.3	21	11,803	-48.4		232	23.3	30	12,004	-54.2		256	18.7
175----	29	13,087	-56.9		264	44.7	31	13,251	-60.9		288	3.9	31	13,242	-61.0		1	13.8	31	12,683	-47.7		223	17.7	30	12,863	-52.7		252	19.6
150----	29	14,059	-58.4		263	41.8	31	14,199	-65.4		314	3.3	31	14,189	-65.3		9	12.8	31	13,700	-47.9		225	19.0	30	13,858	-52.4		248	20.0
125----	29	15,203	-59.5		267	36.9	31	15,299	-68.5		5	2.9	30	15,289	-68.1		4	9.9	31	14,903	-47.9		231	14.2	30	15,037	-52.6		246	18.8
100----	29	16,599	-59.1		272	34.4	29	16,636	-67.6		68	4.9	30	16,631	-67.1		31	8.0	31	16,375	-47.8		227	11.3	30	16,479	-52.2		245	14.8
80-----	29	18,009	-56.0		270	24.3	29	17,993	-63.8		74	8.5	30	17,988	-63.4		62	9.3	31	17,847	-47.8		226	9.1	30	17,923	-51.8		249	10.1
70-----	29	18,864	-54.9		267	15.3	29	18,814	-61.4		77	11.7	29	18,813	-61.0		72	12.4	31	18,730	-47.7		219	8.0	30	18,788	-51.7		249	7.0
60-----	28	19,851	-53.5		264	7.0	29	19,777	-58.8		84	15.9	28	19,775	-58.6		81	15.9	31	19,745	-47.7		226	7.4	30	19,789	-51.5		247	3.7
50-----	28	21,028	-51.9		236	1.0	29	20,930	-56.2		90	19.[illegible]	28	20,926	-56.1		89	19.4	31	20,949	-47.8		206	4.3	30	20,972	-51.3		239	2.5
40-----	28	22,479	-50.0		127	7.6	28	22,354	-53.7		90	21.6	27	22,352	-53.2		89	21.8	31	22,421	-47.8		211	1.4	27	22,421	-51.0		172	.6
30-----	26	24,369	-47.5		89	15.0	28	24,215	-51.0		87	25.8	27	24,216	-50.2		89	23.1	31	24,320	-47.5		76	1.9	25	24,310	-48.6		66	2.9
25-----	25	25,582	-45.6		89	14.6	27	25,404	-49.0		90	28.0	27	25,411	-48.3		89	25.3	31	25,529	-45.8		79	2.7	25	25,514	-46.7		72	3.7
20-----	21	27,079	-43.7		88	17.9	26	26,878	-46.6		88	26.0	23	26,888	-45.7		86	26.8	30	27,019	-43.9		115	1.8	21	27,009	-44.7		72	5.4
15-----	10	29,029	-41.7				18	28,800	-44.2		86	32.4	8	28,810	-43.2				22	28,949	-41.6		116	1.7	9	28,947	-42.8			
10-----							7	31,517	-41.3																					

Standard pressure surface (mb.)	ATHENS, GA. (991 MB.)						BARROW, ALASKA (1010 MB.)						BARTER IS., ALASKA (1009 MB.)						BETHEL, ALASKA (1002 MB.)						BISMARCK, N. DAK. (957 MB.)					
					Wind						Wind						Wind						Wind						Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	31	246	20.3	96	15	1.9	31	8	1.4	95	96	8.0	30	15	2.7	90	81	6.2	31	4	9.0	94	186	3.3	31	505	14.6	58	124	2.1
1,000--	31	169					31	88	1.0	94	101	9.5	30	89	2.7	86	89	7.6	31	58			210	6.4	31	132				
950----	31	613	20.7	82	63	1.7	31	505	2.1	84	122	5.2	30	507	4.2	80	119	5.8	31	483	8.2	82	183	6.8	31	572	17.1	54	139	3.3
900----	31	1,083	18.5	79		.0	31	939	2.3	74	137	3.9	30	946	3.9	70	150	2.7	31	929	5.2	82	178	8.0	31	1,037	20.7	42	204	5.4
850----	31	1,572	15.6	78	209	1.4	31	1,399	.7	69	193	3.9	30	1,410	2.5	62	237	3.5	31	1,393	2.3	82	178	8.5	31	1,529	18.3	40	266	5.1
800----	31	2,086	12.5	74	211	2.7	31	1,885	- 1.2	65	217	4.9	30	1,898	- .2	62	256	4.3	31	1,881	- .6	83	173	8.9	31	2,046	14.8	44	293	8.7
750----	31	2,620	9.4	66	224	5.2	31	2,396	- 3.2	59	220	3.9	30	2,408	- 3.1	62	260	6.0	31	2,396	- 3.2	77	169	7.2	31	2,586	10.7	47	299	10.3
700----	31	3,196	6.2	63	233	6.4	31	2,941	- 5.8	54	234	7.2	30	2,956	- 5.8	62	270	7.4	31	2,939	- 5.8	70	177	6.6	31	3,160	6.6	50	304	13.6
650----	31	3,795	2.9	55	240	8.5	31	3,512	- 9.1	55	233	8.2	30	3,530	- 9.1	61	261	7.2	31	3,514	- 9.2	66	172	7.2	31	3,757	2.2	50	299	17.3
600----	31	4,447	- .7	54	235	9.1	31	4,134	-12.7	57	241	7.8	30	4,149	-12.4	55	258	7.2	31	4,132	-12.9	54	174	7.6	31	4,406	- 2.3	48	296	21.2
550----	31	5,127	- 4.4	55	226	11.7	31	4,786	-16.8	56	245	10.1	30	4,803	-16.4	52	257	7.8	31	4,787	-16.9	48	173	7.2	31	5,085	- 6.8	41	295	21.8
500----	31	5,884	- 8.5	48	219	11.9	31	5,503	-21.3	53	239	9.5	30	5,520	-21.2	46	261	9.7	31	5,500	-21.4	47	166	6.8	31	5,831	-11.4	38	295	24.7
450----	31	6,688	-13.5	46	217	12.2	31	6,267	-26.8	53	245	10.5	30	6,284	-26.6	43	263	11.5	31	6,264	-26.7	47	175	5.8	31	6,623	-16.7		294	28.4
400----	31	7,582	-19.2	47	224	13.0	31	7,113	-33.0	48	252	12.2	30	7,132	-32.6	43	263	14.0	31	7,110	-32.9	46	182	5.8	31	7,507	-22.9		289	30.1
350----	31	8,562	-26.2	43	223	18.1	31	8,038	-39.9		255	13.0	30	8,060	-39.1		262	21.4	31	8,036	-39.9		185	7.2	31	8,473	-30.0		295	37.9
300----	31	9,660	-34.4	39	227	22.3	31	9,074	-47.4		254	15.9	30	9,100	-46.6		260	22.[illegible]	31	9,074	-46.5		194	7.6	31	9,552	-38.2		294	42.2
250----	31	10,910	-44.1		233	24.5	31	10,261	-53.3		254	18.5	30	10,288	-53.9		260	22.9	31	10,274	-49.3		218	10.5	31	10,780	-47.[illegible]		294	51.3
200----	31	12,372	-54.6		230	26.4	31	11,706	-48.9		256	15.0	30	11,728	-49.5		262	18.1	31	11,745	-46.4		230	8.9	31	12,226	-54.9		293	60.4
175----	31	13,218	-59.5		234	23.1	31	12,587	-47.3		252	12.2	29	12,604	-47.6		258	17.9	31	12,633	-46.1		246	9.9	31	13,076	-56.4		294	54.6
150----	31	14,173	-63.8		239	14.4	31	13,608	-46.7		254	10.1	29	13,623	-47.0		258	15.2	31	13,657	-46.3		240	9.1	31	14,050	-58.3		293	47.6
125----	31	15,285	-65.9		230	6.8	31	14,819	-46.3		254	10.1	29	14,831	-46.8		262	14.2	31	14,867	-46.7		242	8.7	31	15,193	-59.2		297	33.2
100----	28	16,642	-65.2			.0	30	16,301	-45.9		245	7.2	28	16,313	-46.5		266	9.1	31	16,345	-47.1		238	6.8	31	16,589	-59.1		308	22.9
80-----	28	18,010	-62.2		73	7.0	29	17,790	-45.8		245	7.0	27	17,799	-46.4		263	8.4	30	17,820	-47.2		239	4.9	31	17,995	-57.3		326	7.8
70-----	28	18,842	-59.7		82	13.4	29	18,679	-45.8		240	5.1	27	18,687	-46.3		255	6.8	30	18,704	-47.2		231	4.9	31	18,844	-56.1		333	7.2
60-----	28	19,807	-57.6		84	18.7	29	19,706	-45.7		244	4.1	25	19,719	-46.2		258	4.5	29	19,724	-47.3		214	4.3	31	19,827	-54.1		358	5.4
50-----	26	20,965	-55.2		89	23.5	29	20,921	-45.6		235	2.5	23	20,946	-45.9		269	1.7	29	20,930	-47.3		218	3.1	30	21,005	-52.0		51	5.2
40-----	26	22,397	-52.4		95	26.8	29	22,408	-45.5		171	.8	22	22,430	-45.7		88	1.4	28	22,401	-47.2		208	2.7	29	22,454	-50.3		76	5.4
30-----	26	24,270	-49.2		92	28.4	29	24,328	-45.3		106	1.6	22	24,350	-45.2		97	3.9	28	24,307	-46.6			.0	28	24,346	-47.0		84	7.2
25-----	26	25,470	-47.4		90	27.2	27	25,549	-44.1		102	2.5	22	25,570	-44.4		105	2.7	27	25,522	-45.8		64	.6	28	25,557	-46.0		91	8.9
20-----	24	26,947	-45.8		87	30.5	23	27,063	-42.5		97	.8	20	27,077	-42.9		87	3.7	25	27,020	-44.1		90	1.7	24	27,046	-44.1		90	10.5
15-----	12	28,888	-42.5				13	29,041	-39.7				10	29,022	-40.7				19	28,945	-42.0		103	1.9	12	28,991	-41.3			
10-----							5	31,895	-35.1																					

Standard pressure surface (mb.)	BOISE, IDAHO (916 MB.)						BROWNSVILLE, TEXAS (1015 MB.)						BUFFALO, N. Y. (993 MB.)						BURRWOOD, LA. (1016 MB.)						CAPE HATTERAS, N. C. (1017 MB.)					
					Wind						Wind						Wind						Wind						Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	31	868	20.0	47	141	4.1	31	7	23.4	94	152	0.8	31	218	17.5	91	212	2.3	31	3	26.4	84	204	1.0	31	4	24.0	90	225	2.5
1,000--	31	105					31	135	24.9	85	175	3.1	31	159					31	145	25.5	81	195	1.7	31	156	24.1	84	237	4.1
950----	31	555					31	584	22.9	80	174	9.5	31	597	17.4	79	250	7.6	31	595	22.4	79	176	2.7	31	600	21.6	79	240	6.0
900----	31	1,025	22.3	36	135	4.1	31	1,056	20.2	72	160	6.2	31	1,061	15.0	76	267	9.9	31	1,065	19.3	76	174	4.3	31	1,073	18.7	78	244	6.2
850----	31	1,522	22.2	31	173	1.4	31	1,548	17.4	68	131	4.3	31	1,544	12.6	71	267	12.6	31	1,555	16.5	71	184	4.5	31	1,562	15.9	72	240	8.2
800----	31	2,045	19.0	32	186	2.5	31	2,065	14.3	63	94	3.7	31	2,051	10.0	66	268	15.0	31	2,070	13.4	68	185	4.9	31	2,076	13.2	66	238	9.9
750----	31	2,596	14.9	36	190	4.3	31	2,599	10.9	63	67	3.5	31	2,579	7.1	59	269	16.1	31	2,610	10.3	62	185	5.6	31	2,611	10.4	62	234	11.9
700----	31	3,176	10.2	41	198	7.2	31	3,182	7.8	56	62	4.1	31	3,150	4.1	53	270	16.3	31	3,183	7.1	57	198	5.4	31	3,189	7.5	55	235	11.9
650----	31	3,783	5.1	48	206	7.8	30	3,783	4.5	49	41	4.3	31	3,744	.8	51	267	17.5	31	3,784	3.6	56	198	4.5	31	3,791	4.1	52	235	12.4
600----	31	4,435	- .3	53	210	10.1	30	4,438	1.1	43	32	3.9	31	4,389	- 2.9	49	267	18.8	31	4,434	- .1	51	212	4.3	31	4,443	.6	43	237	13.2
550----	31	5,115	- 5.3	53	216	12.4	30	5,123	- 2.9	43	15	5.4	31	5,067	- 6.6	43	262	19.8	31	5,119	- 3.9	50	217	5.6	31	5,128	- 3.4	42	234	14.8
500----	31	5,867	-10.1	44	224	13.4	30	5,884	- 7.2	40	11	6.0	31	5,814	-11.3	42	257	22.9	31	5,873	- 8.4	47	222	4.5	31	5,886	- 7.8	39	233	15.5
450----	31	6,664	-15.7	39	229	15.7	30	6,693	-12.4	37	16	7.4	31	6,606	-16.5	36	258	26.2	31	6,678	-13.3	43	218	4.9	31	6,693	-12.8	38	238	16.3
400----	31	7,552	-21.6	34	233	19.6	30	7,590	-18.4	37	2	8.7	31	7,492	-22.4		260	27.4	31	7,572	-18.9	38	215	6.4	31	7,588	-18.5	36	233	16.5
350----	31	8,520	-29.1		231	23.1	30	8,572	-25.6	32	355	10.5	31	8,459	-29.6		256	31.1	30	8,555	-25.6	35	241	5.2	31	8,571	-25.4	36	234	17.9
300----	31	9,603	-37.6		227	28.0	30	9,670	-34.3		342	10.3	31	9,540	-37.9		255	34.8	30	9,654	-33.8		212	6.6	31	9,671	-33.8		238	18.1
250----	31	10,836	-46.9		228	38.3	30	10,920	-44.3		340	11.5	31	10,772	-46.8		254	40.6	30	10,907	-43.4		216	9.3	31	10,923	-43.6		249	20.6
200----	31	12,287	-54.6		230	44.1	30	12,380	-55.2		349	9.5	31	12,224	-54.4		255	42.0	30	12,373	-54.3		231	8.9	31	12,386	-54.9		253	19.2
175----	31	13,137	-57.0		235	37.9	30	13,223	-60.3		350	7.4	31	13,075	-56.3		258	38.3	30	13,218	-59.9		226	8.2	31	13,229	-60.3		252	20.4
150----	31	14,106	-60.1		235	26.8	30	14,172	-65.4		6	5.2	31	14,052	-57.7		254	33.4	30	14,169	-64.9		209	2.3	31	14,179	-65.0		265	16.3
125----	31	15,236	-62.5		236	17.1	30	15,272	-68.7		38	7.0	30	15,198	-59.0		254	26.2	29	15,275	-67.3		122	2.3	30	15,289	-66.1		251	12.0
100----	30	16,611	-62.3		228	8.5	29	16,606	-68.5		69	13.6	30	16,596	-59.0		258	19.0	29	16,621	-66.5		93	8.7	29	16,645	-64.4		266	6.0
80-----	29	17,997	-59.6		188	.8	26	17,953	-64.9		84	20.6	30	18,006	-56.1		264	9.5	29	17,981	-63.8		87	14.4	29	18,017	-61.5		74	6.0
70-----	27	18,847	-58.0		87	3.9	26	18,775	-62.6		82	22.7	30	18,861	-55.0		268	5.6	29	18,814	-61.5		74	18.7	29	18,858	-59.2		85	11.3
60-----	26	19,812	-56.2		81	4.9	25	19,729	-60.2		82	27.0	30	19,845	-53.4		38	1.4	29	19,767	-58.9		81	25.3	29	19,819	-56.8		82	15.0
50-----	26	20,975	-54.5		80	7.0	25	20,873	-57.6		92	31.1	30	21,023	-51.7		84	5.8	29	20,919	-56.2		87	29.0	29	20,984	-54.1		89	20.6
40-----	26	22,410	-52.2		79	8.4	23	22,292	-54.5		91	32.3	28	22,474	-49.9		82	7.6	28	22,348	-53.1		92	29.3	28	22,424	-51.2		93	22.2
30-----	23	24,286	-49.4		79	11.9	20	24,149	-50.2		90	32.4	27	24,363	-48.0		74	11.1	25	24,218	-49.8		87	31.3	28	24,306	-48.1		91	24.3
25-----	23	25,485	-48.0		83	14.2	17	25,349	-47.4		88	32.8	24	25,564	-46.5		80	11.5	24	25,421	-47.2		89	31.9	26	25,513	-46.2		88	27.0
20-----	18	26,973	-45.9		81	15.2	15	26,828	-45.9		90	32.8	21	27,043	-44.4		85	12.8	23	26,907	-44.8		83	33.8	23	27,004	-43.9		84	29.5
15-----	13	28,898	-43.5		86	21.6	8	28,770	-41.8				15	28,977	-41.6		83	14.0	17	28,826	-42.6				6	28,967	-41.1			
10-----													6	31,720	-38.3															

See reference note at end of table

RAWINSONDE DATA

Average monthly values

CARIBOU, ME. (994 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	191	13.6	92	218	3.1
1,000--	30	137				
950----	30	568	14.2	76	277	9.3
900----	30	1,026	12.1	72	285	10.7
850----	30	1,504	9.5	67	278	12.4
800----	30	2,005	7.3	59	273	15.3
750----	30	2,532	4.6	53	273	17.1
700----	30	3,094	1.7	51	274	19.2
650----	30	3,686	- 1.4	45	268	21.6
600----	30	4,323	- 4.9	43	267	24.7
550----	30	4,995	- 9.0	35	268	27.2
500----	30	5,735	-13.7	33	267	32.1
450----	30	6,521	-19.0		263	32.3
400----	30	7,396	-25.1		260	36.7
350----	30	8,353	-31.9		258	42.7
300----	30	9,425	-39.5		262	46.0
250----	30	10,651	-47.5		262	54.0
200----	30	12,102	-53.7		263	55.0
175----	30	12.959	-54.5		264	52.3
150----	30	13,945	-55.2		264	45.7
125----	30	15,109	-55.9		264	32.6
100----	30	16,530	-55.4		265	23.3
80-----	30	17,962	-53.4		262	13.0
70-----	30	18,824	-51.9		263	8.0
60-----	30	19,826	-51.1		249	3.5
50-----	30	21,016	-49.9		161	1.2
40-----	30	22.481	-48.5		88	5.4
30-----	29	24,383	-46.1		89	11.3
25-----	27	25,601	-44.8		91	11.7
20-----	23	27,100	-42.9		89	11.7
15-----	11	29,030	-41.0			
10-----						

CHARLESTON, S. C. (1017 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	13	22.6	95	37	1.4
1,000--	31	159	23.8	87	104	1.4
950----	31	604	22.4	79	153	2.5
900----	31	1,078	19.7	75	197	3.1
850----	31	1,571	16.8	74	215	3.9
800----	31	2,086	13.9	70	203	5.1
750----	31	2,627	10.8	68	211	6.4
700----	31	3,203	7.9	60	220	8.4
650----	31	3,804	4.5	56	223	10.1
600----	31	4,460	.7	58	225	12.2
550----	31	5,141	- 3.2	51	218	13.4
500----	31	5,903	- 7.4	49	216	14.2
450----	31	6,709	-12.5	48	219	14.0
400----	31	7,607	-18.3	42	218	13.8
350----	31	8,592	-25.4	36	229	16.1
300----	31	9,694	-33.4		213	13.6
250----	31	10,950	-43.5		224	14.0
200----	31	12,415	-55.0		222	16.3
175----	31	13,257	-60.8		226	13.8
150----	31	14,206	-65.3		241	12.2
125----	31	15,311	-66.9		220	6.2
100----	31	16,662	-65.8		138	1.4
80-----	31	18,028	-62.5		83	8.9
70-----	31	18,866	-60.3		82	13.4
60-----	31	19,822	-57.9		82	20.8
50-----	31	20,980	-54.9		88	25.5
40-----	31	22,416	-51.8		92	25.6
30-----	30	24,295	-48.8		86	28.4
25-----	28	25,497	-46.7		85	28.2
20-----	23	26,988	-44.3		83	31.7
15-----	10	28,921	-41.5			
10-----						

COLD BAY, ALASKA (1004 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	27	9.5	91	201	4.7
1,000--	31	66			188	7.2
950----	31	491	7.1	88	206	9.5
900----	31	934	4.6	87	217	9.3
850----	31	1,398	2.6	81	223	10.3
800----	31	1,887	.3	75	221	10.7
750----	31	2,402	- 2.0	69	240	11.7
700----	31	2,948	- 4.7	66	239	13.8
650----	31	3,524	- 7.8	61	239	15.0
600----	31	4,147	-11.1	58	241	15.0
550----	31	4,805	-15.1	54	249	17.7
500----	31	5,525	-19.7	51	246	19.2
450----	30	6,289	-25.1	46	247	21.4
400----	30	7,144	-30.9	41	246	25.1
350----	30	8,077	-37.8		251	29.3
300----	30	9,125	-43.7		247	33.0
250----	29	10,335	-47.4		244	39.1
200----	29	11,806	-47.6		244	33.6
175----	28	12,693	-48.4		250	27.8
150----	28	13,707	-48.5		246	24.1
125----	28	14,904	-49.2		248	18.8
100----	28	16,365	-49.7		251	11.9
80-----	26	17,822	-49.1		245	7.2
70-----	26	18,702	-48.9		240	6.0
60-----	25	19,710	-48.8		229	4.7
50-----	25	20,908	-48.7		213	4.5
40-----	24	22,378	-48.4		225	3.7
30-----	21	24,276	-47.5		227	1.9
25-----	20	25,482	-46.4		239	3.3
20-----	17	26,949	-45.4		239	2.3
15-----	11	28,871	-43.5			
10-----						

COLUMBIA, MO. (990 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	238	18.5	94	136	2.7
1,000--	31	149				
950----	31	593	21.2	71	223	6.0
900----	31	1,062	18.6	68	260	5.6
850----	31	1,551	15.4	62	272	4.5
800----	31	2,063	12.3	57	290	5.4
750----	31	2,601	9.1	53	307	6.0
700----	31	3,170	6.1	46	303	8.2
650----	31	3,770	2.5	42	315	8.5
600----	31	4,416	- 1.1	41	325	8.7
550----	31	5,096	- 5.1		322	9.9
500----	31	5,848	- 9.6		320	11.9
450----	31	6,649	-14.8		325	14.2
400----	31	7,536	-20.9		326	14.6
350----	31	8,509	-27.9		337	19.2
300----	31	9,598	-35.8		333	23.1
250----	31	10,840	-45.1		328	27.4
200----	31	12,299	-54.2		322	30.9
175----	31	13,149	-57.7		321	27.8
150----	31	14,114	-61.0		318	22.3
125----	31	15,241	-63.3		315	17.1
100----	31	16,612	-62.6		320	10.7
80-----	31	17,998	-59.9		348	5.8
70-----	31	18,840	-58.1		28	4.9
60-----	31	19,811	-56.3		71	8.4
50-----	30	20,975	-54.3		82	12.0
40-----	30	22,412	-52.3		86	14.8
30-----	28	24,284	-49.6		85	17.1
25-----	25	25,480	-47.8		83	20.4
20-----	20	26,962	-46.3		82	20.2
15-----	8	28,858	-44.1			
10-----						

DAYTON, OHIO (985 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	297	17.4	95	271	0.6
1,000--	31	165				
950----	31	606	19.6	74	273	4.7
900----	31	1,071	16.9	70	262	7.6
850----	31	1,557	14.0	64	271	7.8
800----	31	2,067	11.1	56	261	9.
750----	31	2,601	8.1	53	266	8.9
700----	31	3,171	4.9	47	267	11.3
650----	31	3,770	1.6	42	265	11.9
600----	31	4,414	- 2.0	38	266	12.8
550----	31	5,092	- 5.6	31	261	13.0
500----	31	5,843	-10.1		258	14.2
450----	31	6,642	-15.4		255	16.1
400----	31	7,530	-21.5		260	18.7
350----	31	8,501	-28.4		257	21.2
300----	31	9,588	-36.6		254	23.7
250----	31	10,827	-45.8		259	29.0
200----	31	12,282	-54.4		261	31.7
175----	31	13,133	-56.9		261	29.9
150----	31	14,104	-59.4		264	23.5
125----	31	15,240	-61.2		265	19.8
100----	31	16,624	-61.0		269	12.6
80-----	31	18,019	-58.2		293	4.3
70-----	31	18,872	-56.7		356	2.5
60-----	31	19,844	-55.0		64	4.3
50-----	31	21,013	-53.2		78	8.7
40-----	31	22,458	-50.7		84	12.6
30-----	30	24,342	-48.2		83	15.5
25-----	29	25,550	-46.5		81	18.1
20-----	27	27,037	-44.6		87	21.2
15-----	20	28,976	-41.3		89	22.5
10-----	5	31,762	-38.3			

DENVER, COLO. (843 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,611	14.[illegible]	75	229	2.1
1,000--	31	134				
950----	31	578				
900----	31	1,045				
850----	31	1,538				
800----	31	2,057	17.9	54	285	3.7
750----	31	2,606	15.4	50	296	2.7
700----	31	3,190	11.5	48	277	1.7
650----	31	3,799	7.0	47	274	2.5
600----	31	4,458	2.1	53	304	3.7
550----	31	5,147	- 3.1	56	306	5.1
500----	31	5,903	- 8.1	53	278	8.2
450----	31	6,707	-12.8	41	294	[illegible].5
400----	31	7,604	-18.7	37	294	11.5
350----	31	8,585	-25.[illegible]	38	286	14.2
300----	31	9,683	-34.4		279	16.9
250----	31	10,933	-44.2		278	23.9
200----	31	12,393	-54.9		279	25.5
175----	31	13,236	-60.3		283	23.5
150----	31	14,188	-64.4		288	17.7
125----	31	15,295	-66.6		299	7.4
100----	31	16,647	-65.2		323	5.4
80-----	31	18,016	-61.7		34	5.4
70-----	31	18,856	-59.2		63	6.6
60-----	31	19,818	-56.8		76	7.8
50-----	31	20,980	-54.1		83	10.5
40-----	31	22,417	-52.2		82	15.2
30-----	30	24,290	-49.2		86	18.1
25-----	30	25,490	-47.4		86	19.6
20-----	30	26,971	-45.6		84	19.4
15-----	25	28,906	-42.6		86	23.1
10-----	6	31,638	-39.0			

DODGE CITY, KANS. (928 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	792	18.6	82	201	3.7
1,000--	31	141				
950----	31	587				
900----	31	1,054	20.5	66	219	11.5
850----	31	1,547	19.1	58	231	9.3
800----	31	2,066	16.2	56	263	7.0
750----	31	2,612	12.6	56	286	4.9
700----	31	3,188	8.6	57	311	4.5
650----	31	3,795	4.6	55	303	4.1
600----	31	4,444	.3	53	313	5.4
550----	31	5,133	- 3.7	47	334	5.8
500----	31	5,885	- 7.6	39	336	7.6
450----	31	6,696	-12.7	40	336	8.5
400----	31	7,588	-18.8	39	334	11.3
350----	31	8,569	-26.0	42	333	14.4
300----	31	9,666	-34.4	39	334	17.3
250----	30	10,915	-44.2		336	22.0
200----	30	12,375	-55.1		329	24.1
175----	29	13,217	-60.1		331	22.0
150----	29	14,169	-64.5		338	17.3
125----	29	15,275	-66.5		343	13.8
100----	29	16,628	-65.3		348	9.5
80-----	29	17,995	-62.3		29	6.6
70-----	29	18,832	-59.7		59	9.1
60-----	29	19,794	-57.7		75	10.9
50-----	28	20,949	-55.1		84	12.8
40-----	26	22,383	-52.5		91	17.1
30-----	24	24,258	-49.[illegible]		88	20.6
25-----	23	25,455	-47.9		90	22.0
20-----	16	26,933	-45.6		92	22.7
15-----	5	28,851	-43.4			
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EL PASO, TEXAS (885 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,197	21.3	61	36	1.4
1,000--	31	116				
950----	31	573				
900----	31	1,050				
850----	31	1,544	20.[illegible]	49	137	3.7
800----	31	2,066	17.8	50	150	6.4
750----	31	2,612	14.1	55	150	4.3
700----	31	3,195	9.8	60	125	3.7
650----	31	3,801	5.3	63	101	4.7
600----	31	4,456	.8	65	93	7.0
550----	31	5,146	- 3.7	60	93	7.6
500----	31	5,899	- 8.2	56	108	8.0
450----	31	6,709	-12.7	40	112	6.2
400----	31	7,602	-18.3	32	113	6.4
350----	31	8,586	-25.3		95	3.9
300----	31	9,687	-33.8		69	5.4
250----	31	10,940	-43.[illegible]		50	6.0
200----	31	12,402	-55.2		21	3.9
175----	31	13,244	-61.1		9	4.3
150----	31	14,189	-66.1		40	6.0
125----	31	15,286	-69.3		45	4.9
100----	31	16,617	-68.6		66	8.5
80-----	31	17,964	-64.9		74	13.2
70-----	31	18,782	-62.8		80	17.7
60-----	31	19,736	-60.2		84	21.8
50-----	31	20,881	-57.6		91	25.5
40-----	31	22,296	-55.2		90	26.6
30-----	31	24,151	-51.5		89	32.1
25-----	31	25,336	-48.9		91	32.[illegible]
20-----	30	26,810	-46.9		88	31.9
15-----	27	28,725	-44.8		84	38.7
10-----	17	31,440	-40.2			

ELY, NEV. (814 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,908	11.5	68	179	9.5
1,000--	31	145				
950----	31	589				
900----	31	1,055				
850----	31	1,542				
800----	31	2,055	16.0	59	180	[illegible].7
750----	31	2,605	14.8	51	184	6.2
700----	31	3,184	10.9	54	206	7.0
650----	31	3,795	6.2	60	210	7.2
600----	31	4,449	1.1	65	200	8.2
550----	31	5,134	- 4.0	64	205	9.5
500----	31	5,888	- 8.5	50	219	10.3
450----	31	6,693	-13.5	38	218	12.2
400----	31	7,583	-19.8	31	224	13.6
350----	31	8.560	-27.1	34	228	18.3
300----	31	9,653	-35.4	39	219	22.2
250----	31	10,897	-45.0		222	27.8
200----	31	12,357	-54.4		219	34.4
175----	31	13,204	-58.9		223	29.0
150----	31	14,164	-62.4		230	19.2
125----	31	15,285	-64.5		216	13.4
100----	31	16,648	-64.5		191	5.6
80-----	31	18,022	-60.9		99	4.7
70-----	31	18,873	-58.6		91	6.2
60-----	31	19,829	-56.4		89	9.1
50-----	31	20,991	-54.3		82	10.3
40-----	31	22,428	-52.3		87	13.6
30-----	31	24,299	-49.5		88	18.1
25-----	30	25,500	-47.6		86	19.0
20-----	29	26,984	-45.4		86	20.4
15-----	26	28,918	-42.3		85	25.6
10-----	7	31,653	-38.9			

FAIRBANKS, ALASKA (993 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	135	9.7	85	322	2.1
1,000--	31	76				
950----	31	503	10.1	71	261	2.1
900----	31	953	7.6	69	242	6.4
850----	30	1,422	4.6	68	232	8.7
800----	30	1,913	1.2	76	229	9.1
750----	30	2,425	- 2.0	78	235	9.5
700----	30	2,975	- 5.3	77	238	9.5
650----	30	3,550	- 8.4	38	235	9.1
600----	30	4,172	-11.8	66	230	8.5
550----	30	4,825	-15.6	59	225	8.9
500----	30	5,546	-20.3	52	218	9.1
450----	30	6,310	-25.6	51	223	10.5
400----	30	7,163	-31.8	51	210	12.0
350----	30	8,093	-38.8		208	11.1
300----	30	9.134	-46.5		209	12.0
250----	30	10,325	-53.1		220	11.7
200----	30	11,772	-48.8		225	15.9
175----	30	12,652	-47.8		228	14.6
150----	30	13,671	-47.6		226	13.2
125----	30	14,875	-47.9		227	11.5
100----	30	16.348	-47.7		233	9.1
80-----	30	17,823	-47.4		232	8.0
70-----	30	18,703	-47.4		235	7.4
60-----	29	19,724	-47.2		233	5.8
50-----	29	20,929	-47.4		232	3.9
40-----	29	22,403	-47.6		232	1.9
30-----	23	24,315	-46.9		121	2.3
25-----	17	25,537	-45.6		135	3.1
20-----	10	27,071	-43.6			
15-----						
10-----						

FLINT, MICH. (992 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	234	16.0	92	246	2.1
1,000--	31	162				
950----	31	602	17.5	75	275	6.8
900----	31	1,062	14.9	70	284	9.1
850----	31	1,544	12.3	62	282	10.5
800----	31	2,051	9.8	53	283	12.0
750----	31	2,585	6.9	50	279	13.0
700----	31	3,150	3.8	46	279	14.6
650----	31	3,747	.3	46	277	16.9
600----	31	4,387	- 3.3	42	275	17.7
550----	31	5,066	- 6.9	38	271	19.2
500----	31	5,809	-11.6	37	272	20.6
450----	31	6,605	-16.8		271	22.2
400----	31	7,484	-22.9		276	23.3
350----	31	8,449	-30.0		275	25.1
300----	31	9,529	-38.0		274	28.4
250----	31	10,761	-47.2		278	32.1
200----	31	12,210	-54.7		273	33.2
175----	31	13,062	-56.3		274	33.6
150----	31	14,037	-57.9		271	28.8
125----	31	15,182	-59.3		269	22.0
100----	31	16,579	-59.1		274	16.9
80-----	31	17,987	-56.9		286	9.5
70-----	31	18,841	-55.3		292	5.8
60-----	31	19,824	-53.8		315	1.4
50-----	31	21,000	-52.3		53	2.3
40-----	30	22,452	-50.2		79	9.1
30-----	26	24,343	-48.0		84	12.4
25-----	24	25,548	-46.5		83	13.4
20-----	22	27,037	-44.1		83	15.7
15-----	20	28,973	-41.7		83	13.6
10-----	8	31,743	-38.3			

FORT WORTH, TEXAS (997 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	180	22.4	81	199	1.4
1,000--	31	150				
950----	31	600	22.8	70	210	8.0
900----	31	1,069	20.5	68	215	5.1
850----	31	1,562	17.6	62		.0
800----	31	2,078	14.6	58	47	2.3
750----	31	2,617	10.9	56	53	4.3
700----	31	3,193	7.0	56	44	5.1
650----	31	3,795	3.6	50	41	6.6
600----	31	4,445	.2	41	29	6.2
550----	31	5,130	- 3.8	40	21	6.4
500----	31	5,884	- 8.3	37	17	8.0
450----	31	6,691	-13.3	33	14	10.5
400----	31	7,582	-19.0	30	20	12.6
350----	31	8,562	-26.0		20	16.7
300----	31	9,660	-34.3		14	20.2
250----	31	10,910	-44.2		7	23.1
200----	31	12,373	-54.2		5	23.3
175----	31	13,219	-59.3		11	19.6
150----	31	14,173	-64.0		20	14.6
125----	31	15,283	-65.8		24	9.5
100----	31	16,635	-66.4		33	8.7
80-----	31	17,998	-63.1		71	12.6
70-----	31	18,832	-61.0		78	15.5
60-----	31	19,787	-58.4		84	19.0
50-----	31	20,940	-56.0		90	23.3
40-----	31	22,368	-53.3		92	24.5
30-----	31	24,235	-50.0		86	28.6
25-----	31	25,432	-47.7		90	31.5
20-----	28	26,912	-45.9		90	31.3
15-----	18	28,839	-42.8		87	34.8
10-----						

GLASGOW, MONT. (936 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	696	17.1	50	73	3.3
1,000--	31	123				
950----	31	567				
900----	31	1,033	21.6	37	173	2.7
850----	31	1,527	19.6	33	274	4.3
800----	31	2,045	16.0	36	276	6.8
750----	31	2,586	11.8	40	286	8.9
700----	31	3,162	7.2	46	293	12.6
650----	31	3,761	2.9	43	293	15.9
600----	31	4,411	- 1.7	39	286	18.5
550----	31	5,090	- 6.5	37	282	19.6
500----	31	5,835	-11.4		282	21.0
450----	31	6,626	-16.8		283	23.7
400----	31	7,508	-23.2		282	28.0
350----	31	8,471	-30.5		284	31.5
300----	31	9,548	-38.7		281	38.9
250----	31	10,775	-48.1		283	44.1
200----	31	12,218	-55.5		281	52.7
175----	31	13,068	-56.5		282	49.7
150----	31	14,044	-57.6		285	39.4
125----	31	15,190	-59.4		287	29.9
100----	31	16,588	-59.3		293	18.3
80-----	31	17,990	-57.3		312	10.5
70-----	31	18,840	-55.8		322	7.4
60-----	30	19,818	-54.3		337	4.7
50-----	29	20,991	-53.1		24	4.7
40-----	28	22,434	-50.9		47	5.4
30-----	28	24,319	-47.6		62	5.1
25-----	27	25,527	-46.3		72	6.0
20-----	25	27,022	-44.3		84	9.7
15-----	22	28,964	-41.9		80	9.3
10-----						

GRAND JUNCTION, COLO. (856 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,474	19.4	54	113	6.2
1,000--	31	109				
950----	31	558				
900----	31	1,034				
850----	31	1,536	20.2	51	115	6.0
800----	31	2,059	19.0	49	133	5.1
750----	31	2,607	15.4	52	167	3.3
700----	31	3,192	11.3	56	225	2.7
650----	31	3,803	6.6	62	238	4.7
600----	31	4,458	1.7	66	237	5.4
550----	31	5,147	- 3.3	66	233	5.4
500----	31	5,902	- 8.0	57	241	6.6
450----	31	6,712	-12.9	52	243	8.7
400----	31	7,604	-18.7	44	239	12.0
350----	31	8,585	-25.9	43	243	13.8
300----	31	9,684	-34.1	40	248	17.1
250----	31	10,934	-43.9		247	23.7
200----	31	12,396	-54.9		254	24.7
175----	31	13,240	-60.1		255	22.0
150----	31	14,191	-64.4		263	14.4
125----	31	15,298	-66.7		263	7.0
100----	31	16,646	-66.3		271	1.6
80-----	31	18,010	-62.5		67	3.7
70-----	30	18,847	-60.1		78	6.4
60-----	30	19,806	-57.7		78	9.5
50-----	28	20,965	-55.5		86	11.9
40-----	28	22,397	-52.4		90	15.0
30-----	25	24,268	-49.6		82	19.0
25-----	25	25,465	-48.1		89	20.4
20-----	25	26,943	-46.0		87	21.0
15-----	22	28,873	-43.4		84	25.1
10-----	9	31,640	-39.1			

GREAT FALLS, MONT. (891 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,123	15.5	54	223	4.7
1,000--	31	122				
950----	31	563				
900----	31	1,034				
850----	31	1,525	19.6	40	222	6.2
800----	31	2,044	16.5	40	241	2.5
750----	31	2,582	12.6	44	250	4.9
700----	31	3,165	8.6	48	248	8.9
650----	31	3,768	4.0	49	255	16.5
600----	31	4,419	- .7	49	260	19.0
550----	31	5,097	- 5.7	45	257	20.4
500----	31	5,848	-10.8	42	259	23.5
450----	31	6,643	-16.5	38	261	23.9
400----	31	7,526	-22.6	37	258	27.0
350----	31	8,492	-29.7		257	32.3
300----	31	9,573	-38.0		260	38.3
250----	31	10,803	-47.3		261	49.0
200----	31	12,254	-54.3		261	56.2
175----	31	13,106	-56.2		263	52.5
150----	31	14,083	-57.6		268	41.4
125----	31	15,229	-59.4		268	27.8
100----	30	16,627	-59.4		278	17.9
80-----	29	18,030	-57.8		290	8.4
70-----	27	18,883	-56.4		317	6.2
60-----	27	19,858	-54.5		13	4.5
50-----	26	21,027	-53.0		57	5.2
40-----	24	22,475	-51.0		60	7.8
30-----	22	24,363	-47.5		81	6.4
25-----	19	25,567	-45.9		74	7.0
20-----	16	27,050	-44.6		91	9.3
15-----	9	28,963	-42.2			
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

AUGUST 1961

Standard pressure surface (mb.)	GREEN BAY, WIS. (992 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREENSBORO, N. C. (988 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	210	15.1	88	294	3.3	30	273	19.7	96	263	0.6
1,000--	31	146					30	165				
950----	31	585	17.6	67	277	6.0	30	608	20.4	81	289	2.5
900----	31	1,045	15.6	63	292	8.7	30	1,076	18.2	75	316	2.9
850----	31	1,528	12.7	63	296	10.3	30	1,565	15.6	72	268	4.3
800----	31	2,034	9.7	57	296	11.9	30	2,078	12.7	70	259	7.0
750----	31	2,565	6.6	54	296	15.0	30	2,616	9.6	66	250	8.9
700----	31	3,131	3.5	49	296	16.3	30	3,190	6.5	64	247	10.1
650----	31	3,725	.1	44	296	16.9	30	3,794	3.1	61	241	13.4
600----	31	4,366	- 3.4	39	297	19.0	30	4,441	- .3	57	238	15.2
550----	31	5,045	- 7.4		302	20.4	30	5,131	- 3.9	49	236	15.7
500----	31	5,785	-12.0		297	21.6	30	5,881	- 8.3	45	236	15.9
450----	31	6,582	-17.6		299	22.3	30	6,688	-13.4	44	235	16.7
400----	31	7,454	-23.9		299	25.6	30	7,580	-19.2	39	238	18.8
350----	31	8,415	-30.9		298	28.4	30	8,560	-26.1	39	239	22.3
300----	31	9,491	-39.1		296	28.6	30	9,657	-34.2	35	234	25.8
250----	31	10,716	-48.0		293	34.0	30	10,908	-44.0		239	29.7
200----	31	12,163	-54.1		292	38.3	30	12,370	-55.1		241	34.8
175----	31	13,017	-55.4		296	33.6	30	13,212	-60.4		245	32.4
150----	31	13,996	-57.3		293	28.6	30	14,164	-64.2		253	25.1
125----	31	15,143	-58.6		289	23.1	30	15,275	-65.7		249	15.2
100----	31	16,546	-57.9		296	16.7	30	16,633	-64.5		256	7.6
80-----	31	17,958	-56.2		299	9.7	30	18,005	-61.6		63	2.7
70-----	31	18,816	-55.1		304	6.6	30	18,842	-59.6		82	7.6
60-----	31	19,797	-53.4		353	3.7	30	19,805	-57.2		83	12.8
50-----	30	20,977	-51.7		51	3.8	30	20,964	-54.7		88	16.3
40-----	30	22,430	-49.9		76	6.2	30	22,399	-52.3		90	19.6
30-----	29	24,322	-47.3		81	11.9	29	24,272	-48.9		90	19.2
25-----	26	25,531	-46.2		82	12.6	25	25,469	-47.3		91	22.9
20-----	25	27,021	-43.9		84	14.4	21	26,953	-45.2		88	25.5
15-----	15	28,995	-41.0				16	28,886	-42.6		92	31.7

Standard pressure surface (mb.)	HILO, HAWAII (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	INTERNAT. FALLS, MINN. (974 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	JACKASS FLATS, NEV. (893 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	11	21.5	89	243	4.7	31	360	12.9	88	237	1.2	31	1,100	21.9	39	31	5.6
1,000--	31	148	22.8	80	243	3.1	31	134					31	99				
950----	31	595	19.9	83	101	4.1	31	572	16.8	72	258	6.2	31	548				
900----	31	1,060	16.7	86	92	8.2	31	1,030	15.7	63	281	8.2	31	1,026				
850----	31	1,546	13.7	88	88	8.4	31	1,514	13.2	60	286	10.7	31	1,529			162	4.5
800----	31	2,055	11.3	82	95	8.2	31	2,021	10.4	53	288	15.3	31	2,055	19.7	40	195	8.4
750----	31	2,598	10.1	59	104	7.8	31	2,552	7.3	48	287	17.5	31	2,598	15.5	45	195	9.7
700----	31	3,167	8.6	30	105	7.6	31	3,120	3.6	50	292	19.4	31	3,187	10.8	52	184	10.9
650----	31	3,778	5.7	25	97	7.2	31	3,712	.0	43	294	21.2	31	3,791	6.0	57	173	11.9
600----	31	4,428	1.9	25	91	6.6	31	4,356	- 3.8	38	298	23.9	31	4,450	1.3	56	168	13.2
550----	31	5,117	- 2.1		93	4.7	31	5,027	- 8.0	35	298	25.3	31	5,134	- 3.3	51	172	10.9
500----	31	5,878	- 6.3		99	1.7	31	5,772	-12.9	34	301	26.4	31	5,893	- 7.8	43	186	10.7
450----	31	6,688	-11.5		268	2.1	31	6,561	-18.4		299	27.6	31	6,695	-13.2	39	201	10.7
400----	31	7,589	-17.5		257	7.0	31	7,438	-24.6		298	31.1	31	7,591	-19.8		210	12.0
350----	31	8,575	-24.9		257	11.1	31	8,396	-31.7		298	35.8	31	8,568	-26.8		212	14.8
300----	31	9,676	-33.6		265	17.9	31	9,467	-40.0		298	39.8	31	9,663	-35.1		205	19.6
250----	30	10,930	-43.6		267	23.1	31	10,689	-48.7		298	42.7	31	10,909	-44.5		204	25.6
200----	30	12,392	-55.3		260	26.6	31	12,134	-53.8		299	45.5	30	12,377	-54.0		203	29.3
175----	30	13,232	-61.6		254	27.6	31	12,991	-54.4		298	41.6	30	13,224	-58.9		207	27.0
150----	30	14,172	-67.8		250	26.8	31	13,976	-55.2		299	38.9	30	14,182	-62.6		220	19.6
125----	30	15,259	-70.9		246	17.5	31	15,139	-55.8		298	29.1	30	15,297	-65.8		222	9.9
100----	30	16,574	-71.6		133	3.7	31	16,558	-55.9		300	20.6	30	16,650	-65.6		174	5.2
80-----	29	17,905	-67.5		96	16.3	31	17,983	-54.3		305	14.4	30	18,013	-63.2		103	6.8
70-----	29	18,713	-64.6		95	20.6	31	18,841	-53.4		314	10.3	30	18,845	-60.5		101	8.5
60-----	29	19,658	-61.6		93	23.9	29	19,830	-52.2		331	5.6	30	19,806	-58.1		93	10.5
50-----	28	20,797	-59.2		97	26.8	29	21,015	-50.7		354	3.3	29	20,959	-55.7		91	14.2
40-----	28	22,210	-55.8		95	27.8	28	22,472	-49.0		22	2.5	27	22,386	-54.1		91	18.5
30-----	26	24,058	-52.1		99	27.4	27	24,370	-46.7		78	4.5	26	24,244	-51.6		88	20.8
25-----	25	25,242	-50.3		94	28.4	26	25,583	-45.5		75	6.8	23	25,437	-49.8		90	22.2
20-----	25	26,707	-47.3		98	31.9	25	27,079	-43.5		76	9.3	18	26,888	-48.9		91	25.1
15-----	16	28,602	-45.3		93	39.2	17	29,019	-41.2		83	12.8	16	28,793	-46.7		96	29.1

Standard pressure surface (mb.)	JACKSON, MISS. (1006 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	JACKSONVILLE, FLA. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	101	21.1	93		0.0	31	6	23.4	95	19	0.6
1,000--	31	146	21.6	89		.0	31	160	23.8	89	158	1.7
950----	31	595	22.1	75	249	1.0	31	609	22.3	78	168	3.9
900----	31	1,063	19.2	75	191	1.4	31	1,079	19.6	76	170	4.7
850----	31	1,553	16.0	73	205	2.1	31	1,571	16.8	74	184	4.9
800----	31	2,066	12.9	70	215	2.1	31	2,086	13.9	70	186	4.7
750----	31	2,606	9.7	64	241	1.4	31	2,625	10.9	65	197	5.1
700----	31	3,176	6.2	61	278	1.6	31	3,201	7.5	65	204	5.4
650----	31	3,782	2.6	55	268	2.5	31	3,803	3.9	63	194	5.1
600----	31	4,424	- .9	47	258	3.5	31	4,456	.3	58	201	9.1
550----	31	5,109	- 4.8	42	259	3.3	31	5,140	- 3.6	52	204	9.7
500----	31	5,857	- 9.1	36	253	3.9	31	5,897	- 7.9	51	204	10.7
450----	31	6,665	-13.8	34	269	3.1	31	6,702	-12.0	49	205	11.5
400----	31	7,550	-20.1	35	271	3.7	31	7,600	-18.4	45	200	12.6
350----	31	8,527	-26.8		279	4.1	31	8,583	-25.3	41	194	11.3
300----	31	9,621	-34.8		271	5.6	31	9,684	-33.4	35	197	10.5
250----	31	10,869	-44.4		256	8.5	31	10,938	-43.5		211	8.0
200----	31	12,333	-53.9		262	11.5	31	12,401	-55.0		208	8.4
175----	31	13,181	-58.9		270	9.5	31	13,243	-61.1		227	8.9
150----	31	14,139	-63.2		271	6.6	31	14,188	-65.9		232	7.4
125----	31	15,251	-65.7		271	.6	31	15,288	-68.2		195	1.7
100----	31	16,606	-65.3		62	3.7	31	16,628	-67.1		105	5.8
80-----	31	17,972	-63.3		83	9.1	31	17,987	-63.8		78	14.2
70-----	31	18,808	-60.9		80	13.4	31	18,814	-61.3		79	17.9
60-----	31	19,759	-59.0		80	19.0	31	19,772	-58.5		84	23.7
50-----	31	20,911	-55.9		88	23.5	30	20,926	-55.5		88	25.5
40-----	31	22,339	-53.4		94	26.2	30	22,359	-52.7		94	26.8
30-----	29	24,199	-50.5		88	28.4	28	24,230	-49.3		87	29.0
25-----	27	25,392	-48.1		87	32.8	27	25,429	-47.2		84	30.5
20-----	20	26,871	-46.2		90	31.9	20	26,913	-44.5		84	31.5
15-----	9	28,787	-43.9				8	28,839	-41.2			
10-----	5	31,543	-40.1									

Standard pressure surface (mb.)	JOHNSTON IS., PACIFIC AREA (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	KING SALMON, ALASKA (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	KOTZEBUE, ALASKA (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	26.5	82	83	15.7	31	15	7.9	89	159	4.1	31	5	9.9	90	34	1.0
1,000--	31	126	25.6	82	83	17.5	31	70			168	6.8	31	66	9.9	86	125	1.2
950----	31	570	22.3	80	86	21.2	31	492	7.8	76	165	10.1	31	487	8.3	75	158	4.5
900----	31	1,046	19.1	78	88	22.3	31	940	5.3	77	176	10.1	31	937	5.6	74	175	5.8
850----	31	1,536	16.0	75	92	20.0	31	1,405	2.6	78	176	8.5	31	1,402	2.7	72	172	6.8
800----	31	2,050	13.8	62	97	17.1	31	1,893	- .1	77	180	8.4	31	1,890	.0	72	173	6.8
750----	31	2,585	11.5	51	99	13.8	31	2,406	- 2.8	71	190	8.0	31	2,400	- 2.8	69	177	7.2
700----	31	3,167	9.0	43	90	11.5	31	2,953	- 5.4	62	189	8.7	31	2,950	- 5.4	65	183	6.8
650----	31	3,770	5.6	36	94	10.9	31	3,531	- 8.5	57	197	9.7	31	3,523	- 8.7	62	183	7.2
600----	31	4,428	1.9	36	92	12.4	31	4,149	-11.8	48	196	9.5	31	4,145	-12.4	58	188	6.0
550----	31	5,117	- 2.2	33	93	6.0	31	4,808	-15.9	45	199	10.5	31	4,798	-16.6	54	194	5.8
500----	31	5,876	- 6.6	30	93	4.1	31	5,521	-20.8	44	205	12.0	31	5,514	-21.5	52	196	6.0
450----	31	6,685	-11.6		143	1.4	31	6,288	-26.2	46	208	14.6	31	6,275	-27.0	51	178	3.3
400----	31	7,586	-17.6		245	3.5	31	7,136	-32.0	44	216	16.3	31	7,121	-33.3	50	162	5.8
350----	31	8,573	-24.6		244	8.5	31	8,067	-38.4		215	17.3	31	8,046	-39.9		161	5.2
300----	31	9,678	-32.9		254	12.2	31	9,112	-44.7		221	19.0	31	9,082	-47.3		184	5.6
250----	31	10,936	-42.7		259	21.0	31	10,322	-48.1		227	25.5	31	10,273	-51.5		213	4.3
200----	31	12,405	-54.7		254	29.3	31	11,794	-47.2		234	26.0	31	11,727	-48.3		248	4.5
175----	31	13,248	-61.5		255	30.5	31	12,679	-47.0		237	21.4	31	12,609	-47.0		226	6.4
150----	31	14,190	-67.7		260	29.5	30	13,692	-47.0		240	17.1	31	13,630	-46.8		243	6.2
125----	31	15,269	-73.0		252	20.0	30	14,899	-47.3		245	13.8	31	14,838	-46.8		238	6.4
100----	28	16,585	-71.9		164	4.1	30	16,374	-47.7		238	10.7	31	16,317	-46.8		234	5.8
80-----	26	17,912	-67.9		93	16.3	28	17,849	-47.6		240	6.6	31	17,796	-46.7		231	4.5
70-----	26	18,721	-64.5		84	18.8	27	18,730	-47.8		231	6.8	31	18,682	-46.5		222	4.7
60-----	25	19,670	-61.8		89	20.8	25	19,745	-47.7		220	7.0	31	19,705	-46.5		206	3.3
50-----	25	20,807	-59.1		87	21.8	25	20,956	-47.7		215	4.1	30	20,910	-46.4		220	3.1
40-----	24	22,217	-56.1		90	23.5	24	22,434	-47.5		166	2.5	30	22,390	-46.8		179	.6
30-----	23	24,062	-52.7		92	22.9	24	24,340	-46.8		144	1.4	29	24,296	-46.2		94	2.3
25-----	20	25,240	-50.5		87	26.4	21	25,552	-45.7		78	2.3	26	25,498	-45.4		113	2.5
20-----	18	26,709	-47.5		88	28.4	18	27,045	-43.7		85	4.3	24	26,992	-44.2		128	2.3
15-----							8	28,986	-40.8				15	28,926	-42.2			

Standard pressure surface (mb.)	LAKE CHARLES, LA. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LANDER, WYO. (834 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	22.6	92	36	3.5	31	1,696	15.8	53	254	3.9
1,000--	31	149	23.5	83	61	3.5	31	121				
950----	31	599	22.0	76	112	2.5	31	565				
900----	31	1,067	19.3	72	130	2.9	31	1,034				
850----	31	1,557	16.2	70	136	3.3	31	1,534				
800----	31	2,072	13.2	64	139	2.1	31	2,052	17.6	41	290	2.9
750----	31	2,615	10.1	60	121	1.9	31	2,597	14.4	41	273	3.1
700----	31	3,184	6.6	58	79	1.6	31	3,181	10.6	44	251	3.7
650----	31	3,790	3.1	54	71	2.5	31	3,787	6.0	49	253	5.4
600----	31	4,435	- .8	51	49	2.1	31	4,444	1.0	53	255	6.8
550----	31	5,122	- 4.6	48	2	1.6	31	5,127	- 4.2	52	253	8.2
500----	31	5,871	- 8.8	44		.0	31	5,884	- 9.0	46	254	11.3
450----	31	6,682	-14.0	38	42	1.4	31	6,687	-14.0	37	253	13.4
400----	31	7,567	-19.6	38	349	3.5	31	7,579	-20.3	32	257	15.3
350----	31	8,545	-26.7	35	346	3.3	31	8,553	-27.6	34	254	20.2
300----	31	9,640	-35.0		342	4.3	31	9,643	-36.1		260	25.6
250----	31	10,887	-44.1		325	2.7	31	10,884	-45.6		257	35.9
200----	31	12,354	-53.3		299	5.8	31	12,339	-55.0		262	37.7
175----	31	13,205	-58.2		291	4.5	31	13,184	-59.2		266	32.3
150----	31	14,163	-63.2		336	4.1	31	14,142	-62.9		265	27.2
125----	31	15,272	-66.8		35	3.9	31	15,259	-64.8		264	16.1
100----	31	16,622	-66.0		70	8.4	31	16,622	-63.9		277	8.0
80-----	31	17,980	-64.1		84	12.6	30	17,998	-61.0		332	2.1
70-----	30	18,806	-62.4		80	17.3	30	18,836	-58.9		64	2.9
60-----	30	19,757	-59.6		80	23.7	30	19,803	-56.9		75	5.4
50-----	30	20,905	-56.7		88	28.4	30	20,962	-54.9		77	7.8
40-----	29	22,329	-53.9		93	29.5	29	22,398	-52.4		74	9.9
30-----	29	24,190	-50.7		89	30.7	28	24,272	-49.2		84	12.2
25-----	29	25,383	-48.6		89	32.6	25	25,479	-47.2		87	15.2
20-----	25	26,857	-46.3		86	34.4	17	26,956	-45.6		86	15.2
15-----	16	28,790	-43.8									

Standard pressure surface (mb.)	LAS VEGAS, NEV. (938 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LIHUE, HAWAII (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LITTLE ROCK, ARK. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	660	25.7	43	219	4.7	30	36	24.7	78	52	11.5	31	79	21.3	87	312	1.0
1,000--	31	91					30	155	23.7	78	59	14.2	31	156	21.7	82	315	.8
950----	31	546					30	601	20.0	82	70	16.9	31	600	21.3	71		.0
900----	31	1,028	26.8	36	212	4.1	30	1,066	16.4	84	76	16.8	31	1,071	18.5	71	190	1.0
850----	31	1,530	23.7	38	209	4.1	30	1,551	13.0	83	78	17.5	31	1,560	15.6	72	256	1.7
800----	31	2,056	19.7	45	197	6.2	30	2,059	10.8	71	81	16.1	31	2,073	12.8	64	292	3.1
750----	31	2,601	15.3	52	185	6.2	30	2,599	10.6	36	86	11.9	31	2,608	9.7	60	299	3.7
700----	31	3,188	10.5	58	177	7.6	30	3,169	8.1		86	7.0	31	3,183	6.0	58	305	4.3
650----	31	3,793	5.8	60	173	10.9	30	3,771	5.2		84	4.9	30	3,777	2.6	48	310	4.5
600----	31	4,451	1.0	61	175	11.9	30	4,427	1.6		85	3.1	30	4,429	- .9	45	325	4.9
550----	31	5,138	- 3.5	55	181	9.5	30	5,117	- 2.8		125	1.2	30	5,105	- 5.0	43	333	5.1
500----	31	5,893	- 8.2	48	187	8.9	30	5,872	- 7.6		195	1.9	30	5,862	- 9.4	40	337	3.5
450----	31	6,697	-13.3	39	194	9.7	30	6,680	-12.9		232	5.6	30	6,663	-14.6	34	350	7.0
400----	31	7,591	-19.4	34	202	10.1	30	7,572	-19.1	26	253	12.0	30	7,552	-20.4		3	7.8
350----	31	8,569	-26.7		195	14.4	30	8,552	-26.1		256	18.3	30	8,527	-27.0		353	10.7
300----	31	9,664	-34.9		195	18.5	30	9,648	-34.7		255	24.1	30	9,621	-35.0		352	12.2
250----	31	10,911	-44.6		197	23.7	30	10,895	-44.5		259	31.5	30	10,868	-44.6		337	13.8
200----	31	12,371	-54.8		202	28.8	30	12,353	-55.8		254	37.9	30	12,331	-53.8		331	13.4
175----	31	13,215	-59.8		205	27.2	29	13,190	-61.8		252	36.9	29	13,178	-58.1		333	13.8
150----	31	14,169	-63.5		218	18.3	29	14,133	-66.6		246	31.3	29	14,141	-61.7		337	10.5
125----	31	15,280	-66.1		231	6.4	29	15,232	-67.7		242	18.7	29	15,262	-64.0		349	11.1
100----	30	16,632	-65.6		152	4.9	29	16,572	-68.6		162	4.1	29	16,627	-64.1		25	5.1
80-----	30	17,995	-62.5		98	7.4	27	17,916	-66.2		91	15.3	29	18,000	-61.5		73	8.5
70-----	30	18,826	-60.0		91	10.5	27	18,729	-63.7		86	20.6	29	18,828	-59.9		77	10.5
60-----	30	19,790	-57.9		88	13.8	27	19,680	-61.0		87	25.1	29	19,797	-58.0		80	14.0
50-----	30	20,944	-55.4		91	16.9	27	20,821	-58.6		92	28.2	29	20,952	-55.6		85	17.9
40-----	30	22,373	-53.3		85	19.8	27	22,234	-55.8		86	29.7	29	22,381	-53.0		93	21.6
30-----	28	24,234	-50.4		86	23.3	26	24,087	-51.7		91	33.6	29	24,248	-49.9		89	23.3
25-----	26	25,426	-48.6		91	24.1	24	25,271	-49.7		95	34.0	28	25,444	-48.0		91	25.1
20-----	20	26,893	-46.7		86	26.0	24	26,738	-47.9		95	34.4	27	26,919	-46.1		91	27.4
15-----	10	28,824	-43.8				17	28,645	-45.5		91	37.7	24	28,844	-43.5		91	29.5

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	McGRATH, ALASKA (997 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	103	8.5	87	195	1.6
1,000	31	79			178	2.3
950	31	509	9.1	76	192	4.3
900	31	952	6.6	77	201	5.8
850	31	1,419	3.7	77	192	6.6
800	31	1,909	.5	80	187	8.7
750	31	2,424	- 2.8	83	192	10.1
700	31	2,969	- 5.7	79	188	10.5
650	31	3,543	- 9.0	74	182	8.5
600	31	4,162	-12.7	69	193	11.1
550	31	4,816	-17.0	60	184	11.3
500	31	5,530	-21.3	56	181	9.9
450	31	6,292	-26.6	52	181	10.5
400	31	7,139	-32.8	48	194	11.5
350	31	8,066	-39.8		198	13.2
300	31	9,104	-47.0		198	15.7
250	30	10,299	-50.8		210	16.1
200	30	11,761	-47.3		218	12.2
175	30	12,646	-46.6		211	12.2
150	30	13,670	-46.7		224	12.2
125	30	14,879	-47.0		229	9.9
100	29	16,355	-47.4		230	8.0
80	29	17,832	-47.2		221	5.6
70	29	18,715	-47.3		209	4.9
60	29	19,735	-47.4		211	3.9
50	29	20,940	-47.5		206	2.9
40	29	22,415	-47.4		207	2.1
30	29	24,319	-46.9		131	.6
25	28	25,523	-46.1		71	.6
20	27	27,009	-44.4			.0
15	19	28,962	-42.3		174	2.7
10	5	31,718	-38.9			

Standard pressure surface (mb.)	MEDFORD, OREG. (970 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	401	15.6	72	310	1.2
1,000	31	141				
950	31	584	18.4	59	283	2.1
900	31	1,044	18.2	55	247	.6
850	31	1,533	16.7	52	148	1.2
800	31	2,048	14.7	45	177	3.1
750	31	2,586	11.1	47	186	8.2
700	31	3,163	7.3	44	194	12.6
650	31	3,761	3.4	41	196	14.6
600	31	4,414	- 1.1	40	199	16.1
550	31	5,093	- 5.7	38	198	16.5
500	31	5,842	-11.0	40	202	17.3
450	31	6,637	-16.5		208	18.7
400	31	7,520	-22.7		211	22.0
350	31	8,487	-30.0		217	25.3
300	31	9,567	-38.4		217	30.7
250	31	10,798	-47.4		217	34.6
200	31	12,254	-53.2		220	36.3
175	31	13,111	-55.3		220	34.2
150	31	14,090	-57.7		224	28.0
125	31	15,236	-59.9		224	17.7
100	31	16,628	-60.6		209	9.5
80	31	18,022	-59.0		174	3.5
70	31	18,867	-57.0		124	4.5
60	31	19,842	-55.5		104	5.2
50	30	21,008	-53.8		78	7.8
40	30	22,448	-51.[illegible]		87	9.1
30	29	24,325	-49.3		80	11.1
25	26	25,523	-47.7		81	12.4
20	24	27,001	-46.1		83	15.5
15	11	28,899	-44.7			
10	6	31,630	-40.5			

Standard pressure surface (mb.)	MIAMI, FLA. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	25.9	85	87	2.3
1,000	31	149	26.0	80	109	4.9
950	31	597	23.0	82	133	9.3
900	31	1,072	20.2	77	130	9.5
850	31	1,565	17.3	73	128	7.6
800	31	2,081	14.4	69	128	5.1
750	31	2,620	11.3	64	127	5.2
700	31	3,199	8.0	60	132	5.1
650	31	3,803	4.7	57	137	4.9
600	31	4,457	1.2	48	141	5.2
550	31	5,145	- 2.9	43	134	4.3
500	31	5,902	- 7.6	40	131	4.7
450	31	6,710	-12.8	42	136	5.6
400	31	7,605	-18.8	40	124	6.0
350	31	8,586	-25.7	38	113	6.8
300	31	9,685	-34.0	33	107	7.2
250	31	10,936	-43.9		94	8.2
200	31	12,397	-55.4		68	6.4
175	31	13,237	-61.3		56	7.4
150	31	14,181	-66.6		63	6.8
125	31	15,273	-69.9		70	7.6
100	31	16,601	-69.8		81	13.0
80	31	17,938	-66.3		86	20.6
70	31	18,756	-63.8		84	25.8
60	31	19,704	-60.5		88	31.3
50	30	20,846	-57.7		93	36.1
40	30	22,262	-54.9		95	35.4
30	30	24,120	-49.8		94	34.6
25	18	25,328	-46.8		89	33.8
20	7	26,807	-46.4			

Standard pressure surface (mb.)	MIDLAND, TEXAS (919 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	871	18.9	75	135	3.7
1,000	31	135				
950	31	586				
900	31	1,052	21.2	63	165	11.5
850	31	1,546	19.5	56	182	10.0
800	31	2,066	16.2	56	166	7.8
750	31	2,607	12.7	56	124	4.5
700	31	3,189	9.0	55	74	5.2
650	31	3,793	5.0	57	62	6.4
600	31	4,448	.7	53	55	6.4
550	31	5,135	- 3.5	41	63	7.0
500	31	5,890	- 7.5	33	70	6.6
450	31	6,699	-12.5	27	55	8.4
400	31	7,593	-18.6	27	48	10.1
350	31	8,575	-25.6		40	11.5
300	31	9,674	-33.8		27	14.6
250	31	10,926	-43.6		22	15.5
200	31	12,389	-54.9		20	16.7
175	31	13,232	-60.4		29	16.1
150	31	14,180	-65.4		41	12.6
125	31	15,281	-68.3		40	9.3
100	31	16,621	-67.5		49	10.9
80	31	17,973	-64.2		77	14.0
70	31	18,798	-61.8		82	17.3
60	31	19,754	-59.6		84	20.6
50	30	20,901	-57.1		92	25.5
40	30	22,322	-54.3		92	28.4
30	27	24,180	-50.7		88	31.9
25	27	25,373	-48.6		89	33.2
20	23	26,847	-45.9		91	38.7
15	14	28,773	-43.3			

Standard pressure surface (mb.)	MONTGOMERY, ALA. (1011 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	61	[illegible]	95	96	1.0
1,000	31	156	22.[illegible]	89	114	[illegible]
950	31	604	22.1	78	147	2.3
900	31	1,073	19.3	76	188	2.[illegible]
850	31	1,564	16.4	74	217	3.[illegible]
800	31	2,078	[illegible]	67	218	5.2
750	31	2,615	[illegible]	66	221	5.2
700	31	3,191	6.6	[illegible]	[illegible]	6.4
650	31	3,791	3.1	60	232	7.1
600	31	4,441	- .6	55	232	[illegible]
550	31	5,129	- 4.[illegible]	51	220	7.8
500	[illegible]	[illegible]	- 8.7	43	223	8.[illegible]
450	31	6,682	-13.7	[illegible]	219	8.2
400	30	7,575	-19.1	32	[illegible]	[illegible]
350	30	8,556	-26.0		235	12.[illegible]
300	30	[illegible]	-34.0		[illegible]	16.[illegible]
250	30	10,904	-43.7		[illegible]	21.[illegible]
200	30	12,370	-53.7		240	21.[illegible]
175	30	13,218	-58.9		243	16.[illegible]
150	30	14,174	-63.4		243	[illegible]
125	30	15,285	-66.0		214	3.[illegible]
100	29	[illegible]	-65.7		97	[illegible]
80	28	18,003	-63.0		78	9.5
70	28	[illegible]	-60.7		80	14.0
60	28	19,793	-58.1		83	20.6
50	28	20,948	-55.4		90	24.7
40	27	22,382	-52.8		94	27.0
30	26	24,249	-49.6		88	29.0
25	25	25,449	-47.9		88	31.7
20	24	26,926	-45.2		87	33.4
15	19	28,863	-42.0		[illegible]	34.8

Standard pressure surface (mb.)	NANTUCKET, MASS. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	14	18.5	92	280	1.7
1,000	31	160	19.5	84	281	3.9
950	31	600	18.0	73	274	7.6
900	31	1,064	15.8	72	274	9.7
850	31	1,548	13.4	64	265	11.3
800	31	2,057	11.2	59	267	13.0
750	31	2,589	9.1	48	268	16.7
700	31	3,163	6.3	43	268	19.6
650	31	3,761	2.9	45	269	23.1
600	31	4,412	- .8	43	264	24.3
550	31	5,094	- 4.5	37	261	28.6
500	31	5,847	- 9.1	37	260	29.5
450	31	6,645	-14.3	38	257	31.5
400	31	7,538	-20.5	38	258	33.0
350	31	8,513	-27.7	40	256	36.1
300	31	9,604	-36.0	39	255	38.5
250	31	10,845	-45.6		255	42.0
200	31	12,300	-55.4		261	40.4
175	31	13,144	-59.3		261	41.4
150	31	14,105	-61.4		258	34.8
125	31	15,234	-62.0		261	27.2
100	31	16,619	-60.3		264	15.7
80	31	18,018	-57.8		260	7.0
70	31	18,865	-56.3		207	.8
60	31	19,845	-54.4		118	3.[illegible]
50	31	21,018	-52.5		96	8.0
40	30	22,467	-50.2		97	12.4
30	29	24,356	-47.3		91	15.2
25	26	25,569	-45.5		88	16.3
20	21	27,064	-43.1		92	20.[illegible]
15	9	28,991	-41.3			

Standard pressure surface (mb.)	NASHVILLE, TENN. (998 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	177	19.7	93		0.0
1,000	31	157				
950	31	600	20.6	73	236	2.5
900	31	1,070	17.9	72	230	3.1
850	31	1,558	14.8	71	250	3.7
800	31	2,069	11.8	64	256	3.5
750	31	2,605	8.8	58	242	3.5
700	31	3,176	5.5	59	233	4.1
650	31	3,774	2.0	54	242	5.1
600	31	4,421	- 1.7	50	243	6.0
550	31	5,103	- 5.5	44	255	6.4
500	31	5,852	-10.0	42	242	8.7
450	31	6,653	-15.0	40	239	8.7
400	31	7,541	-20.8	40	242	9.1
350	31	8,514	-27.7	36	241	11.3
300	31	9,605	-35.7		242	15.2
250	31	10,848	-45.3		243	18.8
200	31	12,308	-54.3		264	19.2
175	31	13,156	-58.2		257	18.3
150	31	14,118	-62.1		262	15.2
125	31	15,238	-64.1		264	9.7
100	31	16,603	-63.7		276	3.5
80	31	17,978	-61.1		65	3.9
70	31	18,813	-59.6		75	8.0
60	31	19,779	-57.3		79	12.4
50	30	20,939	-55.1		81	15.9
40	30	22,371	-52.8		88	20.2
30	30	24,240	-49.2		86	21.8
25	27	25,439	-47.5		85	24.5
20	19	26,916	-45.6		85	29.0
15	5	28,836	-43.7			

Standard pressure surface (mb.)	N. Y. INT. AP, IDLEWILD (1019 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	21.1	81	292	3.1
1,000	31	164	20.4	78	290	4.9
950	31	606	18.4	71	288	5.8
900	31	1,068	16.1	67	272	8.4
850	31	1,553	13.7	62	270	10.9
800	31	2,062	11.2	54	271	14.0
750	31	2,599	8.6	49	269	16.5
700	31	3,166	5.8	46	264	18.3
650	31	3,768	2.6	44	266	20.8
600	31	4,412	- .8	41	263	24.1
550	31	5,093	- 4.8	40	260	24.9
500	31	5,845	- 9.2	37	257	27.4
450	31	6,646	-14.4	35	257	29.5
400	31	7,534	-20.7		255	33.8
350	31	8,508	-27.8		253	36.7
300	31	9,597	-35.9		254	41.0
250	31	10,839	-45.5		256	45.1
200	31	12,293	-55.4		257	47.4
175	31	13,137	-59.3		261	45.3
150	31	14,097	-61.6		262	38.7
125	31	15,226	-61.8		262	29.5
100	31	16,609	-60.9		265	18.3
80	31	18,004	-58.2		269	6.4
70	30	18,858	-56.8			.0
60	30	19,828	-54.8		98	6.0
50	30	20,998	-53.2		94	9.7
40	29	22,443	-50.8		90	11.7
30	27	24,330	-48.0		86	16.1
25	26	25,535	-46.3		86	16.9
20	22	27,017	-44.8		92	20.4
15	16	28,946	-41.8		99	19.4

Standard pressure surface (mb.)	NOME, ALASKA (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	7	7.8	88	37	3.1
1,000	31	62			68	3.9
950	31	485	7.6	82	125	4.9
900	31	931	5.2	79	155	6.0
850	31	1,396	2.7	78	165	6.8
800	31	1,884	.1	76	162	6.4
750	31	2,398	- 2.4	70	163	5.8
700	31	2,945	- 5.[illegible]	64	157	5.2
650	31	3,518	- 8.3	59	150	5.2
600	31	4,141	-12.2	57	141	5.1
550	31	4,792	-16.2	51	152	4.7
500	31	5,512	-21.0	50	159	3.9
450	31	6,274	-26.7	47	152	2.3
400	31	7,122	-32.8	48	149	3.1
350	31	8,049	-39.3		186	1.0
300	31	9,088	-46.2		355	.6
250	31	10,287	-50.[illegible]		326	4.1
200	31	11,746	-47.8		286	2.7
175	31	12,630	-46.6		254	3.9
150	31	13,654	-46.3		253	4.3
125	31	14,864	-46.6		249	5.2
100	30	16,344	-46.8		247	4.9
80	29	17,827	-46.7		231	3.9
70	29	18,714	-46.6		233	4.1
60	29	19,736	-46.5		201	2.7
50	29	20,947	-46.5		213	3.3
40	28	22,428	-46.8		189	1.7
30	26	24,331	-46.3		99	2.1
25	25	25,548	-45.1		85	2.5
20	22	27,037	-43.6		92	2.9
15	6	29,080	-40.7			

Standard pressure surface (mb.)	NORFOLK, VA. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	9	22.4	91	213	1.4
1,000	31	167	22.4	85	241	2.7
950	31	611	20.6	76	254	5.[illegible]
900	31	1,080	18.2	72	254	5.[illegible]
850	31	1,568	15.5	70	260	6.8
800	31	2,081	12.8	65	251	8.5
750	31	2,618	9.8	58	250	11.[illegible]
700	31	3,193	7.0	52	248	14.0
650	31	3,798	3.7	50	246	15.0
600	31	[illegible]	.0	50	244	17.7
550	31	5,132	- 3.9	45	242	19.2
500	31	5,885	- 8.4	41	243	20.0
450	31	6,693	-13.4	39	238	20.0
400	31	7,582	-19.3	37	238	18.5
350	31	8,562	-26.4	34	237	21.4
300	31	9,658	-34.8		242	23.9
250	31	10,905	-44.7		247	26.4
200	31	12,362	-55.3		248	32.4
175	31	13,204	-60.5		250	32.8
150	31	14,154	-64.4		256	24.1
125	31	15,265	-65.4		255	16.9
100	30	16,627	-63.6		261	8.7
80	30	18,006	-60.4		86	1.6
70	30	18,850	-58.0		83	7.0
60	30	19,819	-55.9		83	13.8
50	30	20,984	-53.[illegible]		87	17.7
40	27	22,424	-51.3		89	19.2
30	27	24,308	-47.9		88	22.2
25	25	25,515	-46.1		87	23.[illegible]
20	23	27,005	-43.9		84	25.8
15	20	28,939	-41.7		92	27.4

Standard pressure surface (mb.)	NORTH PLATTE, NEBR. (920 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	848	17.4	84	140	1.4
1,000	31	128				
950	31	572				
900	31	1,038	19.2	75	183	3.9
850	31	1,531	19.1	61	211	5.1
800	31	2,051	17.3	45	258	4.7
750	31	2,595	13.7	45	279	4.1
700	31	3,177	9.3	47	303	5.1
650	31	3,784	5.0	45	320	4.5
600	31	4,435	.1	47	324	8.4
550	31	5,123	- 4.3	41	321	11.5
500	31	5,873	- 8.7	33	317	13.2
450	31	6,680	-13.5		312	15.7
400	31	7,571	-19.6		310	19.4
350	31	8,549	-26.5		312	22.9
300	31	9,644	-35.1		310	28.8
250	31	10,889	-44.8		308	34.4
200	31	12,348	-54.9		305	36.7
175	31	13,193	-59.4		307	34.2
150	31	14,149	-63.0		314	25.8
125	31	15,265	-64.8		312	19.0
100	31	16,628	-63.6		322	11.9
80	31	18,004	-60.9		5	5.6
70	31	18,841	-58.4		32	5.2
60	31	19,813	-56.3		59	6.4
50	31	20,978	-53.6		82	9.3
40	31	22,419	-51.5		86	10.1
30	31	24,296	-49.2		82	14.2
25	31	25,497	-47.3		86	16.5
20	31	26,980	-45.2		88	18.5
15	22	28,912	-42.8		85	19.4
10	9	31,668	-39.1			

Standard pressure surface (mb.)	OAKLAND, CALIF. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	15.3	83	298	4.3
1,000	31	129	14.6	81	278	4.7
950	31	568	16.4	66	256	5.1
900	31	1,030	21.5	31	288	4.9
850	31	1,523	19.6	28	233	2.1
800	31	2,042	16.4	28	199	4.9
750	31	2,581	12.6	34	193	6.8
700	31	3,163	8.6	38	187	8.0
650	31	3,764	4.4	42	184	9.9
600	31	4,419	.0	44	188	11.7
550	31	5,098	- 4.7	42	194	13.0
500	31	5,854	- 9.6	37	201	14.8
450	31	6,650	-15.2		210	15.5
400	31	7,541	-21.6		210	18.7
350	31	8,511	-28.8		211	21.2
300	31	9,596	-37.0		214	22.7
250	31	10,835	-45.6		211	28.0
200	31	12,297	-53.2		217	27.4
175	31	13,151	-56.3		214	25.8
150	31	14,122	-60.0		216	23.3
125	31	15,254	-62.2		215	14.8
100	29	16,630	-63.4		193	7.8
80	28	18,006	-61.0		121	6.0
70	26	18,846	-59.6		101	8.0
60	25	19,807	-57.2		93	10.1
50	25	20,965	-55.4		95	12.6
40	24	22,395	-53.1		90	16.5
30	23	24,260	-50.1		88	19.6
25	22	25,455	-48.6		87	21.6
20	19	26,920	-46.6		89	24.7
15	10	28,839	-44.9			

Standard pressure surface (mb.)	OKLAHOMA CITY, OKLA. (973 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	392	20.9	89	166	4.9
1,000	31	149				
950	31	597	22.3	71	186	9.7
900	31	1,067	21.1	61	227	13.0
850	31	1,560	18.2	58	245	7.6
800	31	2,077	14.8	57	270	3.7
750	31	2,616	11.3	56	359	3.1
700	31	3,194	7.5	55	6	4.9
650	31	3,796	4.0	49	7	5.4
600	31	4,448	.1	44	13	7.2
550	31	5,135	- 3.8	40	355	7.4
500	31	5,888	- 8.0	33	354	8.2
450	31	6,697	-13.0		4	11.3
400	31	7,587	-19.0		9	14.0
350	31	8,567	-26.0		7	18.1
300	31	9,665	-34.3		6	18.3
250	31	10,914	-44.2		360	20.4
200	31	12,375	-54.7		1	20.6
175	31	13,220	-59.5		3	19.6
150	31	14,174	-64.1		11	13.4
125	31	15,284	-66.2		17	6.4
100	31	16,638	-65.7		13	7.4
80	30	18,004	-62.4		62	8.4
70	30	18,841	-60.3		75	11.9
60	30	19,797	-58.3		77	15.9
50	30	20,951	-55.9		85	18.8
40	30	22,379	-53.2		90	21.6
30	30	24,244	-50.3		85	24.1
25	29	25,439	-48.1		83	26.8
20	25	26,928	-45.9		86	28.4
15	11	28,850	-43.4			

Standard pressure surface (mb.)	OMAHA, NEBR. (970 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	403	18.[illegible]	89	176	2.1
1,000	31	144				
950	31	587	20.1	72	188	6.2
900	31	1,053	19.4	58	221	4.7
850	31	1,543	17.0	51	245	6.2
800	31	2,058	14.3	47	277	[illegible]
750	31	2,595	10.8	51	304	6.8
700	31	3,172	7.1	49	315	8.5
650	31	3,772	3.0	50	316	9.7
600	31	4,422	- .9	[illegible]	322	12.2
550	31	5,105	- 4.7		322	12.2
500	31	5,856	- 9.3		323	12.8
450	31	6,656	-14.4		325	12.8
400	31	7,547	-20.5		327	18.8
350	31	8,523	-27.4		321	25.1
300	31	9,615	-35.7		321	30.7
250	31	10,857	-45.3		320	37.3
200	31	12,315	-54.2		315	41.4
175	31	13,164	-58.1		313	38.1
150	31	14,127	61.5		317	29.9
125	31	15,253	-62.6		315	20.8
100	31	16,626	-62.7		322	15.0
80	31	18,012	59.7		340	8.0
70	31	18,859	57.5		18	4.7
60	30	19,830	-55.3		40	3.4
50	30	20,998	-53.4		72	6.2
40	30	22,439	-51.5		84	7.8
30	29	24,322	-48.8		85	10.9
25	29	25,523	-47.3		87	14.0
20	28	27,004	-45.1		84	15.9
15	17	28,940	-42.6		86	15.2

Standard pressure surface (mb.)	PEORIA, ILL. (995 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	201	17.3	88	175	[illegible]
1,000	31	158				
950	31	603	20.2	71	259	[illegible]
900	31	1,067	17.4	66	267	[illegible]
850	31	1,554	14.[illegible]	58	297	[illegible]
800	31	2,064	11.2	57	312	7.6
750	31	2,595	[illegible]	47	311	7.6
700	31	3,168	[illegible]	[illegible]	312	7.1
650	31	3,767	[illegible]	41	316	8.7
600	31	4,412	- 1.[illegible]	[illegible]	303	[illegible]
550	31	5,095	[illegible]		[illegible]	[illegible]
500	31	5,842	-10.4		304	13.[illegible]
450	31	6,641	-15.6		307	14.[illegible]
400	31	7,526	-21.5		[illegible]	[illegible]
350	31	8,496	-28.7		[illegible]	[illegible]
300	31	9,581	-37.0		[illegible]	[illegible]
250	31	10,819	-45.9		306	[illegible]
200	[illegible]	12,276	-53.9		[illegible]	[illegible]
175	31	13,127	-56.8		306	27.[illegible]
150	31	14,097	-59.9		[illegible]	[illegible]
125	31	15,231	-61.4		[illegible]	[illegible]
100	31	[illegible]	-61.[illegible]		[illegible]	[illegible]
80	31	18,008	-58.3		327	[illegible]
70	31	18,859	-56.9		[illegible]	[illegible]
60	31	19,830	-55.1		62	[illegible]
50	31	20,999	-53.1		74	7.[illegible]
40	31	22,442	-51.1		[illegible]	[illegible]
30	29	24,323	-48.4		83	15.[illegible]
25	29	25,527	-47.0		83	[illegible]
20	26	27,012	[illegible]		87	[illegible]
15	18	28,957	[illegible]		88	[illegible]

See reference note at end of table

RAWINSONDE DATA

Average monthly values

AUGUST 1961

PITTSBURGH, PA. (979 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	353	16.3	92		0.0
1,000--	31	167				
950----	31	607	18.4	77	254	3.3
900----	31	1,069	16.2	72	273	7.0
850----	31	1,554	13.2	71	275	9.1
800----	31	2,062	10.5	61	276	10.3
750----	31	2,595	7.5	59	271	12.0
700----	31	3,163	4.3	54	266	14.4
650----	31	3,759	1.0	48	261	15.9
600----	31	4,404	- 2.5	42	260	19.4
550----	31	5,082	- 6.0	39	259	21.2
500----	31	5,831	-10.6	35	256	20.6
450----	31	6,627	-15.8		256	23.5
400----	31	7,513	-21.9		258	25.6
350----	31	8,482	-28.9		255	29.0
300----	31	9,567	-37.1		252	33.4
250----	31	10,803	-46.5		255	38.9
200----	31	12,255	-55.0		253	39.8
175----	31	13,103	-57.9		251	38.3
150----	31	14,067	-60.5		259	32.1
125----	30	15,199	-62.1		264	21.4
100----	30	16,580	-61.2		269	13.2
80-----	30	17,975	-58.2		288	4.7
70-----	30	18,823	-56.5		310	1.2
60-----	30	19,801	-55.2		73	4.9
50-----	30	20,970	-53.4		82	9.9
40-----	29	22,412	-51.3		84	13.4
30-----	29	24,294	-48.5		84	16.7
25-----	27	25,501	-46.6		86	18.3
20-----	27	26,987	-44.7		90	21.4
15-----	16	28,940	-41.8		86	27.2
10-----						
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POINT ARGUELLO, CALIF. (1007 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	113	12.8	98	324	2.7
1,000--	31	129	12.8	96	328	2.5
950----	31	576	16.5	73	357	4.9
900----	31	1,029	22.4	36	45	4.3
850----	31	1,525	20.2	39	88	3.1
800----	31	2,045	16.7	41	113	3.5
750----	31	2,589	12.9	42	151	5.1
700----	31	3,168	9.2	37	168	5.4
650----	31	3,775	5.3	38	169	6.2
600----	31	4,427	1.1	41	181	7.6
550----	31	5,115	- 3.2	35	192	7.6
500----	31	5,870	- 8.1		194	8.2
450----	31	6,675	-13.6		203	9.1
400----	31	7,566	-20.6		211	12.4
350----	31	8,539	-28.1		207	15.2
300----	31	9,627	-36.5		212	20.0
250----	31	10,865	-45.7		213	23.5
200----	31	12,321	-54.9		210	25.1
175----	31	13,167	-58.7		211	24.5
150----	31	14,126	-62.6		212	19.4
125----	31	15,242	-65.2		215	12.8
100----	30	16,602	-64.7		150	4.3
80-----	30	17,971	-62.3		100	9.1
70-----	30	18,805	-60.1		94	12.2
60-----	30	19,768	-58.1		96	15.5
50-----	30	20,923	-55.9		92	17.5
40-----	29	22,351	-53.2		84	21.6
30-----	27	24,217	-50.3		86	25.3
25-----	27	25,413	-48.3		86	26.4
20-----	27	26,891	-45.9		84	27.2
15-----	26	28,819	-42.7		83	27.6
10-----	19	31,581	-38.1		92	30.5
7------	6	34,029	-35.3			

PORTLAND, ME. (1016 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	20	16.3	90	253	2.[illegible]
1,000--	31	154	17.6	78	275	4.1
950----	31	598	17.1	66	284	6.0
900----	31	1,053	14.8	62	281	7.6
850----	31	1,534	12.0	61	270	11.3
800----	31	2,040	9.7	55	277	15.3
750----	31	2,575	6.9	53	277	17.3
700----	31	3,137	4.2	51	273	19.4
650----	31	3,733	1.0	44	270	22.5
600----	31	4,377	- 2.5	39	270	27.2
550----	31	5,055	- 6.6	35	265	29.3
500----	31	5,800	-11.1	31	262	34.4
450----	31	6,598	-16.3		261	35.8
400----	31	7,478	-22.4		259	38.9
350----	31	8,447	-29.1		257	46.0
300----	31	9,533	-37.0		256	49.7
250----	31	10,770	-46.1		257	54.8
200----	31	12,223	-55.1		260	53.6
175----	31	13,071	-57.5		260	50.7
150----	31	14,042	-58.5		259	41.6
125----	31	15,187	-59.4		261	30.7
100----	31	16,586	-58.1		266	20.4
80-----	31	18,001	-55.7		268	8.4
70-----	31	18,858	-54.4		271	4.5
60-----	31	19,845	-52.8		158	1.0
50-----	29	21,028	-51.5		92	4.3
40-----	27	22,485	-49.6		90	6.4
30-----	24	24,383	-47.2		84	10.5
25-----	22	25,594	-45.6		86	10.5
20-----	15	27,083	-43.1		86	12.4
15-----	5	29,032	-39.4			
10-----						
7------						

RAPID CITY, S. DAK. (907 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	966	18.4	60	296	1.7
1,000--	31	119				
950----	31	566				
900----	31	1,036	19.5	54	271	1.7
850----	31	1,530	20.6	43	247	8.0
800----	31	2,052	17.7	41	248	7.6
750----	31	2,595	13.9	41	273	5.6
700----	31	3,178	9.7	42	275	7.4
650----	31	[illegible],784	4.9	47	284	9.1
600----	31	4,436	.0	49	291	12.0
550----	31	5,121	- 5.0	47	295	12.4
500----	31	5,869	- 9.9	40	295	15.7
450----	31	6,669	-14.9		295	18.7
400----	31	7,555	-21.1		293	21.8
350----	31	8,527	-28.1		294	27.6
300----	31	9,615	-36.4		294	33.6
250----	31	10,854	-45.8		291	41.[illegible]
200----	30	12,306	-55.0		290	49.4
175----	30	13,152	-58.3		291	46.6
150----	30	14,115	-61.5		292	37.7
125----	30	15,240	-62.9		296	26.0
100----	30	16,617	-62.1		303	14.8
80-----	30	18,002	-59.[illegible]		328	9.7
70-----	30	18,840	-57.8		348	6.4
60-----	29	19,817	-55.5		31	5.1
50-----	29	20,983	-53.8		50	4.3
40-----	29	22,426	-51.4		66	6.2
30-----	28	24,303	-48.9		83	9.9
25-----	28	25,505	-47.3		84	12.2
20-----	27	26,989	-44.8		87	11.7
15-----	19	28,939	-42.2		87	16.7
10-----	12	31,740	-37.9			
7------						

ST. CLOUD, MINN. (980 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	316	16.5	89	175	1.2
1,000--	31	142				
950----	31	586	19.0	73	230	6.4
900----	31	1,046	18.4	60	256	10.1
850----	31	1,535	15.8	55	263	8.9
800----	31	2,047	12.6	52	275	8.7
750----	31	2,582	8.9	55	288	11.1
700----	31	3,153	5.0	55	298	15.7
650----	31	3,751	1.1	45	300	17.3
600----	31	4,394	- 2.7	36	302	19.6
550----	31	5,073	- 6.7		303	19.8
500----	31	5,817	-11.5		303	22.0
450----	31	6,611	-16.9		304	25.3
400----	31	7,492	-23.2		304	27.8
350----	31	8,455	-30.5		305	32.4
300----	31	9,533	-38.7		304	37.1
250----	31	10,760	-48.0		304	39.1
200----	31	12,206	-54.8		302	42.7
175----	31	13,057	-56.6		301	42.0
150----	31	14,032	-57.[illegible]		304	36.3
125----	31	15,178	-58.9		303	26.8
100----	31	16,576	-59.0		305	18.7
80-----	31	17,982	-57.0		317	10.9
70-----	31	18,832	-55.3		324	7.8
60-----	31	19,817	-54.1		344	5.1
50-----	31	20,992	-52.2		40	4.3
40-----	31	22,443	-49.9		50	3.3
30-----	30	24,334	-47.7		81	8.2
25-----	30	25,543	-46.6		82	9.9
20-----	30	27,032	-45.0		86	12.2
15-----	23	28,972	-41.9		85	15.5
10-----	9	31,790	-37.4			
7------						

ST. PAUL IS., ALASKA (1006 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	7.4	94	334	2.1
1,000--	31	59			304	3.9
950----	31	478	5.2	90	318	2.3
900----	31	920	2.9	89	301	1.9
850----	31	1,382	1.3	78	306	1.9
800----	31	1,869	- .3	73	292	1.2
750----	31	2,382	- 2.7	69	286	2.5
700----	31	2,929	- 5.2	65	260	2.5
650----	31	3,506	- 8.1	60	262	3.7
600----	31	4,126	-11.5	56	260	5.4
550----	31	4,784	-15.5	49	278	7.0
500----	31	5,501	-20.1	42	281	8.2
450----	31	6,264	-25.5	41	282	7.2
400----	31	7,118	-31.4	40	296	10.1
350----	31	8,051	-37.7		297	14.0
300----	31	9,099	-44.0		304	15.9
250----	31	10,310	-48.4		296	19.2
200----	31	11,781	-46.9		286	22.0
175----	30	12,663	-46.8		292	17.1
150----	30	13,685	-47.0		298	14.6
125----	30	14,891	-47.5		284	12.4
100----	30	16,363	-48.1		266	9.7
80-----	29	17,832	-48.1		272	5.6
70-----	29	18,707	-48.1		269	5.2
60-----	29	19,730	-48.1		236	5.2
50-----	29	20,933	-48.0		209	3.7
40-----	29	22,406	-47.7		225	2.9
30-----	27	24,303	-46.6		352	.6
25-----	27	25,517	-45.4		70	.8
20-----	22	27,011	-43.9		182	1.7
15-----	8	28,988	-41.6			
10-----						

SALEM, OREG. (1010 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	61	13.3	88	175	0.8
1,000--	31	144	15.3	80	34	.6
950----	31	584	16.3	68	15	4.7
900----	31	1,041	16.0	59	7	2.5
850----	31	1,526	14.8	49	249	1.2
800----	31	2,037	12.7	41	209	3.1
750----	31	2,573	9.9	38	204	6.0
700----	31	3,146	6.4	39	212	9.9
650----	31	3,744	2.3	43	206	12.6
600----	31	4,391	- 1.8		209	16.1
550----	31	5,069	- 6.5		213	17.9
500----	31	5,815	-11.5	34	213	18.7
450----	31	6,607	-17.2		217	21.2
400----	31	7,487	-23.6	36	221	24.1
350----	31	8,449	-30.9		221	28.2
300----	31	9,525	-38.9		222	32.4
250----	31	10,753	-48.0		220	39.2
200----	31	12,203	-53.4		223	38.9
175----	31	13,061	-54.3		228	35.0
150----	31	14,046	-56.2		230	27.4
125----	30	15,199	-58.6		229	19.4
100----	30	16,600	-58.9		225	11.1
80-----	30	18,001	-57.5		212	4.7
70-----	30	18,855	-56.1		187	2.1
60-----	30	19,828	-55.1		109	2.3
50-----	30	20,995	-53.9		68	5.2
40-----	30	22,435	-51.9		90	7.0
30-----	30	24,312	-48.7		71	7.2
25-----	30	25,513	-47.7		79	10.7
20-----	29	26,994	-46.1		81	12.8
15-----	24	28,907	-44.0		87	14.6
10-----	10	31,655	-38.5			

SALT LAKE CITY, UTAH (875 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,288	19.6	62	177	6.8
1,000--	31	116				
950----	31	566				
900----	31	1,040				
850----	31	1,536	21.7	46	165	8.[illegible]
800----	31	2,060	19.0	45	175	7.6
750----	31	2,609	15.1	48	195	4.5
700----	31	3,193	10.7	51	230	3.5
650----	31	3,804	6.1	53	239	5.2
600----	31	4,458	1.1	58	244	5.4
550----	31	5,145	- 4.2	62	238	7.0
500----	31	5,899	- 8.8	48	233	8.7
450----	31	6,705	-13.7	42	235	12.0
400----	31	7,596	-19.7	39	233	13.6
350----	31	8,573	-26.8	36	231	15.3
300----	31	[illegible],666	-35.1	34	233	20.4
250----	31	10,912	-44.5		231	26.8
200----	31	12,373	-54.3		236	33.2
175----	31	13,220	-58.6		238	26.4
150----	31	14,179	-62.6		241	20.0
125----	31	15,296	-64.9		237	12.4
100----	31	16,655	-64.3		233	5.4
80-----	30	18,029	-61.2		108	1.7
70-----	30	18,872	-59.4		84	4.1
60-----	30	19,830	-57.3		72	6.2
50-----	29	20,990	-54.8		82	8.5
40-----	26	22,425	-52.7		86	11.5
30-----	23	24,294	-50.3		82	14.4
25-----	23	25,487	-48.6		82	14.8
20-----	17	26,960	-46.4		85	16.3
15-----	6	28,890	-44.2			
10-----						

SAN ANTONIO, TEXAS (989 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	243	22.5	86	352	2.3
1,000--	31	147				
950----	31	593	21.7	77	162	4.3
900----	31	1,064	19.7	70	151	5.4
850----	31	1,555	16.9	66	114	4.1
800----	31	2,071	13.9	61	90	5.2
750----	31	2,609	10.7	55	61	5.8
700----	31	3,186	7.2	52	37	5.8
650----	31	3,788	3.6	45	29	6.6
600----	31	4,439	.0	46	25	8.7
550----	31	5,127	- 3.8	44	33	8.7
500----	31	5,880	- 8.1	43	27	9.9
450----	31	6,689	-13.3	36	21	10.3
400----	31	7,581	-19.3	34	20	14.0
350----	31	8,559	-26.4		21	15.0
300----	31	9,655	-34.7		19	17.1
250----	31	10,902	-44.5		15	19.[illegible]
200----	31	12,362	-54.8		17	14.6
175----	31	13,206	-60.0		23	13.8
150----	31	14,157	-64.6		34	12.8
125----	31	15,261	-67.8		44	11.3
100----	31	16,604	-67.8		56	11.3
80-----	30	17,953	-65.5		76	16.3
70-----	30	18,775	-63.1		85	20.6
60-----	30	19,724	-60.3		85	24.1
50-----	30	20,867	-57.4		87	27.4
40-----	30	22,283	-55.1		89	29.1
30-----	27	24,135	-51.1		87	32.8
25-----	27	25,327	-49.0		87	35.0
20-----	26	26,796	-47.2		87	38.9
15-----	19	28,714	-43.3		87	42.9
10-----	9	31,453	-40.9			

SAN DIEGO, CALIF. (1000 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	124	18.4	92	324	1.2
1,000--	31	120			360	1.2
950----	31	558	19.4	73	19	1.[illegible]
900----	31	1,031	23.1	41	342	2.7
850----	31	1,528	21.1	37	323	1.4
800----	31	2,050	18.1	40	173	4.1
750----	31	2,594	14.2	45	169	8.0
700----	31	3,178	9.8	51	163	10.3
650----	31	3,780	5.2	54	171	10.7
600----	31	4,439	.9	46	172	10.1
550----	31	5,125	- 3.2	41	182	8.2
500----	31	5,882	- 8.0	38	188	8.7
450----	31	6,686	-13.5	33	190	8.4
400----	31	7,581	-19.5		207	8.9
350----	31	8,559	-26.7		209	9.9
300----	31	9,655	-34.9		205	11.7
250----	31	10,903	-44.4		201	16.7
200----	31	12,367	-54.3		194	20.6
175----	31	13,214	-59.3		199	19.0
150----	31	14,170	-63.9		208	16.5
125----	30	15,281	-67.1		202	6.8
100----	30	16,627	-66.8		103	5.4
80-----	30	17,984	-63.4		91	12.0
70-----	30	18,810	-61.4		90	16.9
60-----	30	19,770	-58.9		89	19.6
50-----	30	20,919	-56.5		93	22.0
40-----	30	22,344	-53.7		88	24.5
30-----	29	24,203	-50.8		90	28.4
25-----	26	25,391	-49.4		89	27.6
20-----	22	26,855	-47.3		88	30.9
15-----	12	28,760	-45.1		89	33.2
10-----						

SAN JUAN, P. R. (1016 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	25.2	87	93	2.1
1,000--	31	144	25.2	82	95	9.7
950----	31	594	22.6	81	94	18.7
900----	31	1,064	19.8	79	96	20.2
850----	31	1,555	16.9	75	97	20.4
800----	31	2,071	14.6	63	99	19.0
750----	31	2,607	11.9	54	97	17.9
700----	31	3,190	8.9	45	103	16.9
650----	31	3,791	5.1	43	100	14.8
600----	31	4,448	1.2	40	101	14.2
550----	30	5,136	- 2.6	36	103	10.7
500----	30	5,894	- 6.6		95	10.3
450----	30	6,702	-11.9		92	8.7
400----	30	7,601	-17.9		87	5.4
350----	30	8,585	-24.8		31	2.9
300----	30	9,687	-33.1		343	.8
250----	30	10,942	-43.1		264	4.3
200----	30	12,405	-55.4		251	9.1
175----	29	13,248	-60.8		257	6.2
150----	29	14,194	-65.9		229	3.3
125----	29	15,290	-69.7		95	1.9
100----	29	16,610	-71.7		92	11.7
80-----	29	17,941	-67.5		84	21.8
70-----	29	18,760	-64.6		84	27.4
60-----	29	19,703	-61.1		90	29.9
50-----	29	20,847	-57.4		91	28.6
40-----	29	22,270	-53.9		97	30.3
30-----	29	24,133	-50.5		94	27.8
25-----	28	25,331	-47.9		93	27.2
20-----	23	26,819	-44.7		87	29.7
15-----	13	28,737	-41.2			

SANTA MONICA, CALIF. (1010 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	38	17.9	90		0.0
1,000--	31	126	17.4	89	128	1.0
950----	31	572	20.4	66	76	3.7
900----	31	1,037	22.8	34	17	1.7
850----	31	1,532	20.5	36	290	1.0
800----	31	2,053	17.1	39	210	4.9
750----	31	2,596	13.2	41	186	6.8
700----	31	3,176	9.4	42	174	9.1
650----	31	3,782	5.3	44	169	10.9
600----	31	4,436	1.3	40	178	9.9
550----	31	5,123	- 3.2	42	187	9.5
500----	31	5,878	- 8.1	37	192	9.3
450----	31	6,684	-13.6		187	8.4
400----	31	7,575	-19.6		198	10.3
350----	31	8,552	-26.9		205	12.0
300----	31	9,645	-35.3		205	15.5
250----	31	10,890	-44.5		207	18.3
200----	31	12,352	-54.1		200	21.6
175----	31	13,199	-58.6		199	21.8
150----	31	14,156	-63.3		208	20.8
125----	31	15,268	-66.0		217	11.7
100----	31	16,620	-65.9		150	4.7
80-----	31	17,981	-63.3		93	9.1
70-----	31	18,805	-61.3		91	12.8
60-----	31	19,765	-59.1		90	17.1
50-----	31	20,915	-56.3		91	18.8
40-----	31	22,338	-54.1		86	22.3
30-----	27	24,198	-51.0		88	26.6
25-----	27	25,388	-49.2		87	28.0
20-----	27	26,856	-47.2		87	29.0
15-----	20	28,764	-45.3		88	31.5

SAULT STE. MARIE, MICH. (991 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	221	13.6	88	48	1.6
1,000--	31	145				
950----	31	578	15.3	72	244	4.5
900----	31	1,039	13.4	66	279	7.6
850----	31	1,519	10.7	66	284	8.4
800----	31	2,022	8.1	59	284	10.7
750----	31	2,550	5.3	53	282	13.2
700----	31	3,114	2.1	49	279	15.0
650----	31	3,705	- .8	44	282	15.7
600----	31	4,344	- 4.4	36	287	18.5
550----	31	5,016	- 8.5	34	289	19.0
500----	31	5,758	-13.2		267	21.2
450----	31	6,545	-18.7		285	22.9
400----	31	7,422	-24.9		284	23.5
350----	31	8,379	-32.1		283	26.8
300----	31	9,449	-40.4		279	31.9
250----	31	10,669	-48.7		280	36.3
200----	31	12,115	-53.7		284	40.6
175----	31	12,973	-54.3		286	37.7
150----	31	13,959	-55.3		285	32.4
125----	31	15,121	-56.0		281	27.4
100----	31	16,540	-56.1		288	21.0
80-----	31	17,963	-54.6		288	12.4
70-----	31	18,819	-53.6		289	8.9
60-----	31	19,813	-52.4		298	6.0
50-----	31	20,996	-50.9		313	2.9
40-----	31	22,452	-49.6		74	3.1
30-----	30	24,342	-47.5		72	6.4
25-----	29	25,549	-46.1		76	[illegible].0
20-----	25	27,038	-44.2		84	10.3
15-----	13	28,989	-41.5		96	14.6

SEATTLE, WASH. (1002 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	125	15.0	79	147	0.6
1,000--	31	146	15.1	78	90	.6
950----	31	583	16.4	67	108	1.0
900----	31	1,042	15.5	56	324	1.6
850----	31	1,526	13.9	48	302	1.6
800----	31	2,036	11.8	46	269	2.3
750----	31	2,570	9.0	39	242	5.6
700----	31	3,142	5.8	36	231	9.3
650----	31	3,739	1.8	37	227	13.0
600----	31	4,385	- 2.6	37	221	15.7
550----	31	5,064	- 7.2		220	18.3
500----	31	5,807	-12.3		224	19.8
450----	31	6,596	-17.9		226	20.6
400----	31	7,476	-24.2		227	24.3
350----	31	8,435	-31.6		226	28.4
300----	31	9,506	-39.9		228	31.1
250----	31	10,728	-48.8		230	38.3
200----	31	12,173	-53.6		234	40.0
175----	31	13,032	-53.5		236	35.4
150----	31	14,021	-55.0		236	30.9
125----	31	15,179	-57.4		239	22.5
100----	31	16,588	-57.2		242	12.[illegible]
80-----	31	16,002	-56.2		234	6.6
70-----	31	18,854	-55.5		232	3.3
60-----	31	19,836	-54.3		196	.6
50-----	31	21,007	-53.1		75	2.9
40-----	31	22,449	-51.6		76	4.7
30-----	31	24,330	-48.3		79	6.4
25-----	26	25,539	-46.6		76	8.0
20-----	23	27,030	-44.9		81	10.5
15-----	10	28,951	-42.4			

SHEMYA, ALASKA (1006 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	37	8.3	96	291	7.6
1,000--	31	86			285	9.1
950----	31	513	7.8	83	309	10.9
900----	31	955	7.1	79	318	12.6
850----	31	1,425	5.7	76	317	13.6
800----	31	1,920	3.8	76	319	14.4
750----	31	2,443	1.6	71	316	15.2
700----	31	2,997	- .7	63	314	16.5
650----	31	3,584	- 3.2	53	312	18.3
600----	31	4,217	- 6.7	49	309	19.0
550----	31	4,886	-10.9	49	308	23.7
500----	31	5,618	-15.5	47	308	23.7
450----	31	6,401	-20.8	40	304	25.1
400----	31	7,267	-26.5	41	302	28.4
350----	31	8,219	-33.4		305	29.3
300----	31	9,284	-41.0		304	35.2
250----	31	10,505	-47.8		299	41.0
200----	31	11,964	-51.0		299	43.5
175----	31	12,832	-51.2		299	41.6
150----	31	13,832	-51.5		300	35.0
125----	31	15,013	-52.2		299	27.6
100----	31	16,455	-52.5		300	19.0
80-----	31	17,900	-51.9		302	13.4
70-----	31	18,773	-51.4		306	9.1
60-----	31	19,768	-50.8		306	5.4
50-----	31	20,958	-50.1		320	1.9
40-----	31	22,420	-48.8		331	2.1
30-----	29	24,317	-47.1			.0
25-----	27	25,531	-45.7		63	1.2
20-----	25	27,023	-44.4		92	3.3
15-----	15	28,948	-42.8			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	SHREVEPORT, LA. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SPOKANE, WASH. (933 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	76	21.5	93	77	1.4	31	722	16.6	55	149	1.7
1,000--	31	158	22.1	87	103	1.0	31	121				
950----	31	604	21.9	71	191	2.3	31	566				
900----	31	1,075	19.3	67	207	2.3	31	1,031	21.6	39	120	2.1
850----	31	1,565	16.1	65	231	1.6	31	1,525	19.4	35	238	1.9
800----	31	2,078	12.8	63	230	.6	31	2,042	15.6	38	244	4.5
750----	31	2,614	9.4	59	334	1.4	31	2,581	11.2	42	248	7.2
700----	31	3,187	6.0	54	17	2.3	31	3,158	7.2	43	251	10.1
650----	31	3,786	2.6	51	1	3.1	31	3,758	3.2	41	243	14.8
600----	31	4,435	- 1.3	49	354	2.9	31	4,407	- 1.2	41	237	21.4
550----	31	5,121	- 5.2	42	12	3.5	31	5,087	- 6.1	39	236	18.7
500----	31	5,868	- 9.5	36	18	4.1	31	5,834	-11.1	34	233	19.8
450----	31	6,669	-14.4	30	6	6.4	31	6,625	-16.8		237	23.1
400----	31	7,560	-20.2		11	8.5	31	7,509	-23.2		241	25.8
350----	31	8,536	-27.2		18	9.9	31	8,472	-30.5		243	29.7
300----	31	9,628	-35.3		12	11.7	31	9,549	-38.8		244	33.4
250----	31	10,874	-44.6		5	10.5	31	10,774	-48.2		248	39.8
200----	31	12,337	-53.7		351	12.4	31	12,222	-53.7		242	44.7
175----	31	13,187	-58.0		349	10.5	31	13,079	-54.6		247	39.8
150----	31	14,147	-62.8		5	7.4	31	14,062	-56.2		249	30.1
125----	31	15,261	-65.8		21	5.6	31	15,214	-58.2		246	19.0
100----	31	16,616	-65.5		41	6.4	31	16,616	-58.2		253	13.6
80-----	31	17,981	-62.6		77	10.1	31	18,025	-56.6		273	5.1
70-----	31	18,814	-61.1		79	13.4	31	18,885	-55.5		290	1.9
60-----	31	19,769	-59.1		83	18.7	31	19,859	-54.2		49	2.1
50-----	31	20,919	-56.3		87	22.2	30	21,034	-52.9		72	3.5
40-----	30	22,345	-53.4		90	24.7	30	22,480	-50.7		66	5.2
30-----	29	24,209	-50.5		86	28.2	30	24,369	-47.2		70	6.0
25-----	28	25,404	-48.8		89	29.9	29	25,579	-45.4		72	8.9
20-----	24	26,880	-46.2		88	31.7	26	27,068	-44.1		87	12.0
15-----	8	28,821	-43.6				10	29,043	-40.2			

Standard pressure surface (mb.)	SWAN ISLAND, W. I. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TAMPA, FLA. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	10	26.9	85	70	8.9	31	8	24.2	90	83	4.7
1,000--	30	122	26.2	84	73	11.1	31	155	24.5	86	105	5.1
950----	30	578	23.2	81	87	13.8	31	602	22.8	82	155	6.4
900----	30	1,045	20.5	74	95	16.7	31	1,077	20.2	75	160	5.6
850----	30	1,538	17.4	70	96	19.0	31	1,569	17.2	72	161	5.6
800----	30	2,054	14.4	64	97	19.2	31	2,085	14.4	68	161	4.7
750----	30	2,594	11.5	55	103	19.8	31	2,625	11.2	66	164	4.7
700----	30	3,171	8.2	50	103	18.5	31	3,203	8.0	62	169	4.7
650----	30	3,779	4.8	48	102	16.9	31	3,809	4.8	59	184	4.7
600----	30	4,430	1.4	38	100	15.0	31	4,461	1.1	55	190	5.1
550----	30	5,114	- 2.6	35	103	12.2	31	5,151	- 3.1	52	189	5.6
500----	30	5,876	- 7.1	37	108	10.9	31	5,906	- 7.6	52	191	6.4
450----	30	6,689	-11.9	35	101	9.1	31	6,718	-12.6	48	185	6.2
400----	30	7,584	-18.0	34	102	6.4	31	7,611	-18.1	46	179	6.0
350----	30	8,568	-24.8		71	4.7	31	8,596	-24.9	39	171	5.8
300----	30	9,672	-33.0		19	4.3	31	9,698	-33.3	37	163	4.5
250----	30	10,927	-43.0		333	5.6	31	10,953	-43.2		145	4.1
200----	30	12,392	-54.9		319	8.0	31	12,420	-54.9		156	3.3
175----	30	13,233	-61.5		329	7.6	31	13,262	-60.6		199	2.3
150----	30	14,174	-67.6		356	5.6	31	14,210	-65.8		179	1.7
125----	30	15,261	-71.0		68	8.5	30	15,310	-68.6		119	3.3
100----	30	16,577	-72.4		78	14.6	30	16,644	-68.6		93	9.1
80-----	29	17,895	-68.9		82	21.4	30	17,994	-64.6		85	18.[illegible]
70-----	29	18,703	-65.6		84	25.1	30	18,816	-62.5		83	22.2
60-----	29	19,645	-63.0		83	27.0	28	19,769	-59.2		87	26.6
50-----	29	20,777	-59.3		88	29.5	28	20,921	-56.2		88	29.1
40-----	29	22,186	-55.7		91	30.9	28	22,348	-53.5		93	31.3
30-----	29	24,036	-51.8		97	31.3	25	24,220	-49.4		94	31.5
25-----	28	25,223	-49.3		97	29.7	20	25,416	-47.2		88	31.1
20-----	23	26,693	-46.6		99	27.6	6	26,893	-45.0			
15-----	14	28,614	-44.0									

Standard pressure surface (mb.)	TATOOSH IS., WASH. (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TOPEKA, KANS. (986 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	31	12.7	96	195	6.4	31	269	19.1	91	153	1.7
1,000--	31	150	13.6	86	217	5.8	31	148				
950----	31	585	14.9	66	275	3.3	31	596	21.2	69	207	5.8
900----	31	1,042	14.5	56	269	3.7	31	1,060	19.7	60	228	7.8
850----	31	1,524	12.6	47	227	4.9	31	1,550	16.8	59	274	4.7
800----	31	2,031	10.3	42	220	6.8	31	2,064	13.6	60	318	4.7
750----	31	2,560	7.4	37	225	7.6	31	2,604	10.3	57	319	4.3
700----	31	3,123	.4	38	226	11.9	31	3,176	6.8	52	313	6.8
650----	31	4,367	- 3.6	37	224	13.8	31	3,779	3.0	49	324	6.8
600----	31	5,041	- 7.8	31	221	16.7	31	4,425	- .9	43	330	9.3
550----	31	5,784	-12.8		221	18.3	31	5,113	- 4.8		330	10.3
500----	31	6,569	-18.5	31	222	20.4	31	5,859	- 9.1		328	10.7
450----	31	7,448	-25.1		223	23.1	31	6,661	-14.3		328	12.8
400----	31	8,403	-32.3		226	25.5	30	7,549	-20.2		336	16.3
350----	31	9,472	-40.5		227	27.8	30	8,525	-27.3		336	21.0
300----	31	10,689	-49.1		231	33.8	30	9,617	-35.5		334	24.7
250----	31	12,133	-53.2		234	35.0	30	10,862	-44.9		335	30.7
200----	30	12,992	-52.7		237	32.6	30	12,323	-54.2		329	33.4
175----	30	13,984	-54.2		239	26.2	30	13,172	-58.6		327	29.5
150----	30	15,148	-55.9		240	20.2	30	14,132	-62.4		329	22.2
125----	30	16,564	-56.4		243	12.6	29	15,251	-64.0		330	18.8
100----	30	18,833	-54.6		239	3.1	29	16,620	-63.3		338	10.3
80-----	30	17,982	-55.3		239	6.2	29	18,002	-60.2		9	6.4
70-----	30	19,823	-53.8		97	.8	29	18,846	-58.1		55	6.6
60-----	30	20,996	-52.9		64	3.9	29	19,815	-56.0		79	8.9
50-----	30	22,440	-51.3		69	3.3	29	20,980	-53.7		89	12.0
40-----	29	24,323	-48.1		72	6.6	29	22,422	-51.7		87	14.4
30-----	28	25,530	-46.5		77	7.2	28	24,300	-49.1		90	17.1
25-----	25	27,023	-44.5		82	8.9	26	25,503	-47.1		88	18.7
20-----	8	28,950	-43.4				21	26,985	-44.9		85	22.0
15-----							11	28,916	-41.9		89	24.9
10-----												

Standard pressure surface (mb.)	TUCSON, ARIZ. (925 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	WASHINGTON, D. C. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	781	22.7	75	150	4.9	31	84	18.4	95		0.0
1,000--	31	107					31	165	19.6	88	333	1.0
950----	31	558					31	608	19.6	73	290	2.3
900----	31	1,032	24.5	58	152	3.7	31	1,073	17.0	72	290	3.5
850----	31	1,533	22.4	53	72	3.9	31	1,559	14.2	69	278	7.4
800----	31	2,058	18.9	55	70	2.9	31	2,069	11.4	68	274	9.1
750----	31	2,602	14.9	59	100	2.9	31	2,604	8.5	60	258	11.7
700----	31	3,191	10.7	61	129	5.1	31	3,175	5.7	57	254	12.8
650----	31	3,797	6.5	64	135	5.1	31	3,774	2.4	53	253	14.6
600----	31	4,457	1.9	65	144	6.0	31	4,421	- 1.3	48	254	17.1
550----	31	5,145	- 2.8	63	139	8.0	31	5,106	- 4.9	49	250	19.8
500----	31	5,904	- 7.6	61	154	7.0	31	5,855	- 9.3	45	247	20.8
450----	31	6,713	-11.9	46	157	7.4	31	6,655	-14.4	38	245	23.7
400----	31	7,611	-17.5	37	159	6.8	31	7,547	-20.4	37	245	26.8
350----	31	8,597	-24.6	38	162	9.1	31	8,522	-27.3		248	29.5
300----	31	9,700	-33.0		178	8.7	31	9,614	-35.4		247	33.6
250----	31	10,956	-43.0		187	10.3	31	10,857	-45.2		246	38.5
200----	31	12,422	-54.6		193	12.6	31	12,313	-55.3		246	40.6
175----	31	13,265	-60.3		207	11.3	31	13,158	-59.2		252	40.4
150----	31	14,214	-65.4		220	7.6	31	14,116	-62.3		255	30.1
125----	31	15,313	-68.4		161	2.9	31	15,239	-63.1		256	21.8
100----	31	16,651	-67.5		95	6.4	30	16,618	-62.0		265	11.9
80-----	31	18,005	-64.2		85	13.6	30	18,005	-59.6		258	1.7
70-----	31	18,834	-61.3		84	16.9	30	18,852	-57.7		80	2.5
60-----	31	19,790	-59.1		85	20.2	30	19,820	-55.7		83	7.8
50-----	31	20,941	-56.5		90	24.7	30	20,987	-53.7		86	11.9
40-----	30	22,367	-53.8		88	26.4	30	22,428	-51.4		87	14.6
30-----	29	24,231	-50.8		89	30.3	27	24,309	-48.3		86	16.7
25-----	28	25,425	-48.2		90	30.1	27	25,513	-46.9		85	20.0
20-----	26	26,906	-45.9		84	31.3	24	26,998	-45.0		85	23.1
15-----	21	28,836	-43.1		83	36.1	18	28,929	-42.1		87	22.2
10-----							7	31,681	-38.2			

Standard pressure surface (mb.)	WINNEMUCCA, NEV. (872 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	YAKUTAT, ALASKA (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,310	14.5	60	149	1.7	31	12	10.2	97	90	3.3
1,000--	31	126					31	125	10.6	93	116	4.3
950----	31	571					31	548	9.0	88	150	7.0
900----	31	1,036					31	999	6.6	87	165	7.2
850----	31	1,527	20.0	43	163	2.9	31	1,466	4.3	85	179	6.8
800----	31	2,048	18.1	38	211	2.7	31	1,958	2.1	82	197	7.0
750----	31	2,591	14.3	41	206	3.5	31	2,477	- .3	74	215	8.4
700----	31	3,175	10.0	48	190	5.1	31	3,028	- 2.8	64	221	10.7
650----	31	3,778	5.2	53	199	8.2	31	3,609	- 5.9	63	226	13.6
600----	31	4,434	.1	56	200	10.1	31	4,235	- 9.6	61	227	15.2
550----	31	5,118	- 5.1	55	203	13.4	31	4,896	-13.6	57	230	18.3
500----	31	5,867	-10.0	44	209	12.2	31	5,622	-18.1	50	231	19.6
450----	31	6,667	-15.3	37	215	13.8	31	6,390	-23.4	45	230	22.3
400----	31	7,551	-21.3	37	216	18.5	31	7,253	-29.6	44	230	25.6
350----	31	8,521	-28.7		214	21.4	31	8,193	-36.[illegible]	44	232	29.3
300----	31	9,605	-37.2		218	25.3	31	9,246	-43.6		233	32.8
250----	31	10,839	-46.4		216	31.1	31	10,452	-50.7		237	34.0
200----	31	12,292	-54.4		218	38.9	31	11,902	-51.0		243	27.4
175----	31	13,140	-57.4		223	33.2	31	12,772	-50.3		244	24.3
150----	31	14,106	-60.9		226	23.3	31	13,780	-49.7		242	20.8
125----	31	15,231	-63.2		223	14.2	31	14,972	-49.9		239	17.1
100----	31	16,602	-62.9		206	7.8	31	16,433	-49.1		236	15.2
80-----	31	17,984	-60.3		132	3.7	31	17,898	-48.9		235	12.4
70-----	31	18,823	-58.3		108	3.7	31	18,775	-48.9		234	9.1
60-----	31	19,794	-56.3		82	6.6	31	19,786	-48.9		229	5.8
50-----	29	20,956	-54.4		84	9.5	31	20,983	-49.0		225	4.1
40-----	28	22,393	-52.1		83	12.6	30	22,447	-49.1		211	1.2
30-----	27	24,268	-49.4		83	15.0	29	24,341	-47.9		49	.6
25-----	26	25,469	-48.0		88	17.3	27	25,559	-46.3		95	2.3
20-----	25	26,947	-45.8		85	18.7	22	27,077	-44.1		71	3.7
15-----	15	28,875	-43.2		93	22.3	9	29,029	-41.6			
10-----												

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots. The resultant wind speed is biased toward a lower value as the number of observations on which the resultant is based lessens. The amount of bias increases with the number of observations that are terminated due to low angle limitations

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Aug.									
2	0.77	0.87	----	1.17	----	----	----	----	----
3	----	----	(0.69)	----	1.33	----	----	----	----
4	.86	.95	1.05	1.22	1.36	(1.18)	(0.79)	0.83	0.75
5	.81	(.89)	1.02	(.83)	1.36	(1.14)	(1.01)	----	----
6	(.91)	(.99)	1.09	1.24	1.40	1.20	1.01	(.63)	----
7	.80	.87	1.01	----	1.33	----	.89	----	----
8	----	----	----	(.75)	(1.23)	(.98)	(.77)	----	----
9	.74	.84	.95	(1.09)	(1.31)	(1.01)	----	----	----
10	----	----	----	----	1.27	----	----	----	----
11	----	----	(.85)	----	(.70)	----	----	----	----
12	----	----	----	(.98)	(1.27)	(.94)	(.91)	----	----
13	----	----	----	----	----	----	(.77)	----	----
14	----	----	----	----	1.37	----	----	----	----
18	.82	.93	1.04	1.16	----	----	----	----	----
19	(.71)	----	(.97)	(1.15)	(1.36)	(1.16)	(1.02)	(.89)	(.79)
20	.88	.99	1.10	1.25	(1.41)	1.24	1.11	1.01	.93
21	----	.94	.97	1.16	1.40	----	----	----	----
24	.88	.95	1.05	1.20	----	----	----	----	----
25	(.73)	.86	.97	1.16	1.32	(1.11)	----	----	----
26	.85	.95	1.06	1.22	1.37	----	----	----	----
27	.89	.99	1.10	1.24	1.39	1.22	1.01	.91	.83
28	.82	.90	1.03	1.16	1.30	----	----	----	----
29	.78	.87	.99	1.16	1.33	(1.09)	(.92)	----	----
31	----	----	----	----	----	----	----	(.92)	(.86)
Averages	0.83	0.92	1.03	1.20	1.35	1.22	1.01	0.92	0.84

MAUNA LOA OBS., HAWAII

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
Air mass	3.36	2.69	2.01	1.34	*	1.31	2.01	2.69	3.36
Aug.									
1	1.18	1.25	1.33	1.44	----	----	----	----	----
3	----	----	1.32	1.43	----	1.43	1.32	1.24	1.16
4	----	----	1.34	1.44	1.59	1.43	1.30	1.21	1.14
5	----	----	----	----	----	1.42	1.32	1.22	1.14
6	1.20	1.27	1.36	1.46	----	1.41	1.32	1.24	1.17
7	1.23	1.30	1.38	1.47	1.59	----	----	----	----
11	1.15	1.24	----	----	----	----	----	----	----
13	----	1.23	1.33	1.41	----	----	----	----	----
15	1.21	1.28	1.36	1.45	----	----	----	----	----
16	1.19	1.27	1.35	1.45	1.57	1.45	1.34	1.25	1.18
17	----	----	----	1.39	----	----	----	----	----
18	1.18	1.24	1.34	1.44	----	----	----	----	----
19	----	----	----	----	1.59	----	----	----	----
20	----	1.28	1.37	----	----	----	----	----	----
23	1.14	1.22	1.30	1.41	----	----	----	----	----
24	1.15	1.22	1.32	1.43	1.58	1.41	----	----	----
25	1.17	1.25	1.33	1.46	1.60	1.46	1.35	1.26	1.19
26	1.23	1.30	1.38	1.49	1.61	1.46	----	1.27	1.19
27	1.18	1.25	1.35	1.46	----	----	----	----	----
28	1.21	1.29	1.37	1.47	----	----	----	----	----
30	1.22	1.29	1.38	1.48	1.57	----	----	----	----
31	1.20	1.27	1.36	1.47	----	1.42	1.29	1.19	1.12
Averages	1.19	1.26	1.35	1.45	1.59	1.43	1.32	1.23	1.16

H Haze
S Slight haze - indeterminable
M Moderate haze - indeterminable
I Intense haze - indeterminable
( ) Clouds present
* Values corresponding to true solar noon

MADISON, WIS.

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Aug.									
12	S 0.78	S 0.91	S 1.04	S 1.23	----	----	----	----	----
14	----	----	----	----	S 1.33	S 1.15	0.94	0.78	0.70
20	S .54	S .62	S .76	S .93	----	----	----	----	----
26	----	----	----	H .48	----	----	----	----	----
28	----	----	----	----	M 1.18	----	----	----	----
29	----	----	----	----	----	M .99	M .83	M .70	M .59
Averages	0.66	0.77	0.90	0.88	1.26	1.07	0.89	0.74	0.65

TUCSON, ARIZ.

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
Air mass	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Aug.									
1	0.58	0.70	0.82	1.03	----	----	----	----	----
3	.67	.78	.89	----	----	----	----	----	----
4	.69	----	----	----	----	----	----	----	----
5	.76	.85	.96	1.13	1.34	----	----	----	----
6	.62	.73	.85	1.01	----	----	----	----	----
7	----	----	.80	----	----	----	----	0.72	0.61
8	.58	.68	.80	1.00	1.24	----	----	----	----
10	----	----	----	----	----	0.94	0.80	.68	.56
18	----	----	----	----	1.33	----	----	----	----
21	.74	.85	.95	1.13	1.32	----	----	----	----
24	.67	.76	.88	----	----	----	----	----	----
25	.71	.80	.90	.99	----	----	----	----	----
26	.76	.85	.98	1.15	1.34	----	1.03	.93	.83
27	.84	.92	1.04	----	1.35	----	1.01	.87	.78
30	.77	.86	.97	1.12	----	----	----	----	----
31	.82	.90	1.02	1.16	1.35	1.16	1.04	.89	.80
Averages	0.71	0.81	0.91	1.08	1.32	1.05	0.97	0.82	0.72

OMAHA, NEBR.

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Aug.									
4	S 0.47	S 0.56	S 0.69	----	----	----	----	----	----
7	----	----	----	----	I 0.83	M 0.63	M 0.45	M 0.30	M 0.19
8	----	----	----	----	I .94	I .54	----	----	----
10	----	----	----	M 0.55	M .94	----	----	----	----
11	----	----	----	----	----	S .71	S .53	S .48	S .27
13	----	----	----	H .67	M .98	----	----	----	----
15	----	----	----	H .87	----	M .76	M .56	M .46	M .39
16	----	----	----	H .72	----	----	----	----	----
19	----	----	----	----	----	----	M .54	M .48	M .32
25	----	----	----	----	H .83	----	----	----	----
26	S .19	S .32	S .48	S .69	----	M .82	H .62	----	----
28	----	----	----	----	S 1.06	S .83	S .56	----	----
29	----	----	----	----	H .98	M .71	M .50	M .39	M .27
30	S .26	S .35	S .50	S .73	----	M .54	M .36	----	----
31	----	----	----	----	----	----	M .58	M .47	M .30
Averages	0.31	0.41	0.56	0.71	0.94	0.69	0.52	0.43	0.34

GUAM, M. I.

Date	Sun's zenith distance								
	A. M.				*	P. M.			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
Air mass	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
No observations during August									

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

AUGUST 1961

1961	Ames, Iowa	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill Obs., Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Corvallis, Oreg.	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	El Paso, Texas	Fly, New	Fairbanks, Alaska	Flaming Gorge, Utah	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.	Cape Hatteras, N. C.
Aug. 6	671	202	365	649	125	231	316	636	310	604	430	540	547	613	514	441	640	693	136	713	466	645	400	221	421	565	585	629	561	640	480	394	152	733
Aug. 7	623	637	---	646	332	174	282	449	452	513	537	460	594	437	646	540	631	679	653	661	659	698	575	396	444	589	580	737	---	695	631	242	264	756
Aug. 8	230	577	602	199	415	302	190	648	604	470	616	235	596	442	645	538	610	667	648	560	468	724	537	411	409	563	590	750	595	694	534	512	575	739
Aug. 9	420	607	630	349	513	476	503	550	525	637	554	236	569	598	534	541	233	600	656	654	532	716	669	---	592	604	545	622	549	542	154	339	531	743
Aug. 10	612	693	420	599	550	193	297	351	539	660	527	550	614	---	437	505	504	637	433	685	398	711	511	239	529	608	375	500	462	660	399	447	605	---
Aug. 11	569	401	397	608	572	181	158	631	466	541	502	512	576	179	534	369	266	441	509	447	368	703	550	209	530	541	469	758	643	593	643	461	715	716
Aug. 12	611	435	680	271	565	334	315	649	542	295	522	364	632	645	603	449	677	382	653	388	604	572	---	95	445	570	559	482	645	631	634	432	689	705
Average	534	507	516	474	439	270	294	559	491	531	527	414	589	486	559	483	509	585	567	587	499	681	540	262	482	577	529	640	576	636	496	404	504	732
Aug. 13	680	609	520	516	600	267	407	---	609	488	673	551	622	579	564	619	349	608	698	248	404	601	545	373	454	616	564	598	630	707	552	499	637	569
Aug. 14	595	547	570	121	521	342	448	597	600	628	583	474	511	624	165	568	681	340	693	299	625	551	608	449	607	345	576	450	534	665	474	476	478	459
Aug. 15	597	465	---	226	284	250	477	517	553	308	595	403	---	401	513	579	609	167	668	273	457	531	281	413	578	432	581	527	542	574	516	465	521	144
Aug. 16	593	592	---	618	611	92	242	606	529	624	526	360	616	282	537	534	578	472	696	---	670	572	645	336	375	471	576	398	---	---	370	504	705	759
Aug. 17	572	661	331	515	595	277	163	197	632	628	604	---	610	529	662	623	612	642	554	617	529	669	673	424	448	445	551	---	548	612	541	148	702	707
Aug. 18	452	568	447	339	540	271	98	567	560	606	553	402	622	582	215	586	588	510	673	322	577	593	579	250	612	480	546	400	---	643	589	364	652	548
Aug. 19	511	574	243	247	526	166	128	387	507	464	513	261	623	630	96	410	499	497	128	267	288	416	366	227	594	450	330	87	556	657	581	338	493	154
Average	571	573	422	326	525	238	280	478	570	535	578	409	601	518	293	560	559	462	587	343	507	562	528	353	521	463	532	110	562	643	518	442	598	477
Aug. 20	579	329	650	521	377	140	131	582	459	575	462	502	628	479	464	153	677	537	650	668	656	308	522	301	286	595	516	630	---	577	199	66	404	406
Aug. 21	166	188	576	561	496	191	71	477	129	609	92	595	645	457	599	55	546	585	606	365	425	699	409	208	566	478	489	537	(403)	666	581	441	570	630
Aug. 22	473	307	---	412	451	211	212	559	430	470	495	591	615	166	287	506	194	569	647	506	534	661	360	342	608	586	501	630	540	667	554	288	525	109
Aug. 23	422	171	---	169	314	240	127	547	150	247	---	576	639	431	551	175	563	518	634	652	73	675	308	404	590	383	504	531	535	---	477	420	342	363
Aug. 24	554	95	132	361	127	239	332	536	179	565	214	547	634	488	429	310	587	400	599	616	227	670	501	56	433	609	418	425	503	---	562	326	---	676
Aug. 25	523	54	204	544	258	219	468	534	440	319	493	541	661	248	182	303	602	591	561	286	339	682	513	72	400	305	529	408	520	---	369	363	228	691
Aug. 26	536	299	88	466	316	215	440	313	415	531	465	582	648	139	87	---	622	242	504	642	341	646	677	309	467	596	544	595	236	---	441	242	226	667
Average	465	206	330	433	334	208	254	507	314	474	370	562	639	344	371	250	542	478	614	534	371	620	470	242	479	556	514	539	(456)	---	455	307	382	506
Aug. 27	233	113	625	537	290	157	419	541	391	556	425	532	602	151	276	302	614	489	554	639	289	659	658	472	500	594	530	666	[illegible]	---	346	400	345	381
Aug. 28	553	383	642	554	457	---	403	561	520	481	546	516	630	465	597	508	533	551	615	636	472	677	647	272	529	560	527	367	42	---	---	275	584	91
Aug. 29	489	111	341	329	417	123	321	503	321	564	309	555	651	516	427	364	600	338	596	647	575	403	412	386	190	479	521	383	386	---	103	156	576	554
Aug. 30	545	324	275	326	332	83	256	376	517	520	519	427	640	547	394	519	576	506	490	537	527	610	432	180	488	523	519	581	426	---	170	416	340	637
Aug. 31	540	398	228	387	171	85	185	524	442	271	401	476	637	523	239	489	475	192	599	593	500	657	---	377	347	199	516	593	462	---	323	---	203	691
Sep. 1	174	544	642	339	459	117	232	463	492	236	508	581	495	79	398	119	456	319	664	624	179	683	648	270	540	552	531	672	355	---	159	---	550	663
Sep. 2	529	57	564	369	457	228	237	271	138	531	103	596	632	189	394	301	588	423	608	---	524	676	533	307	372	548	517	648	264	---	172	561	545	425
Average	438	280	474	406	369	132	293	463	403	451	402	526	613	353	389	372	549	428	592	628	409	623	555	358	424	536	494	559	412	---	312	442	449	506

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

AUGUST 1961

1961	Hilo, Hawaii	Indianapolis, Ind.	Inyokern China Lake Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Laramie, Wyo.	Las Vegas, Nev.	Lexington, Ky.	Lemont, Ill.	Little Rock, Ark.	Los Angeles, Calif.	Los Angeles, Calif. (Urban)	Madison, Wis.	Manhattan, Kans.	Matanuska, Alaska	Mauna Loa Obs., Hawaii	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn	Newport, R. I.	North Omaha, Nebr.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Page, Ariz.	Phoenix, Ariz.	Portland, Me	Prosser, Wash.	Rapid City, S. Dak.	Riverside, Calif.	St. Cloud, Minn.	Salt Lake City, Utah	San Antonio, Tex.
Aug. 6-----	490	543	798	382	580	579	643	731	652	574	632	678	678	768	664	409	750	671	634	642	306	224	---	393	552	639	529	389	742	665	638	644	525	660
Aug. 7-----	485	565	787	308	507	423	550	687	583	524	649	636	662	674	631	417	658	591	594	586	533	---	---	378	636	645	631	535	688	403	645	515	668	635
Aug. 8-----	247	590	791	565	397	461	345	710	445	446	358	540	643	296	616	167	374	647	672	606	442	614	527	270	657	628	648	664	720	461	642	623	692	555
Aug. 9-----	365	584	607	355	385	581	472	697	358	540	566	293	349	443	373	242	625	671	401	647	538	524	486	232	548	481	618	582	710	620	421	295	698	533
Aug. 10-----	585	144	527	331	452	470	498	333	475	189	564	455	584	494	614	337	677	644	655	609	489	524	629	463	667	585	478	618	658	592	611	505	713	473
Aug. 11-----	320	277	712	230	485	488	615	560	302	300	651	594	626	632	307	428	414	200	634	575	559	457	569	559	647	493	642	492	631	633	622	627	498	498
Aug. 12-----	673	597	800	447	521	459	149	706	586	575	469	594	668	711	594	510	667	568	502	532	277	394	495	216	512	656	633	642	610	463	638	656	545	594
Average-------	452	471	717	374	475	494	468	632	486	450	556	541	601	574	543	359	595	570	585	600	449	456	541	359	603	590	597	589	680	548	602	552	620	564
Aug. 13-----	322	626	793	405	597	522	429	680	593	577	525	639	662	560	159	329	---	587	459	640	622	635	655	607	437	674	644	617	389	642	632	628	560	645
Aug. 14-----	682	631	821	549	609	498	530	697	745	591	131	653	645	673	500	426	(355)	551	549	576	404	581	557	413	395	562	464	606	643	559	634	591	698	479
Aug. 15-----	292	600	820	514	564	633	633	490	---	534	369	617	647	581	520	323	---	634	413	551	365	585	645	513	362	345	360	594	465	647	599	567	515	550
Aug. 16-----	537	579	818	554	502	528	471	641	633	482	327	550	620	617	504	463	708	619	457	567	583	516	601	538	473	604	603	552	422	610	607	588	659	597
Aug. 17-----	588	453	802	603	430	651	413	654	---	542	459	605	(656)	598	393	233	386	630	494	560	521	622	605	551	513	634	582	559	595	294	625	524	665	414
Aug. 18-----	480	415	793	576	352	631	568	660	---	478	556	597	(614)	530	200	118	502	636	478	588	579	603	335	439	405	639	531	594	598	564	526	256	676	449
Aug. 19-----	535	376	555	458	633	635	593	538	---	256	563	596	596	376	529	130	616	488	648	282	561	500	432	563	244	478	599	600	570	589	481	624	652	564
Average-------	491	526	772	523	527	585	520	623	---	494	419	608	(634)	562	401	289	(514)	592	500	538	519	578	547	518	404	562	541	589	526	558	586	540	632	528
Aug. 20-----	456	209	722	334	575	261	398	661	---	564	556	628	620	643	508	137	---	621	479	460	276	397	504	259	673	584	616	516	594	565	578	563	446	549
Aug. 21-----	604	470	708	57	613	608	497	602	---	532	570	607	589	619	99	138	---	596	262	616	130	111	69	340	426	540	583	94	610	539	531	422	667	573
Aug. 22-----	237	434	---	275	600	607	605	500	---	216	233	599	597	571	295	101	---	613	284	546	387	523	578	480	209	575	523	329	594	606	197	301	591	614
Aug. 23-----	252	297	378	320	505	567	599	287	---	49	67	573	578	489	453	292	---	619	396	529	244	85	556	455	440	579	421	320	575	595	564	549	394	642
Aug. 24-----	560	316	743	456	550	295	399	625	---	253	366	595	605	511	532	486	---	559	556	616	338	213	576	306	662	(396)	595	114	266	246	598	507	510	638
Aug. 25-----	614	445	754	113	520	429	305	673	473	471	534	590	603	518	554	407	---	572	375	586	401	352	589	214	627	633	610	354	432	570	623	455	532	541
Aug. 26-----	402	519	786	310	482	525	422	694	620	462	---	609	632	504	556	475	---	230	573	476	411	312	600	472	725	647	623	167	213	321	596	534	595	613
Average-------	446	384	682	266	549	470	461	577	---	364	388	600	603	551	428	291	---	544	418	547	313	285	496	361	537	(565)	567	271	469	492	527	476	534	596
Aug. 27-----	609	520	786	318	478	568	524	681	659	490	571	651	651	205	563	306	---	541	505	610	475	416	516	481	618	646	627	421	617	585	627	244	624	580
Aug. 28-----	501	540	771	372	410	464	573	683	608	487	585	568	572	456	559	343	---	551	314	564	457	528	567	500	610	515	484	515	569	469	608	456	601	517
Aug. 29-----	475	545	758	250	191	153	416	430	639	484	412	458	509	572	487	435	---	577	581	596	486	275	581	437	577	252	423	170	598	534	571	537	172	502
Aug. 30-----	605	548	713	493	111	414	417	608	547	504	502	505	526	567	508	464	---	572	602	450	505	538	499	541	596	615	511	571	515	425	537	520	467	465
Aug. 31-----	531	431	732	509	429	442	368	645	556	345	261	442	583	437	472	437	---	534	606	421	317	457	573	404	582	412	606	450	501	450	571	521	523	571
Sep. 1-----	424	451	739	492	620	499	500	653	378	392	509	582	575	390	545	415	---	434	578	470	329	531	486	344	526	(609)	601	552	534	391	576	217	532	588
Sep. 2-----	562	393	733	194	579	505	226	619	---	315	490	579	575	317	106	314	---	601	516	591	319	265	535	350	588	(385)	609	107	592	277	595	423	582	594
Average-------	529	490	747	375	403	435	432	617	564	431	476	541	570	421	463	388	---	544	529	529	413	430	537	437	585	(490)	552	398	561	447	584	417	500	545

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

1961	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Seattle, Wash.	Seattle-Tacoma, Wash.	Shreveport, La.	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Swan Island, W. I.	Tampa, Fla.	Tucson, Ariz.	Washington, D. C. (Obs & Test Dev Ctr)
Aug. 6-----	656	674	522	670	(694)	529	682	483	660	524	695	694	466
Aug. 7-----	662	524	558	656	681	591	668	643	644	475	668	(706)	582
Aug. 8-----	641	669	494	598	586	577	664	603	621	585	430	---	646
Aug. 9-----	646	484	518	469	496	584	598	557	476	535	460	(690)	433
Aug. 10-----	413	444	479	615	643	586	668	450	627	590	523	480	486
Aug. 11-----	597	513	366	610	630	605	654	349	493	517	593	571	409
Aug. 12-----	557	561	348	408	511	536	490	562	368	575	631	665	317
Average-------	596	553	469	575	(606)	573	632	521	555	543	571	(634)	477
Aug. 13-----	614	670	559	307	412	239	400	609	254	550	567	573	647
Aug. 14-----	606	282	578	565	591	384	608	595	117	472	545	---	659
Aug. 15-----	713	644	557	329	373	350	294	593	135	401	504	---	619
Aug. 16-----	643	651	465	129	323	408	350	509	391	550	280	---	597
Aug. 17-----	727	654	598	408	499	353	434	633	506	489	305	621	489
Aug. 18-----	675	529	509	499	483	473	546	479	404	407	301	589	586
Aug. 19-----	534	416	413	591	616	544	598	449	413	527	58	652	451
Average-------	645	550	526	404	471	393	462	552	317	485	366	609	578
Aug. 20-----	519	638	252	576	603	546	365	360	627	448	573	673	116
Aug. 21-----	622	577	274	578	608	568	609	115	549	574	580	672	---
Aug. 22-----	566	458	493	426	473	340	506	447	---	530	546	(505)	507
Aug. 23-----	609	542	114	473	506	304	514	325	488	568	502	652	351
Aug. 24-----	617	433	336	245	391	144	---	376	611	576	443	618	443
Aug. 25-----	595	519	300	595	600	515	472	198	599	512	475	673	409
Aug. 26-----	632	200	309	251	193	508	399	331	601	533	482	669	348
Average-------	594	481	297	449	482	418	477	307	579	534	514	(637)	362
Aug. 27-----	571	515	387	561	593	481	583	475	580	417	558	671	531
Aug. 28-----	611	423	449	540	567	538	550	541	591	424	363	440	550
Aug. 29-----	531	527	383	522	552	404	529	417	519	432	463	(409)	549
Aug. 30-----	540	225	516	150	238	388	534	580	513	348	487	647	600
Aug. 31-----	511	530	469	209	377	485	341	581	557	509	568	659	601
Sep. 1-----	606	315	480	501	525	349	398	455	494	---	522	664	517
Sep. 2-----	575	378	444	415	467	483	531	293	333	468	450	655	514
Average-------	563	416	447	414	474	447	495	477	513	433	487	(592)	552

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

TOTAL OZONE DATA

Total amount of ozone in the atmosphere, expressed in terms of integrated depth, in units of 10^{-3} centimeter. These data are given as daily averages obtained from measurements with a Dobson Ozone Spectrophotometer using the sun or zenith cloud (see explanation below) as a light source.

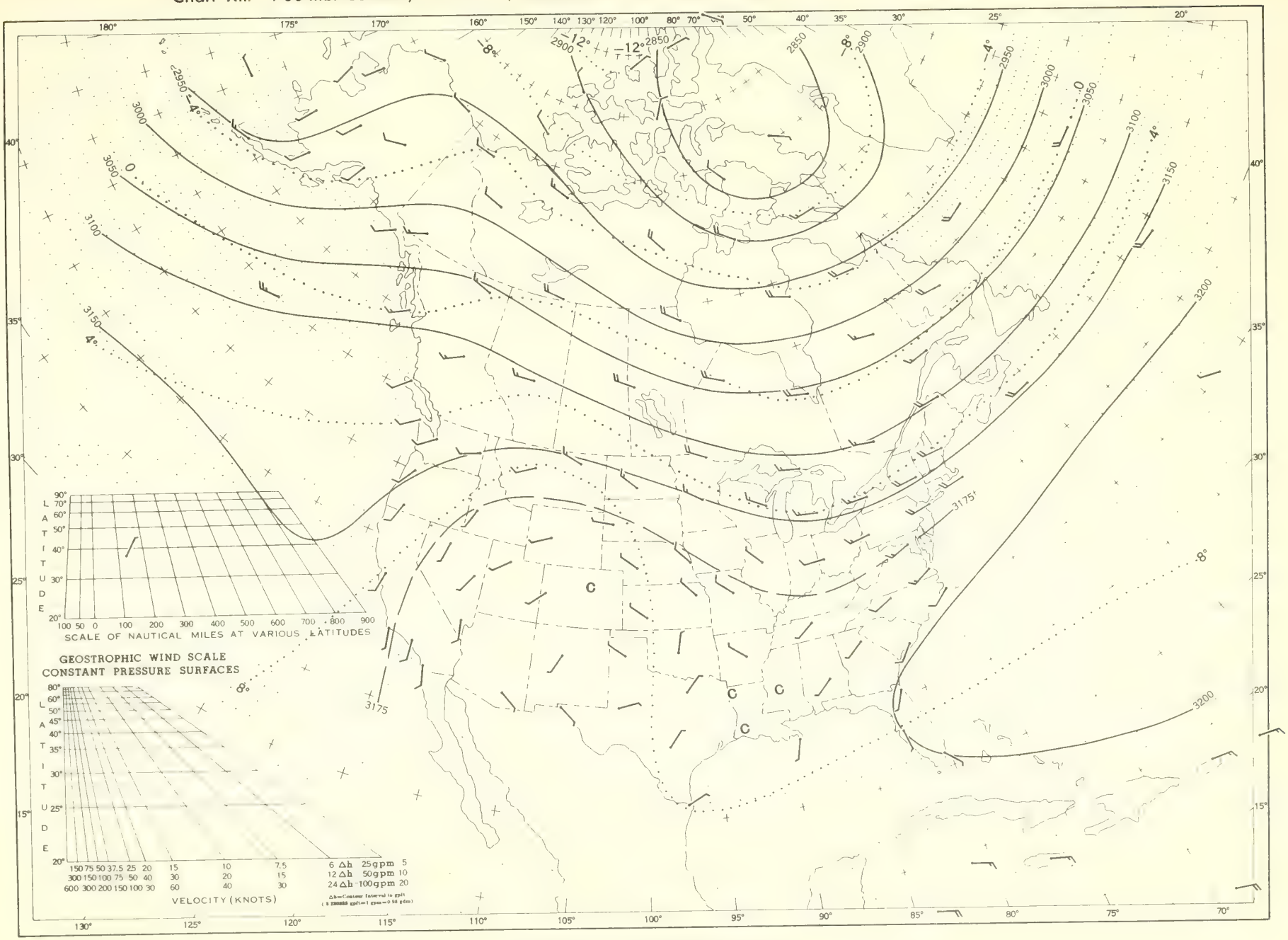
AUGUST 1961

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Bismarck, N. Dak.	304	295	279	304	306	303	272	292	305	---	305	315	305	---	297	301	---	299	---	287	304	298	298	264	278	284	273	289	287	---	304
Caribou, Maine	352	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	292	---	291	287	---	---	---	---	306	301	298
Fort Worth, Texas	246	235	251	195	238	196	249	230	230	230	219	233	256	---	---	284	272	232	282	222	260	226	---	240	254	229	229	239	221	193	260
Green Bay, Wis.	---	282	---	288	---	298	274	291	278	285	278	322	320	329	297	300	289	284	303	291	310	319	311	307	297	270	---	288	271	273	264
Mauna Loa, Hawaii	285	287	288	286	288	291	292	---	290	---	283	284	285	283	284	281	278	277	278	279	277	271	279	281	282	285	288	288	281	281	287
Sterling, Virginia	305	---	---	321	---	---	303	301	299	320	312	---	306	328	327	316	325	318	*289	---	---	293	*284	---	---	*282	---	291	298	294	303

The spectrophotometer measures the total amount of ozone in the atmosphere, i e , the amount contained in a vertical column of air extending from the ground to the top of the atmosphere in the vicinity of the station The amount of ozone in this column of air is expressed in terms of thickness it would occupy if it were compressed to standard pressure and temperature.

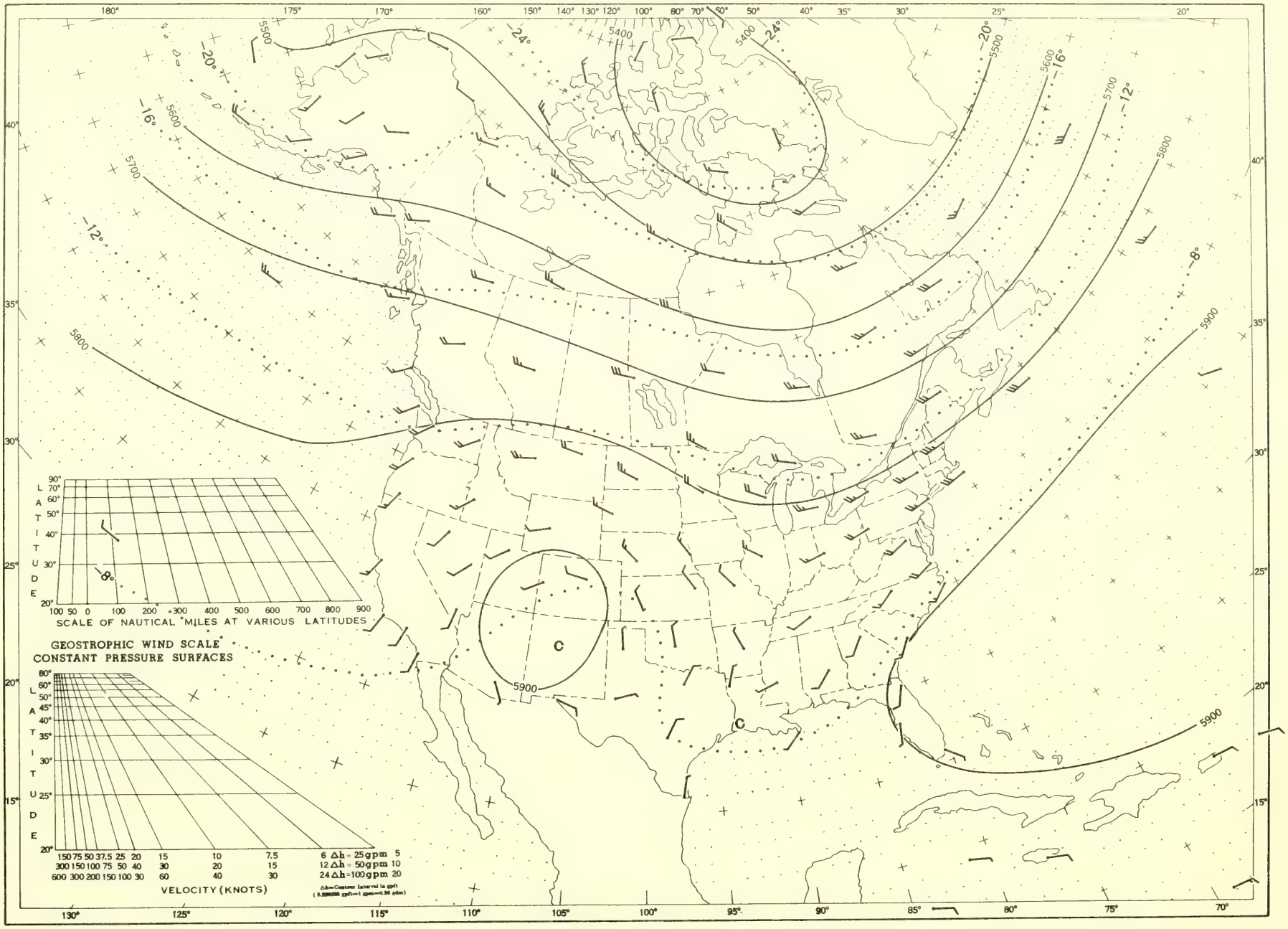
The standard method of observation is that using A (3055 Å and 3254 Å) and D (3176 A and 3398 Å) wave length pairs. On cloudy days when no observations can be obtained directly upon the sun observations are taken by using light from the zenith cloud These observations are not quite as reliable as the sunlight observations, therefore, average values based upon zenith cloud observations are denoted with an asterisk A detailed description of the spectrophotometer and observational procedures may be found in the "Observer's Handbook of the Ozone Spectrophotometer," Annals of the International Geophysical Year, Volume V, Pergamon Press, 1957.

Chart XII. 700-mb. Surface, 1200 GMT, August 1961. Average Height and Temperature, and Resultant Winds.



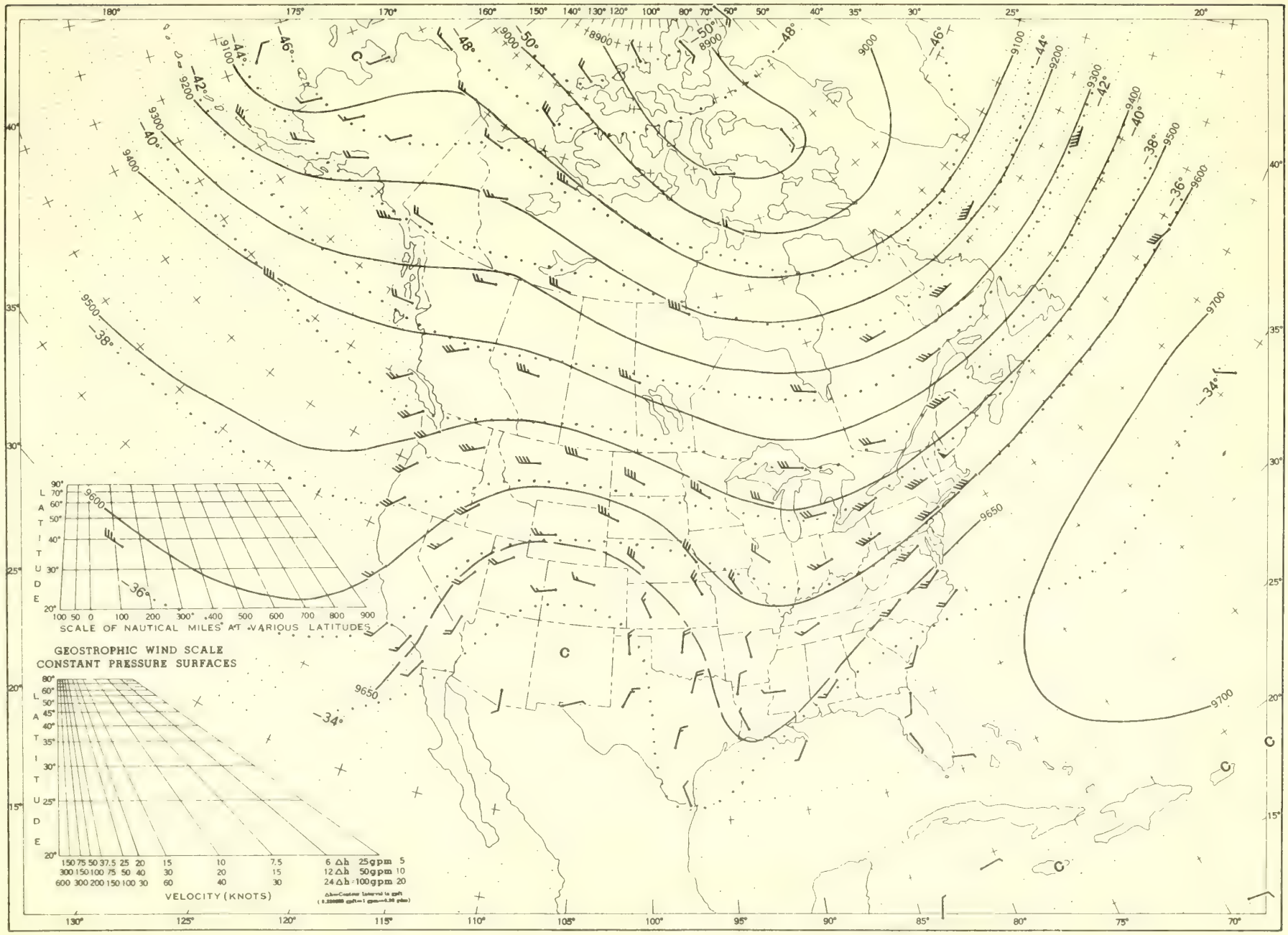
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, August 1961. Average Height and Temperature, and Resultant Winds.



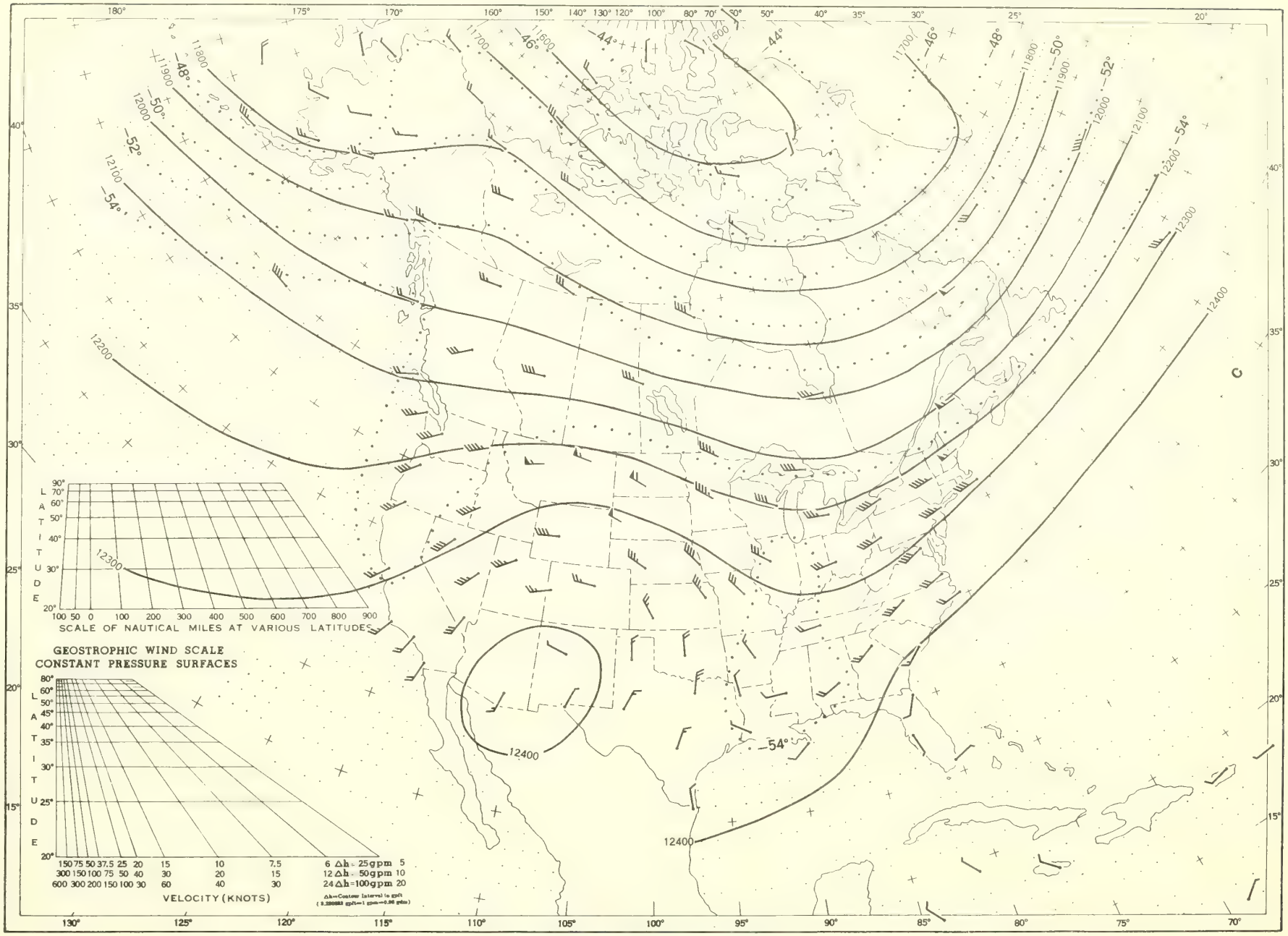
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, August 1961. Average Height and Temperature, and Resultant Winds.



See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, August 1961. Average Height and Temperature, and Resultant Winds.



See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, August 1961. Average Height and Temperature, and Resultant Winds.

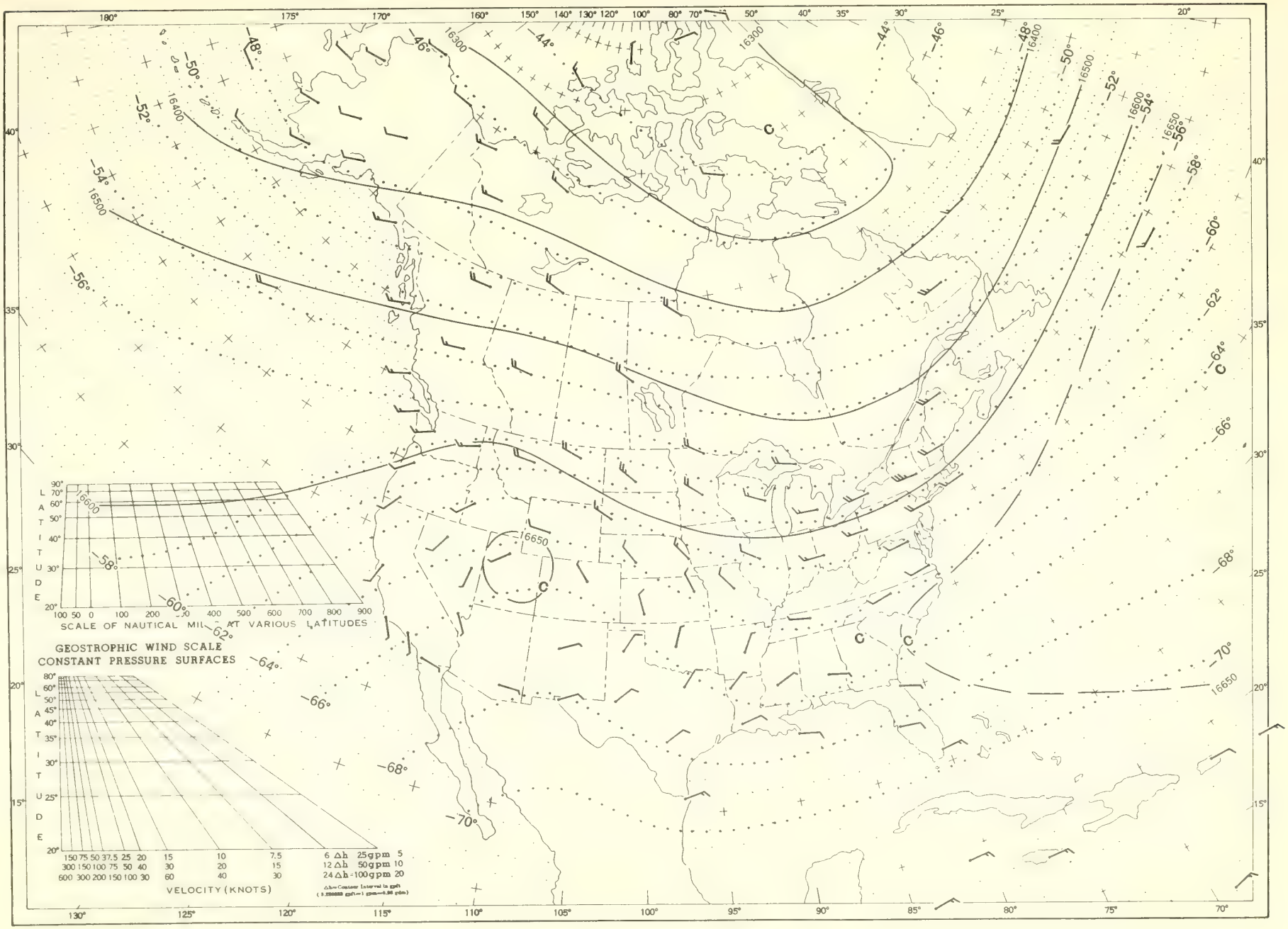
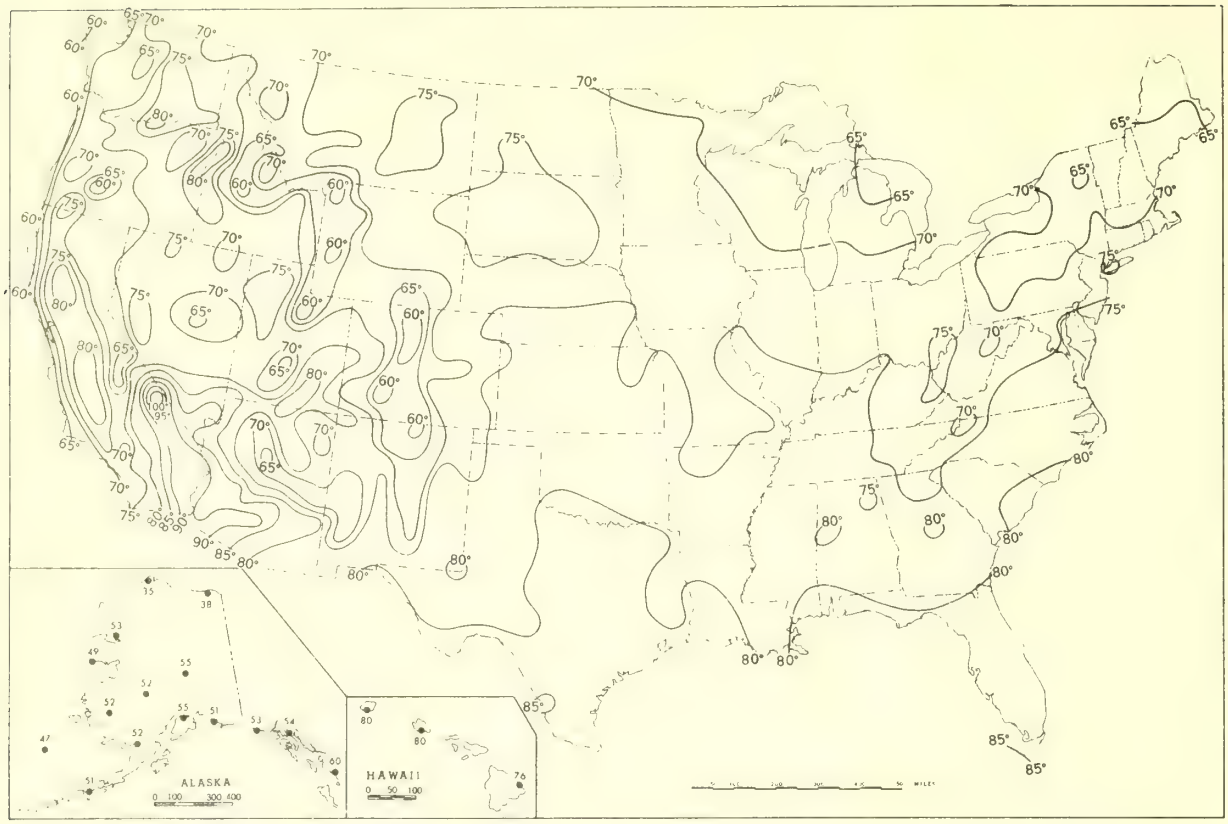
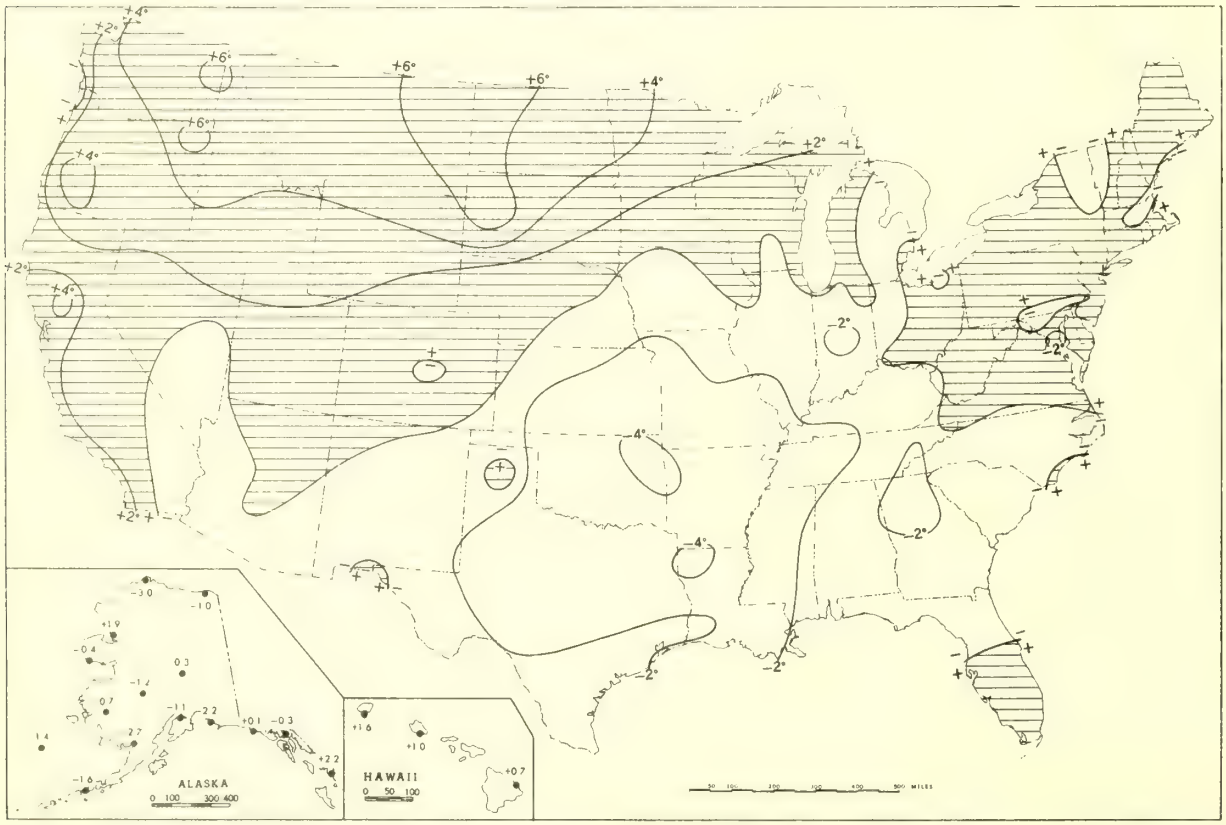


Chart I. A. Average Temperature (°F.) at Surface, August 1961.



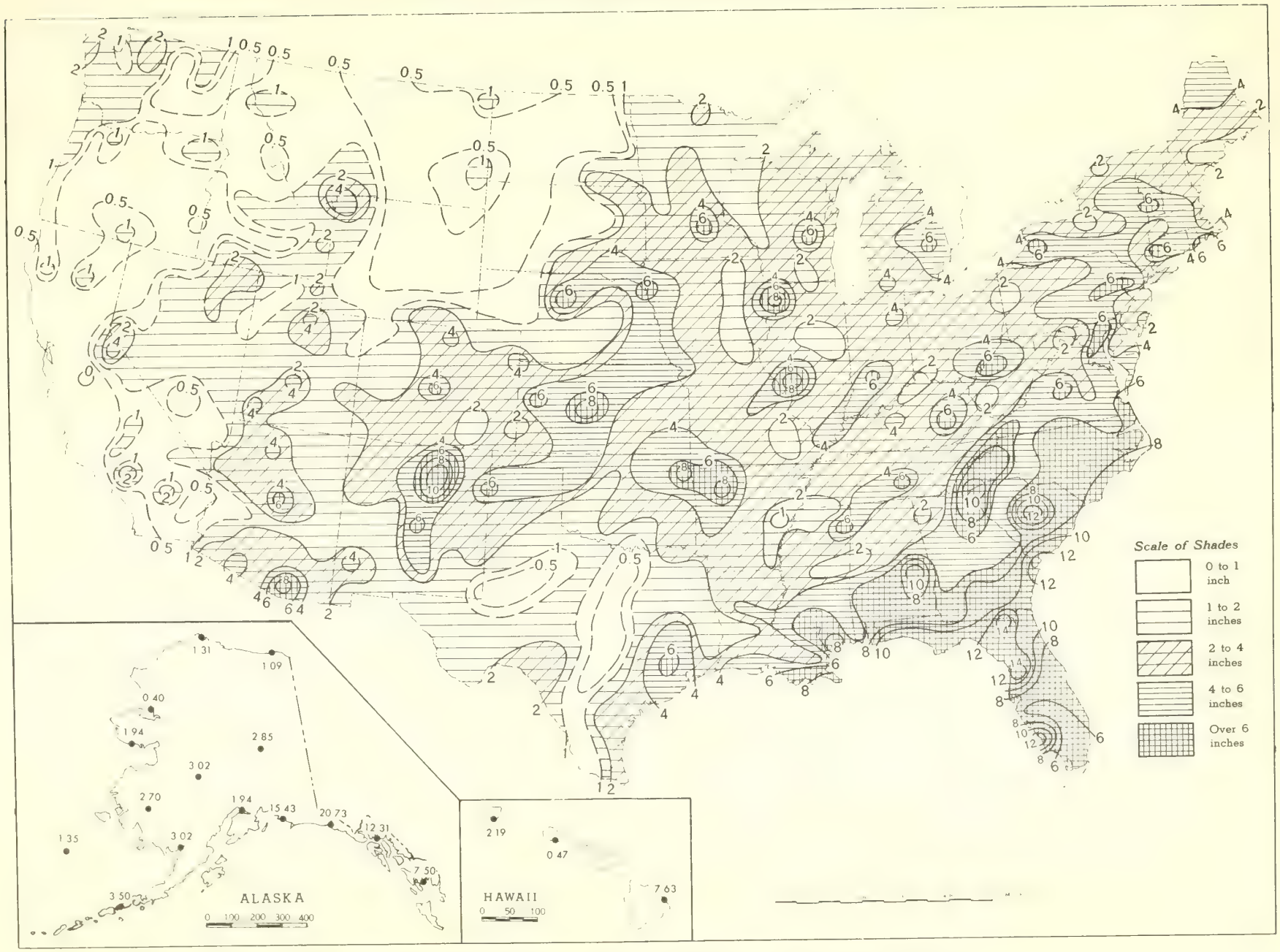
B. Departure of Average Temperature from Normal (°F.), August 1961.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

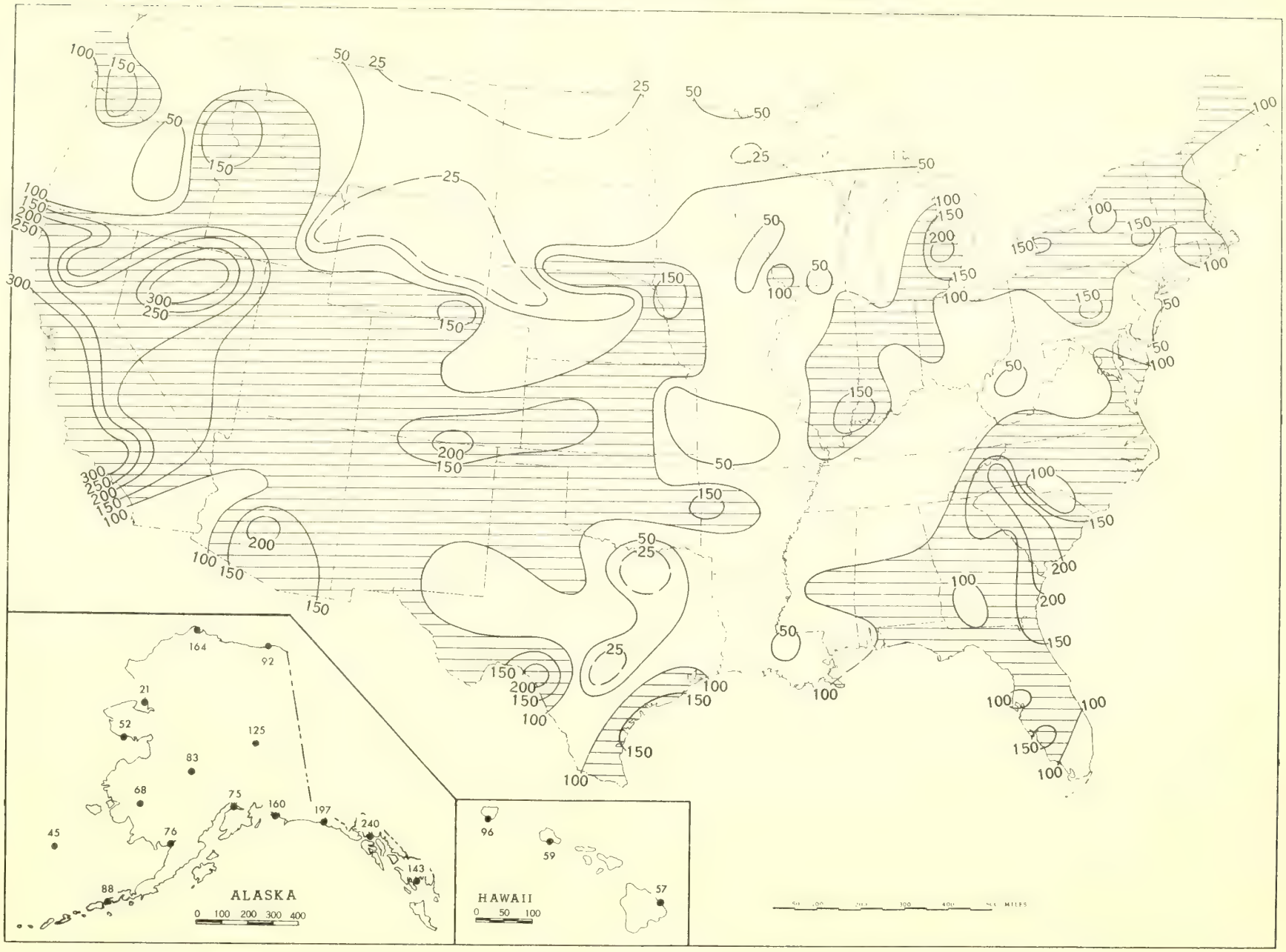
B. Departures from normal are based on the 30-yr. normals (1921-50) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), August 1961.



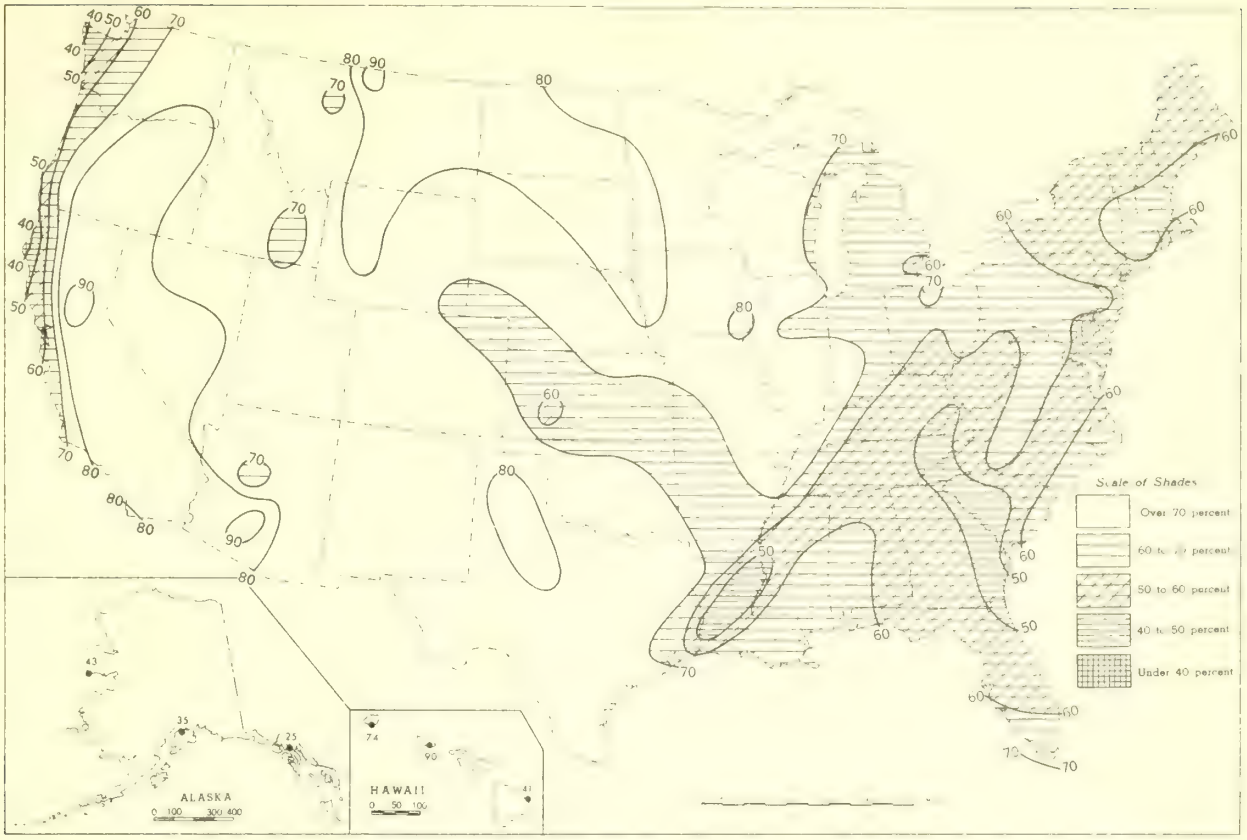
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, August 1961.

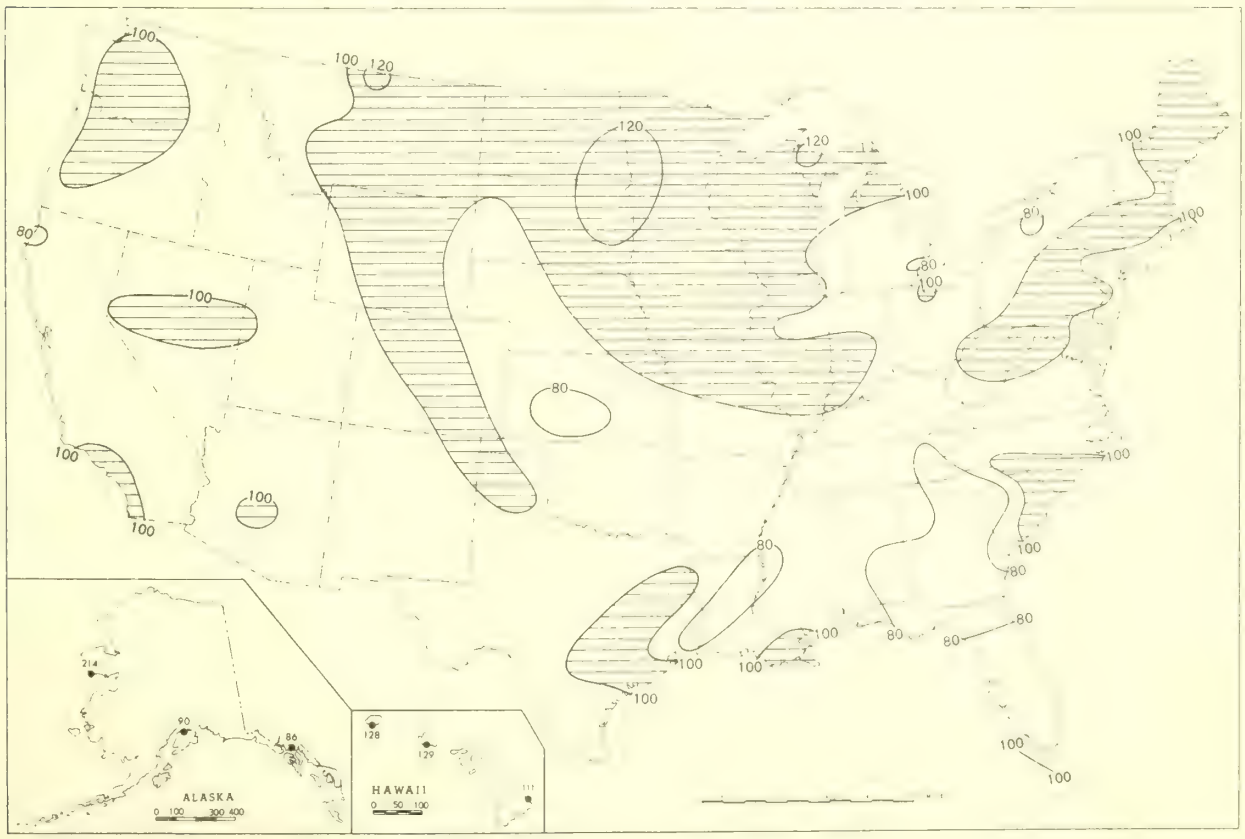


Normal monthly precipitation amounts are computed from the records for 1921-50 for first-order Weather Bureau stations.

Chart VI. A. Percentage of Possible Sunshine, August 1961.

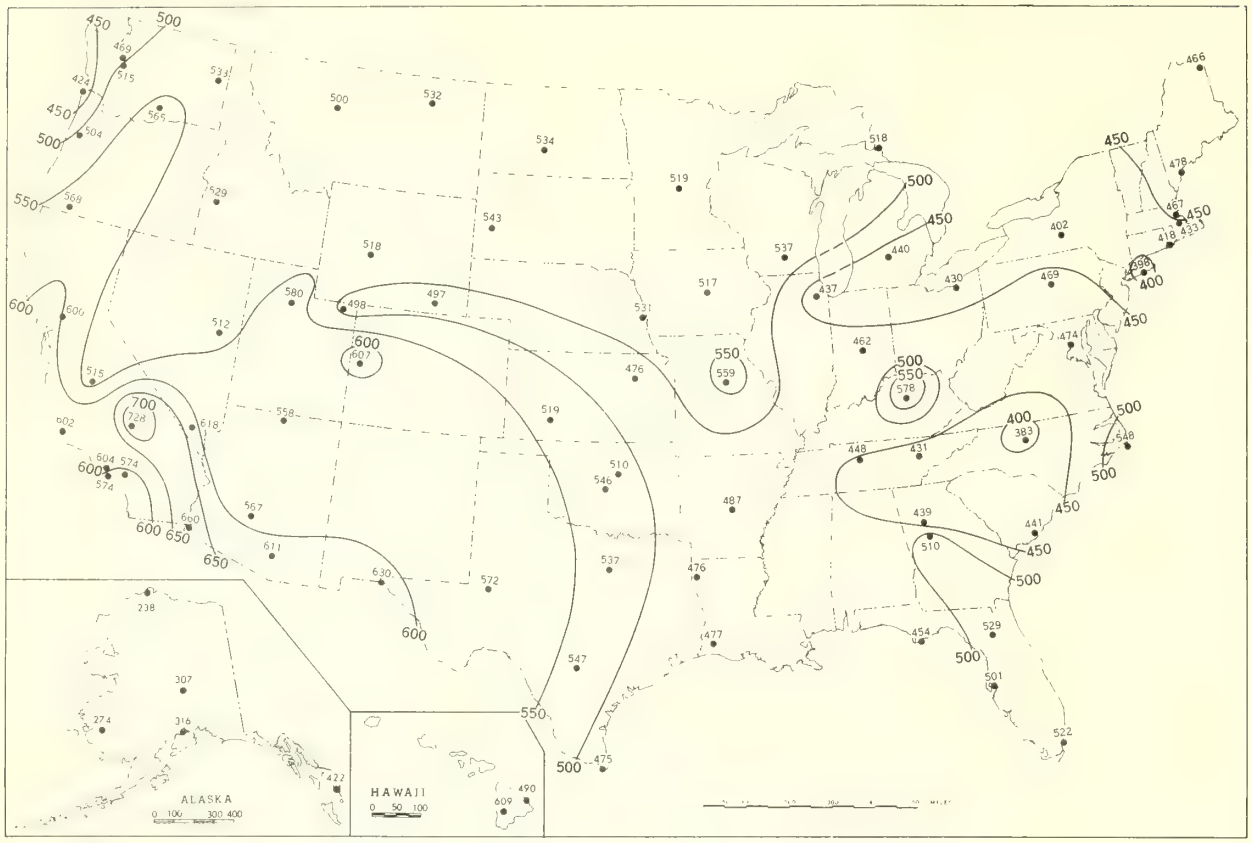


B. Percentage of Mean Monthly Sunshine, August 1961.

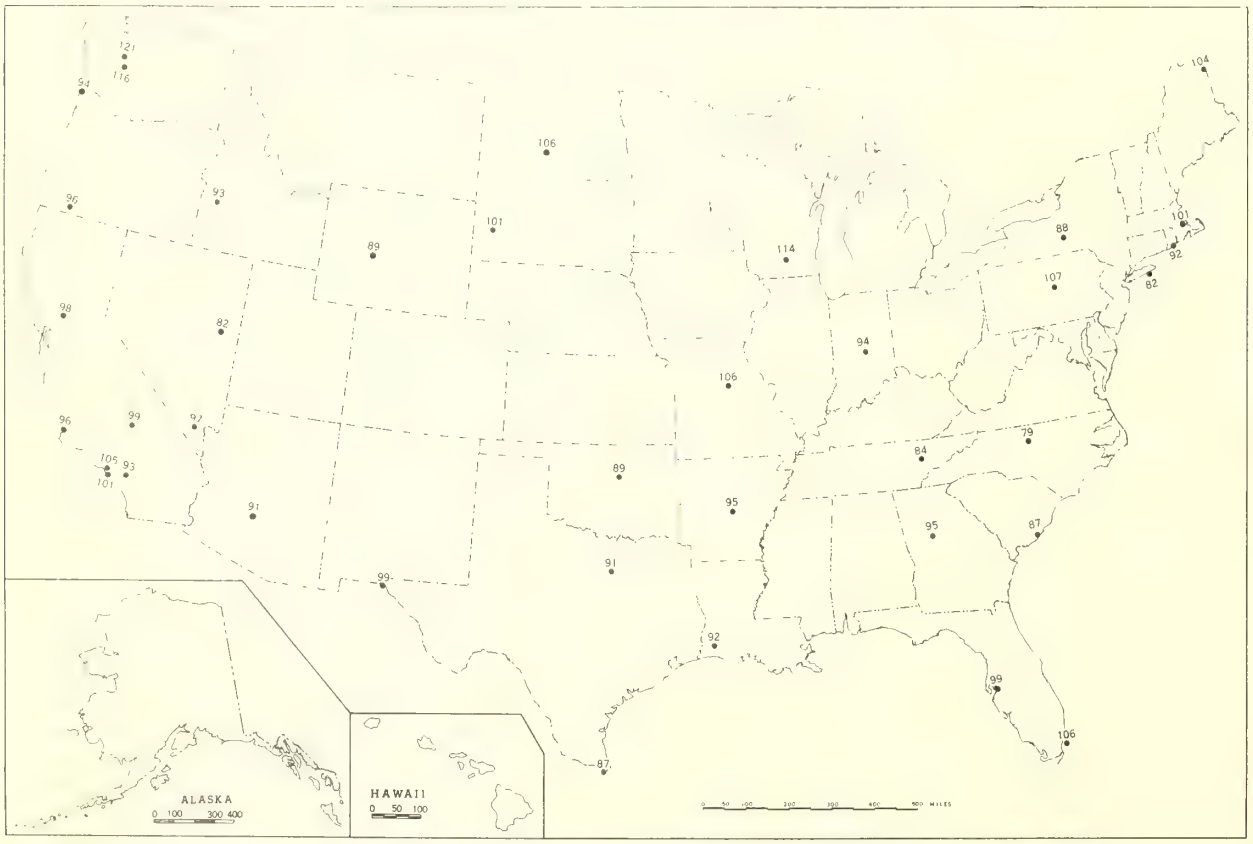


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, August 1961.

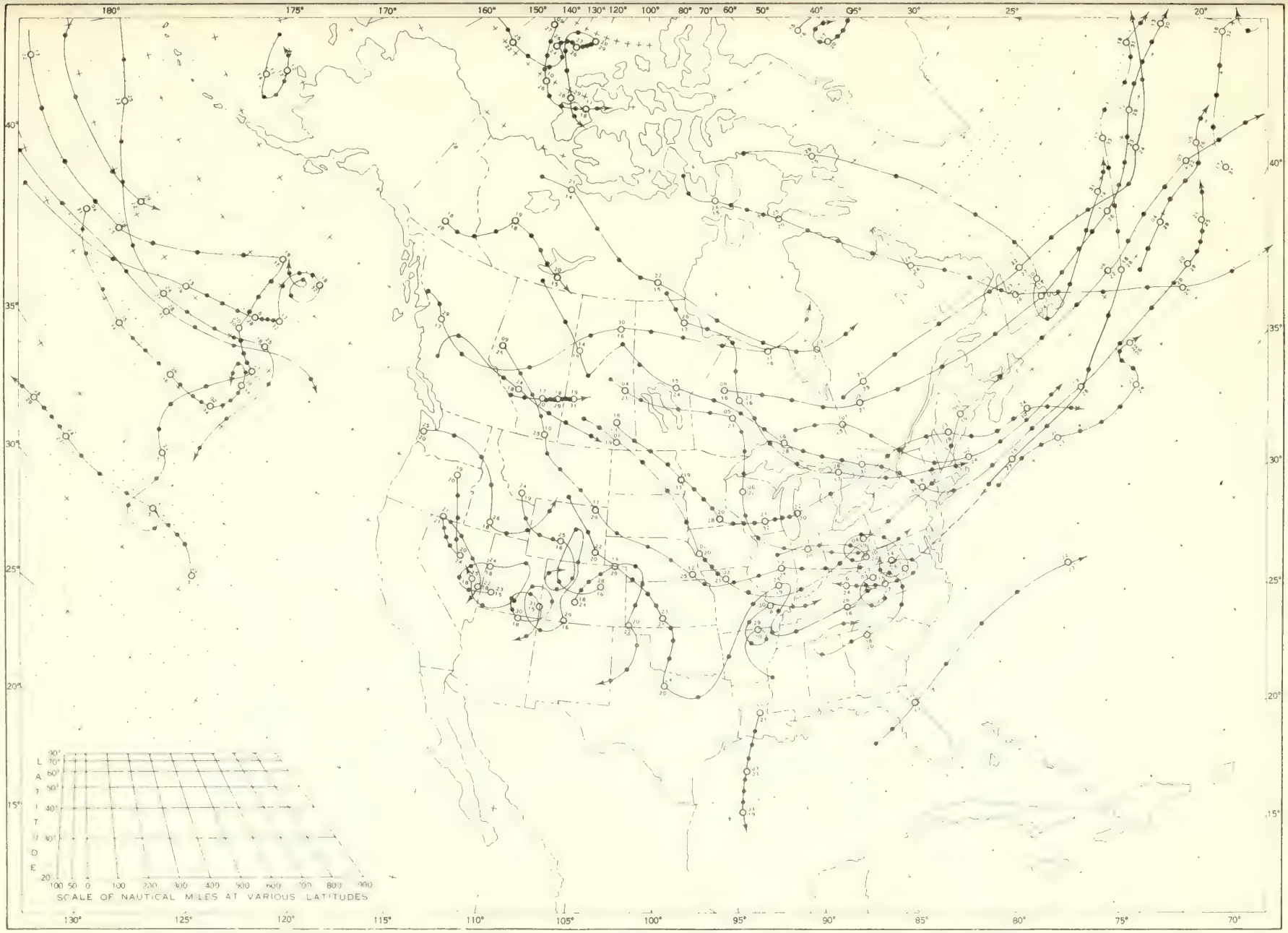


B. Percentage of Mean Daily Solar Radiation, August 1961.



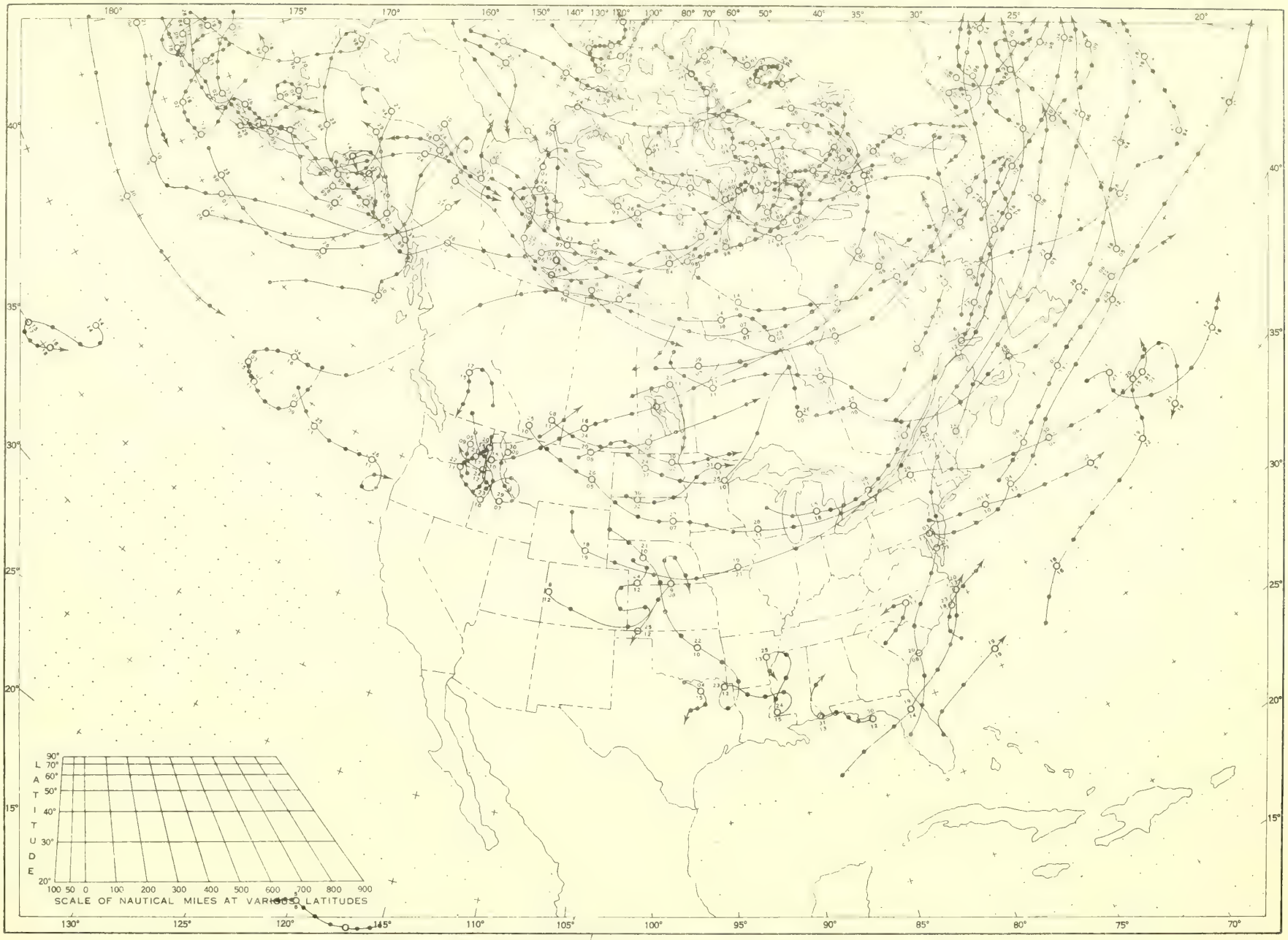
A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956.

B. Percentage of the mean based on the period 1953-57, and corrected to the International Pyrheliometer Scale of 1956.



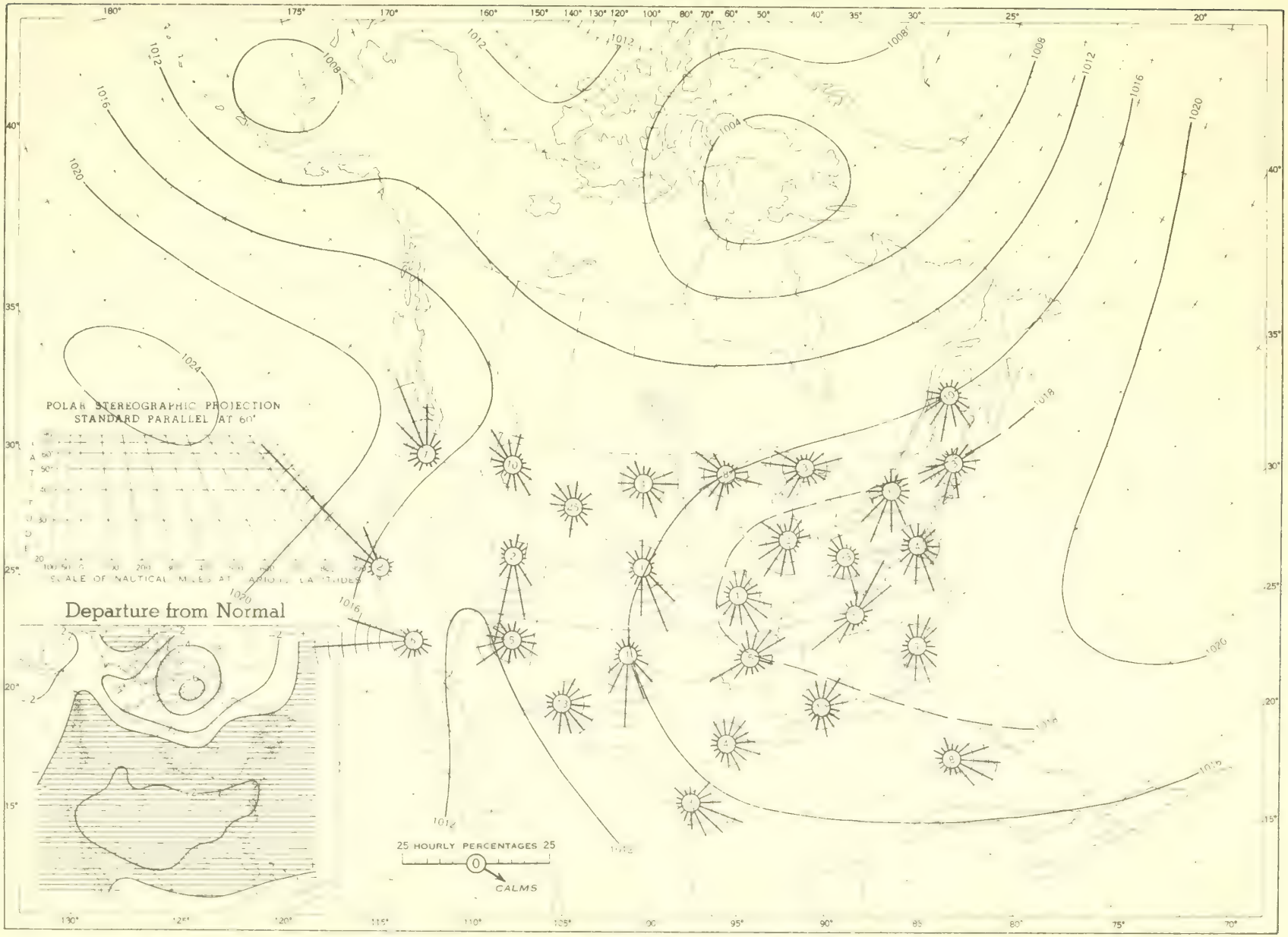
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, August 1961.



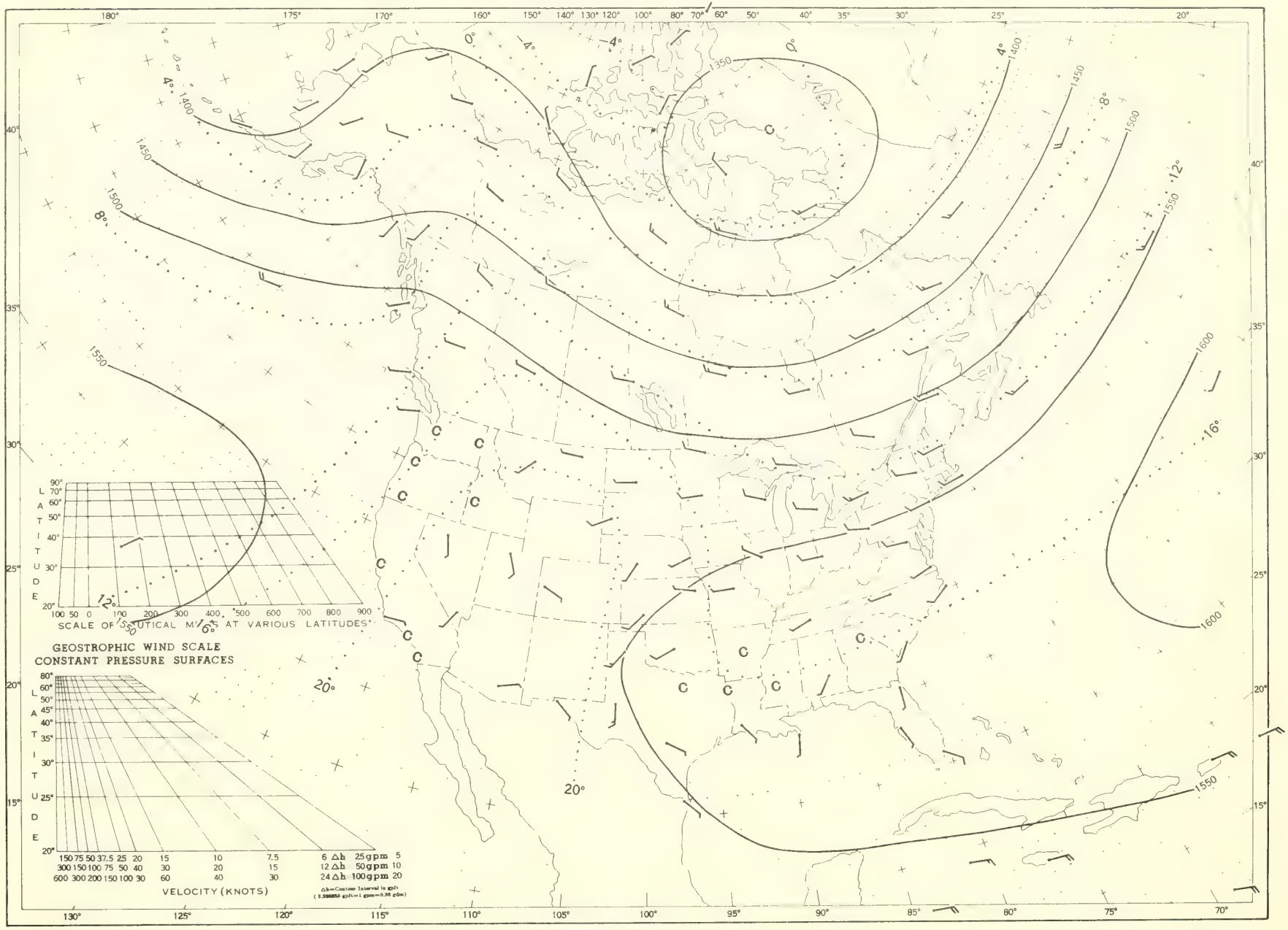
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, August 1961 Inset: Departure of Average Pressure (mb.) from Normal, August 1961.



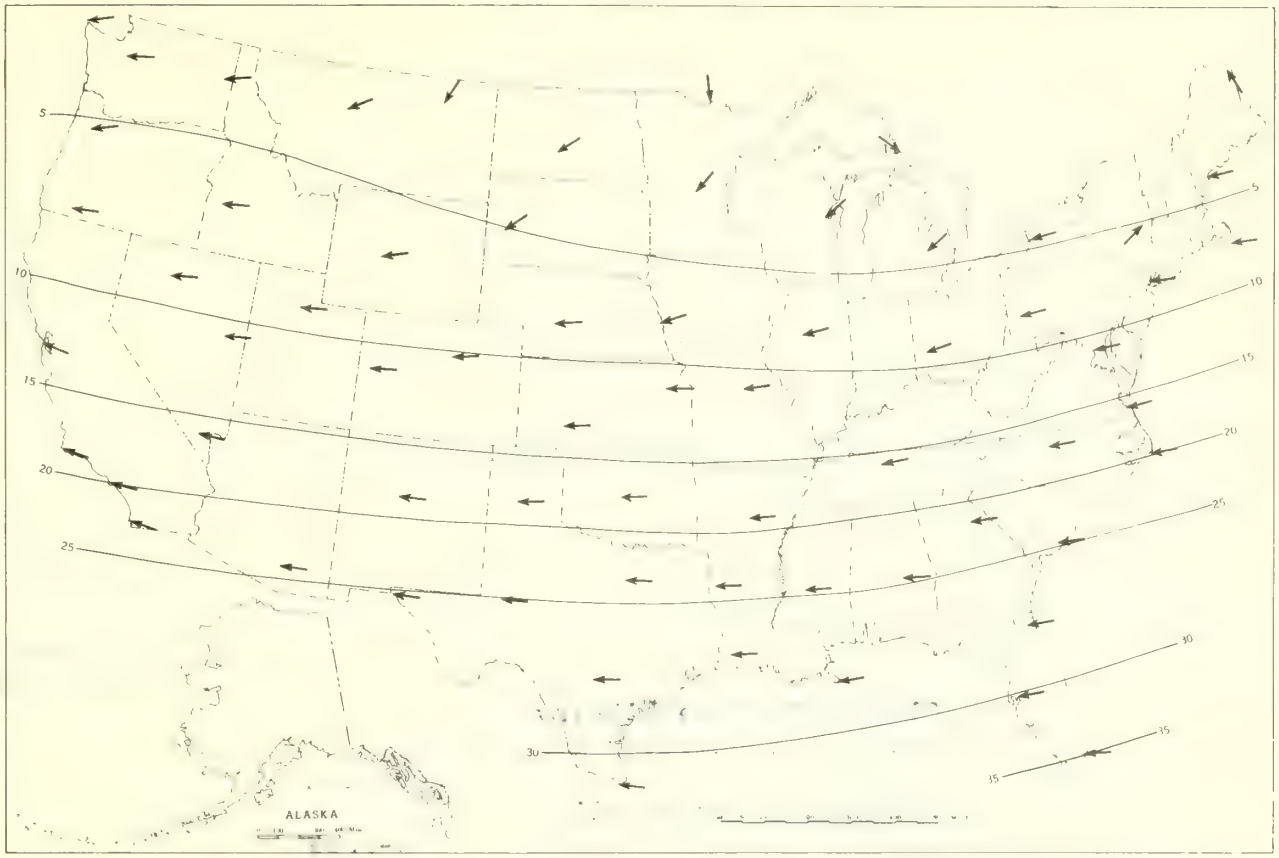
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, August 1961. Average Height and Temperature, and Resultant Winds.

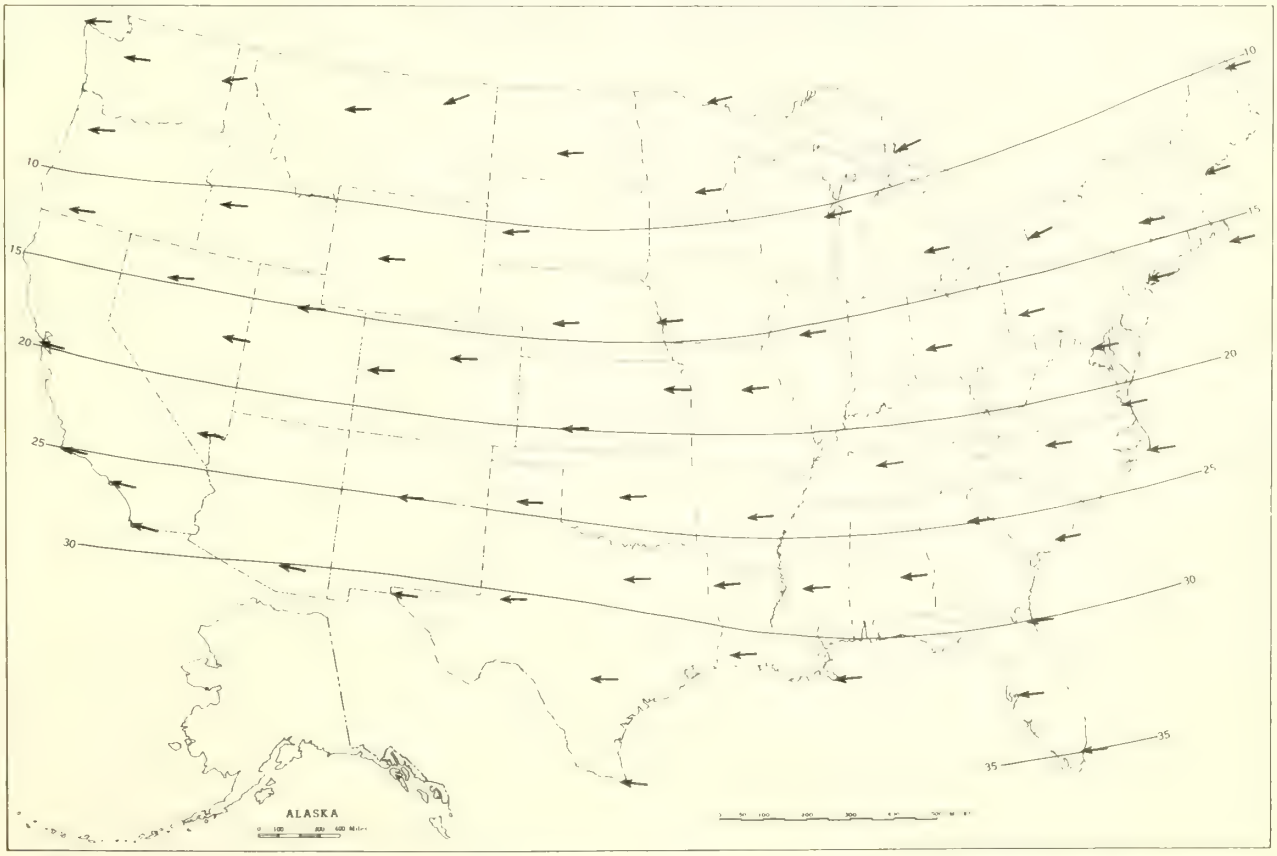


Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XVII. A. 50-mb. Surface, 1200 GMT, August 1961. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, August 1961. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 12 No. 9 SEPTEMBER 1961

GENERAL SUMMARY OF WEATHER CONDITIONS

Temperatures for September 1961 averaged below normal west of the Mississippi River and above in the East. The month was unusually cold in the Rocky Mountain region, following an extremely hot summer there, and temperatures averaged below normal in the lower Great Plains for the sixth consecutive month. Abnormally warm weather continued in the Northeast for the fourth consecutive month.

Precipitation was unusually heavy from Texas to Michigan and in the extreme northern Great Plains, the central and northern Rockies, and northern California. Heavy precipitation helped replenish soil moisture in the extreme northern Great Plains, but caused widespread flooding from Texas to southern Wisconsin and northern Illinois. Snow fell much earlier than usual at many northern localities. Hurricane Carla was responsible for several deaths and heavy damage in Texas, and for about 50 percent of the month's rainfall from Texas to Michigan. Hurricane Esther produced some heavy rainfall and caused some damage along the north Atlantic coast. Dry weather resulted in a short supply of soil moisture in many sections of the Southeast.

TEMPERATURES.--Unusually hot, humid weather prevailed during the first half of September in most areas east of the Mississippi River. Temperatures fell to below-normal levels for a few days at midmonth and again at the end. Temperatures during the month were above normal on about two-thirds of the days, and monthly averages ranged from slightly above normal in the south to 6° or more above in the Northeast. This September was among the warmest on record in the upper Ohio Valley and Northeast where many stations reported it to be the warmest in 60 years or more. Some of the stations reporting their highest temperature average for September during this century include Baltimore, Md.; Trenton, N. J.; Harrisburg, Pa.; Buffalo and Albany, N. Y.; and Burlington, Vt.

Daily average temperatures were below normal on 20 days or more at most stations west of the Mississippi River. Abnormally low temperatures were most persistent in the Rocky Mountain region where daily averages were below normal on 28 days at Albuquerque, N. Mex., and 27 days at Havre, Mont. In the central and northern Rockies this was the coolest September since 1926 and at many stations it was the coldest for an even longer period. It was the coolest September since 1912 at Glasgow, Mont.; Pocatello, Idaho; Lander, Wyo.; Denver, Colo.; and Milford, Utah; the coldest since 1901 at Kalispell, Mont.; and since 1892 at Grand Junction, Colo. Lowest temperatures ever recorded so early in the season included 33° at Great Falls, Mont., on the 2d; 31° at Salem, Oreg., on the 26th; and 44° at Winslow, Ariz., on the 3d. At Pueblo, Colo., the freeze-free period, ending on September 25, was only 142 days, the shortest since 1902.

Light frost occurred about midmonth in scattered northern areas, but temperatures sufficiently low to end the growing season generally did not occur until the last week and then mostly in the upper Great Plains, Rocky Mountain region, and extreme northern areas in the upper Great Lakes and extreme Northeast. No heavy damage from these freezes and frost was reported.

PRECIPITATION.--Numerous frontal passages brought frequent precipitation to the Rocky Mountain and mid-continent regions. The heaviest and most widespread precipitation fell during the period September 11 to 15 when Hurricane Carla moved into one of these eastward moving frontal systems over eastern Oklahoma on the 13th. Carla's passage northward across eastern Texas was accompanied by extremely heavy rains which ranged from 10 to 16 inches along the first 50 miles of her path inland. In a wide belt from north Texas to Michigan amounts ranged from 3 to 8 inches. These heavy rains were mainly responsible for the greatest monthly totals of precipitation on record at Chicago and Peoria, Ill., 14.17 and 13.09 inches, respectively. Record totals for September were recorded by Denver, Colo., 4.67 inches; Moline, Ill., 11.00; Dubuque, Iowa 13.13; and Muskegon, Mich., 8.54 inches.

Precipitation that ranged up to 200 percent or more of normal in northern Minnesota, North Dakota, Wyoming, and eastern Montana helped replenish soil moisture which had been depleted by drought during previous months. In eastern Montana, one of the worst drought-stricken areas, where precipitation had been spotty and very short most of the year, some streams which had been dry most of the summer started flowing again. Topsoil moisture was much improved and the winter wheat crop was off to a good start. Billings, Mont., had 3.99 inches for the month, the most for September since 1941; Bismarck and Devils Lake, N. Dak., had 2.81 and 5.00 inches, respectively, for their fourth wettest September on record; and Sheridan, Wyo., 2.56 inches, the most there for September since 1951.

Precipitation was above normal in parts of eastern New England, due chiefly to heavy rains from tropical storm Esther. The center of this storm passed 90 miles south of New Haven, Conn., on the 21st and after making a loop out over the Atlantic approached eastern New England again on the 25th and 26th. Boston, Mass., had 7.04 inches; Hartford, Conn., 4.78; Rock Island, R. I., 11.51; and Caribou, Maine, 6.19 inches for the month.

Precipitation was less than 50 percent of normal in Tennessee, southern Kentucky, and parts of Florida, the Carolinas, Virginia, Maryland, Pennsylvania, and New York State. Rochester, N. Y., had 0.39 inch for the second driest September since 1830, the driest occurring in 1960 with 0.28 inch. Knoxville, Tenn., had 0.50 inch, the least for September since 1894. In Florida, Appalachicola had 0.78 inch, the least for September on record; Fort Myers had 2.80 inches, the least since 1899; and Jacksonville had 1.02 inches, the least since 1931. Soil moisture in Florida was mostly short and becoming critical

in many localities at the end of the month. In several southeastern States soil moisture was mostly too short for fall seeding.

SNOWFALL.--In many northern localities snowfall was unusually early. Denver, Colo., had 4.2 inches on the 3d, the earliest there on record. Traces of snow were observed at Great Falls, Mont., on 7 days and at Helena, Mont., on 5. Kalispell, Mont., reported snowfall in nearby mountains on September 1, and depth of 3 feet on the ground at the end of the month. At Williston, N. Dak., 1.5 inches on the 2d melted as it fell, but it was the most on record for so early in the season.

Snowfall was rather widespread on the 30th in the northern Great Plains and in the upper Mississippi Valley. While most stations reported only a trace, several had measurable amounts. Rochester, Minn., had 0.8 inch, the most for September on record, and Omaha, Nebr., had its first snowfall in September since 1891. During the storm on the 30th traces fell in southern Minnesota from Pipestone to Minneapolis, with accumulations of 1 to 4 inches in the New Ulm-Mankato area.

DESTRUCTIVE STORMS AND OTHER UNUSUAL PHENOMENA.--Hurricane Carla accounted for most of the storm losses in September 1961. She was responsible for more than 40 deaths, about half of which may be attributed to tornadoes and floods associated with the hurricane, and for property losses, based on preliminary estimates, of over $300 million. Esther, the month's second hurricane to affect the United States, caused some damage along the north Atlantic coast.

At Las Vegas, Nev., wind and hail during a thunderstorm on the 16th caused losses estimated at $1 to $2 million.

A tornado 15 miles northeast of Grand Rapids, Mich., on the 22d injured 2 persons, and caused losses that may have amounted to $3 million.

In the western two-thirds of the Nation the month was relatively windy. Pocatello, Idaho, recorded 57 m.p.h. on the 1st and Sacramento, Calif., 37 m.p.h. on the 2d, new September records at both stations. Topeka, Kans., had its windiest September with a 13.3 m.p.h. average wind speed for the month. Strong northwest winds caused 20-foot waves along the southern shore of Lake Michigan on the 25th.

At Helena, Mont., the average temperature for September 1961 was 22.4° lower than for August 1961. This is twice the normal change from August to September.

CONDENSED CLIMATOLOGICAL SUMMARY

SEPTEMBER 1961

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In		In.
Alabama	Vernon	99	25	3 Stations	39	17+	Evergreen	7.66	Muscle Shoals FAA AP	0.07
Arizona	Marinette	112	7	Alpine	21	4	Bar T Bar Ranch	4.52	8 Stations	.00
Arkansas	Searcy	98	5	2 Stations	37	16	Odell 3N	7.37	Walnut Grove 2NNE	.31
California	Death Valley	110	2+	do	16	30+	Twin Lakes	2.82	145 Stations	.00
Colorado	2 Stations	96	8+	Fraser	3	25	Steamboat Springs	8.15	La Junta FAA AP	.60
Connecticut	Hartford WB AP	96	1	Coventry	28	30	Groton	9.31	Danbury	2.39
Delaware	Selbyville	97	3	3 Stations	37	30	Selbyville	4.73	Newark University Farm	1.46
Florida	3 Stations	98	25+	De Funiak Springs	51	16	Bithlo	13.00	Marathon Shores	.22
Georgia	5 Stations	98	27+	Blairsville Exp Station	33	16	Flat Top	5.96	Atkinson 1W	.12
Idaho	2 Stations	95	5	Triangle Ranch	10	27+	Swan Valley 1W	5.30	Triangle Ranch	.27
Illinois	do	97	2	Marengo	28	29	Channahon Dresden Isl	16.64	Carmi 6NW	.39
Indiana	do	96	6+	2 Stations	30	29	Whiting	12.94	Petersburg 61 Bridge	.15
Iowa	3 Stations	96	2	Le Mars 2N	23	28	Chariton	14.32	Inwood 2W	2.13
Kansas	5 Stations	102	3+	Syracuse 2W	26	25	Paola	16.26	Zook 9E	.15
Kentucky	2 Stations	97	14+	Cynthiana 2	35	29	Turkey Creek School	4.19	Paducah	.14
Louisiana	Holly Ridge 10N	98	3	Bonita 4SSW	42	16	Many 4NNE	14.53	Tallulah Delta Lab	1.28
Maine	3 Stations	94	11	Squa Pan Dam	26	17	Presque Isle	7.39	Upper Dam	1.84
Maryland	Easton Airport	98	3	Oakland 1SE	27	29	Salisbury FAA Airport	5.55	Easton Airport	.30
Massachusetts	West Cummington	96	4	West Cummington	27	30+	Blue Hill WB	10.00	Plainfield	1.13
Michigan	2 Stations	94	10+	Champion Van Riper Pk	21	29	Eau Claire 4NE	12.49	Port Huron Swg Pl	2.33
Minnesota	Artichoke Lake	97	2	Thorhult 3E	16	28	Winton Power Plant	9.04	Montgomery	2.00
Mississippi	2 Stations	97	24+	University	39	16	Saucier Exp Forest	9.79	Pleasant Hill	.50
Missouri	Brookfield	98	2	3 Stations	31	28	Shelbina	15.87	Doniphan	.61
Montana	Plevna	98	1	Lincoln 14NE	8	24	Gallatin Gateway 9SSW	7.98	Simpson 4NNW	.54
Nebraska	Beatrice No. 1	100	2	2 Stations	20	30+	Pawnee City	12.64	Harrison	1.10
Nevada	Overton	104	2	Deeth	8	25	Mt Rose Highway Sta	2.16	4 Stations	.00
New Hampshire	Conway 1N	94	12	Fabyan	22	17	Windham	6.06	Campton	1.05
New Jersey	2 Stations	97	5	2 Stations	31	30	Tuckerton	5.95	West Wharton	1.08
New Mexico	Jal	100	1	Gavilan	16	30	Mescalero	5.34	Belen	.24
New York	2 Stations	97	5+	2 Stations	27	30	Bridgehampton	9.49	Watertown FAA AP	.16
North Carolina	Statesville 2NNE	99	3	Andrews 2E	32	16	Wilmington 7N	6.52	Charlotte WB AP	.06
North Dakota	4 Stations	95	1	Medora 3NNE	13	30	Hillsboro	6.22	Donnybrook	1.62
Ohio	Chile Dam 34	96	10	2 Stations	27	29	Greenville Sewage Plant	6.08	Jackson 2NW	.27
Oklahoma	Frederick	106	2	Hooker	30	25	Hallett 1NW	11.21	Hooker	.72
Oregon	Grizzly	98	1	Fremont	10	27	Government Camp	7.34	Grizzly	.00
Pennsylvania	2 Stations	97	3+	2 Stations	26	29	Bradford Cntrl Fire Sta	5.50	Holtwood	.28
Puerto Rico	do	95	29+	Mayaguez Airport	59	8	Lares	24.46	Yauco 1S	.62
Rhode Island	do	91	12+	Kingston	35	30	Block Island WB AP	11.51	Woonsocket	7.42
South Carolina	Little Mountain	100	24	Chester 2WSW	40	17	Summerville 2WNW	5.54	Blair	.00
South Dakota	2 Stations	103	17+	Custer	8	30	Eureka	4.36	Ardmore	.76
Tennessee	do	96	24+	2 Stations	32	16	McMinnville TVA	8.13	Lawrenceburg	.00
Texas	Rio Grande City 2ESE	107	14	Stratford	34	25	Bay City Waterworks	19.99	2 Stations	.00
Utah	St George PH	98	6	Silver Lake Brighton	13	22	Hiawatha	5.82	St George PH	.11
Vermont	2 Stations	93	12+	West Burke	23	30	Bennington 2NNW	6.10	Cornwall	.49
Virginia	Newport News Press Bldg	98	3	Monterey	30	29	Holcombs Rock	7.63	Pilot 1ENE	.30
Washington	2 Stations	92	5+	2 Stations	22	27+	Snoqualmie Pass	7.02	7 Stations	.00
West Virginia	do	97	14+	Canaan Valley	25	29	Pickens 1	8.04	Williamson	.53
Wisconsin	Grantsburg 1E	95	2	Breed	19	29	Richland Center	12.18	Phelps Deerskin Dam	1.95
Wyoming	Spencer 10NE	94	16	2 Stations	9	30	Parkman 5WNW	6.75	Shoshoni	.57

\+ And also on an earlier date or dates.

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

SEPTEMBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No of days: Max 90 F or above	Temperature: No of days: Min 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: 01 inch or more	Precipitation: No of days: With thunderstorms	Precipitation: Snow Sleet: Total	Precipitation: Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft	Mb.	Mb.	F	F.	F.	F.	F		F.				F.	%	In.	In	In.			In	In	M.p.h		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	993.5	1018.7	87	66	76.4	1.6	96	25+	48	16	13	0	64	71	2.42	-0.29	1.20	9	3	0.0	0	6.4	ESE	30	SW	12+	11	13	6	5.0	79
HUNTSVILLE	605	995.5	1018.6	87	63	74.7		96	24	47	16	16	0	63	71	0.49		0.24	5	3	0.0	0	6.0	ESE	24*	E	6	15	10	5	4.3	
MOBILE	211	1014.8	1017.2	88	68	78.1	0.4	96	5	54	18	13	0	68	77	6.63	0.85	1.84	12	10	0.0	0	9.2	NE	26*	SE	26	10	8	12	5.8	
MONTGOMERY	195	1009.9	1018.0	87	66	76.5	- 0.6	94	25+	51	16	11	0	68	80	2.08	-1.43	0.77	7	4	0.0	0	6.1	ESE	29	NE	4	11	11	8	5.2	69
ALASKA																																
ANCHORAGE	90	1005.4	1010.4	55	42	48.5	0.5	65	1	30	26	B 0	2	41	75	5.43	2.72	1.92	17	1	0.0	0	5.4	SSE	20*	W	18+	1	6	23	8.4	36
ANNETTE	110	1012.9	1016.9	60	46	53.0	- 0.1	72	14	38	26	3	0	46	79	5.82	-3.78	1.41	10	0	0.0	0	5.9	NNW	18*	SE	2	7	8	15	6.3	
BARROW	22	1008.8	1009.4	37	31	33.8	3.2	56	6	26	30	0	24	32	92	0.31	-0.24	0.10	12	0	2.6	1	12.6	E	37*	ENE	12	0	0	30	9.8	
BARTER ISLAND	39	1007.8	1009.7	36	30	33.1	1.8	47	6	23	30	0	24	30	88	0.87	-0.04	0.28	11	0	4.4	2	15.2	E	40*	E	12	1	3	26	9.1	
BETHEL	125	1005.8	1007.0	51	40	45.5	0.2	58	1	30	30	0	1	42	89	3.52	0.51	0.69	25	0	0.0	0	15.1	SSW	35*	SW	23+	1	0	29	9.0	
COLD BAY	94	1008.5	1012.1	53	43	48.0	0.5	58	19	36	10	0	0	44	84	1.93	-1.64	0.60	15	0	T	0	15.4	SSE	40*	SSE	5	0	2	28	9.5	
CORDOVA	40	1010.5	1012.3	56	37	46.3	- 1.7	66	11	28	27+	0	8	43	89	13.51	-1.96	2.41	19	1	0.0	0	5.9	E	26*	ESE	18	2	8	20	8.1	
FAIRBANKS	436	992.2	1009.3	53	35	44.1	- 0.5	74	11	22	30	1	11	38	80	1.91	0.70	0.48	15	0	T	0	6.9	SW	18*	SW	25	1	5	24	8.6	
JUNEAU	17	1013.9	1014.6	56	39	47.7	- 1.3	66	17	26	28	0	3	43	84	7.01	0.09	1.59	15	0	0.0	0	6.8	E	39*	ESE	7	6	6	18	7.2	49
KING SALMON	44	1007.8	1009.7	53	42	47.4	- 0.2	60	1	32	17	0	1	44	86	7.30	3.93	1.33	26	0	T	0	10.2	SW	32*	W	18	0	3	27	9.3	
KOTZEBUE	10	1005.1	1005.7	48	38	42.9	2.0	55	9	26	29	0	3	40	89	2.69	1.75	0.53	20	0	0.0	0	13.4	ESE	40*	SW	2	2	2	26	8.8	
MC GRATH	324	995.9	1009.2	51	37	44.2	0.2	66	2	20	30	0	3	37	79	3.78	1.37	0.88	18	0	T	0	7.5	S	25*	SSW	24	2	4	24	8.4	
NOME	13	1004.1	1004.6	47	40	43.6	1.6	56	1	30	30	0	2	39	84	4.47	1.54	0.78	22	0	0.0	0	15.3	ENE	38*	SW	20	2	2	26	8.8	25
ST. PAUL ISLAND	22	1006.1	1007.0	49	41	45.0	- 0.3	53	1	30	9	0	3	43	91	3.45	-0.04	1.29	21	0	0.0	0	16.7	SSW	37*	SW	22	1	5	24	8.6	
SHEMYA	122	1006.1	1009.5	50	46	47.9		53	18+	42	30+	0	0	45	89	2.21		0.47	17	0	0.0	0	17.0	NW	44*	S	3	2	5	23	8.2	
YAKUTAT	28	1012.9	1013.8	56	41	48.2	- 0.2	61	13+	26	27	0	4	45	89	14.72	-1.60	4.22	15	1	0.0	0	6.0	ENE	39*	SE	18	1	6	23	8.4	
ARIZONA																																
FLAGSTAFF	6993			70	38	53.8	- 3.2	78	12	27	30+	0	8			1.92	0.07	1.25	5	4	0.0	0						16	9	5	3.6	
PHOENIX	1109	971.2	1009.5	95	67	80.6	- 2.1	101	7+	55	30	27	0	51	41	0.22	-0.78	0.20	2	3	0.0	0	7.4	E	28*	S	13	21	4	5	2.7	91
PRESCOTT	5014	847.3	1012.2	80	50	64.7	- 3.5	87	6	40	4	0	0	39	45	0.64	-1.52	0.32	5	6	0.0	0	8.1	SSW	31	SW	2	21	7	2	2.6	85
TUCSON	2584	923.5	1009.8	89	65	77.1	- 3.0	95	28	56	24+	16	0	50	44	0.51	-0.97	0.35	6	4	0.0	0	9.0	SE	30	SW	2	19	6	5	3.1	88
WINSLOW	4880	851.7	1011.2	82	51	66.5	- 2.1	90	28	41	4	1	0	41	47	1.49	0.37	0.62	6	4	0.0	0	9.8	SW	30*	SW	2	22	3	5	2.7	
YUMA	199	1004.4	1009.4	100	69	84.6	- 3.7	106	6+	59	23	29	0	50	36	0.00	-0.64	0.00	0	1	0.0	0	6.8	SSE	42	SE	12	24	5	1	1.7	96
ARKANSAS																																
FORT SMITH	449	999.4	1016.1	83	62	72.5	- 2.5	92	3+	44	16	8	0	65	80	3.18	-0.53	0.90	9	5	0.0	0	7.0	ENE	30	NW	13	12	7	11	5.5	60
LITTLE ROCK	257	1004.3	1017.3	86	63	74.3	- 0.5	95	6	45	16	13	0	63	74	1.60	-1.25	1.11	6	1	0.0	0	8.0	ESE	38	SE	13	8	14	8	5.6	62
TEXARKANA	361			85	66	75.2	- 2.0	94	6	49	16	11	0	67	82	5.74	2.95	4.10	9	5	0.0	0	9.3	ENE								
CALIFORNIA																																
BAKERSFIELD	494	993.9	1012.0	88	61	74.4	- 1.2	99	6	53	18	13	0	47	41	T	-0.07	T	0	0	0.0	0	7.4	NW	22*	NNW	16	26	4	0	1.0	
BISHOP	4108	872.0		85	45	65.1	- 2.2	96	1	38	20	7	0			T	-0.19	T	0	0	0.0	0						26	4	0	1.1	
BLUE CANYON	5280	838.8		70	51	60.2	- 3.3	78	5+	38	17	0	0			0.73	0.17	0.73	2	0	0.0	0	8.0	ENE	36	ENE	3+	23	3	4	2.3	
BURBANK	699	986.1	1012.5	82	59	70.4	- 0.8	97	4	51	23	8	0	52	62	0.03	-0.26	0.03	1	0	0.0	0	6.7	S	16*	ESE	12+	21	4	5	2.9	
EUREKA U	43	1013.5		61	50	55.3	- 0.9	68	27	44	30+	0	0			0.53	-0.14	0.44	3	0	0.0	0	6.1	N#	34	N	2	15	7	8	4.3	73
FRESNO	326	999.0	1010.9	89	56	72.4	- 1.1	100	12	48	30	14	0	47	46	T	-0.05	T	0	0	0.0	0	5.2	NW	21	N	16	27	2	1	1.1	95
LONG BEACH	34	1010.8	1012.5	80	60	70.0		103	4	55	23+	5	0	57	72	T		T	0	0	0.0	0	6.2	WNW	21*	W	4	14	12	4	4.1	
LOS ANGELES	99	1008.8	1012.8	75	61	68.1	1.4	101	4	57	30+	2	0	57	74	0.04	-0.17	0.04	1	0	0.0	0	7.1	WSW	18*	SW	24+	12	13	5	4.3	
LOS ANGELES U	312			81	61	71.0	0.0	99	5+	57	23	6	0	54	64	0.05	-0.22	0.04	2	0	0.0	0	5.2	W#	20	W	4	19	7	4	3.2	76
MT SHASTA R	3544	892.7		73	43	57.7	- 2.1	88	4	32	24	0	1			0.50	-0.26	0.48	2	0	0.0	0						25	1	4	1.8	
OAKLAND	3	1012.5	1013.0	77	55	65.8	2.5	97	4	49	30	4	0	50	65	0.32	0.23	0.32	1	0	0.0	0	8.4	WNW	29*	NE	2	23	5	2	2.5	
POINT ARGUELLO	367	999.3		67	51	59.1		89	4	46	23+	0	0			0.03		0.03	2	0	0.0	0	6.1		25*	N	18	8	9	13	5.9	
RED BLUFF	341	999.0	1011.6	88	59	73.1	- 1.9	96	12+	52	30+	13	0	39	36	0.96	0.63	0.95	2	1	0.0	0	9.7	N	36	N	8	23	5	2	2.1	95
SACRAMENTO	17	1010.8	1011.9	87	54	70.4	0.1	98	5	46	30	13	0	48	55	0.17	0.11	0.17	1	0	0.0	0	8.1	SW	37	NW	2	21	8	1	1.8	95
SACRAMENTO U	23			85	56	70.3	- 1.0	95	11+	49	30	11	0			0.17	0.09	0.17	1		0.0	0										
SANDBERG R	4517	861.8		75	55	65.4	- 4.0	87	12+	43	22+	0	0			0.00	-0.23	0.00	0	0	0.0	0	11.3	S	40*	NE	3	23	5	2	1.5	
SAN DIEGO	13	1008.8	1012.0	77	62	69.6	0.9	95	4	58	28+	2	0	57	70	T	-0.17	T	0	0	0.0	0	6.2	NW	21	NW	4	17	7	6	4.0	72
SAN FRANCISCO	8	1012.9	1013.6	75	53	64.2	2.2	93	3	48	30	2	0	51	71	0.41	0.30	0.41	1	0	0.0	0	10.1	WNW	35	NW	1	24	4	2	2.3	
SAN FRANCISCO U	52			71	56	63.4	1.8	92	3	52	12+	2	0			0.22	0.09	0.22	1	0	0.0	0	8.4	W#	26	W	1					79
SANTA MARIA	238	1004.7	1013.6	73	51	62.0	- 0.1	98	4	45	23	2	0	52	76	0.01	-0.11	0.01	1	0	0.0	0	6.1	WNW	23*	NW	18+	15	12	3	3.3	
COLORADO																																
ALAMOSA	7536	772.4		69	37	53.0	- 1.7	76	13+	20	25	0	8			1.38	0.69	0.91	6	3	4.2	1						16	9	5	4.1	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ♁	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h							%
COLORADO																																
COLORADO SPRINGS	6173	812.1	1016.1	68	41	54.3	- 7.7	83	1	28	30	0	4	38	60	1.91	0.84	0.84	8	2	4.2	T	9.3	NNE	30*	NW	29	14	8	8	4.9	
DENVER	5283	837.8	1014.7	69	43	56.3	- 6.4	85	18+	29	30+	0	2	39	60	4.67	3.59	1.64	10	3	5.8	1	7.5	SSW	31	W	29	7	12	11	5.7	60
GRAND JUNCTION	4849	859.5	1014.3	71	47	58.9	- 8.4	85	1	34	30	0	0	39	53	2.22	1.20	0.57	12	4	0.0	0	9.1	ESE	36	W	2	10	10	10	5.1	63
PUEBLO	4639	856.1	1013.4	74	46	59.9	- 4.9	90	1	32	25	1	1	42	57	1.23	0.48	0.74	4	1	0.0	0	8.0	SE	43	SW	29	11	13	6	4.7	78
CONNECTICUT																																
BRIDGEPORT	7	1017.9	1018.8	79	60	69.6	4.4	91	5	44	30	1	0	62	77	3.03	-0.52	1.04	6	2	0.0	0	11.7	NE	47*	NNE	21	14	8	8	4.6	
HARTFORD	169	1012.5	1018.3	80	57	68.7	4.9	96	1	34	30	6	0	59	74	4.78	1.34	1.99	8	2	0.0	0	6.6	N	38	N	21	13	7	10	5.0	65
NEW HAVEN	6	1017.9		79	62	70.2	6.6	89	5+	43	30+	0	0			4.06	0.60	2.00	5	2	0.0	0	7.3		41	N	21	12	10	8	4.7	73
DELAWARE																																
WILMINGTON	78	1015.2	1018.5	82	63	72.5	4.5	93	5+	42	29	8	0	63	75	2.33	-1.47	1.70	4	2	0.0	0	8.9	NW	28*	NW	15	15	7	8	4.4	
DIST.OF COLUMBIA																																
WASHINGTON U	72			82	66	74.0	4.1	95	3	49	30	9	0			0.97	-3.39	0.44	6													
WASH NATL AP	14	1015.1	1019.4	84	66	74.8	5.2	95	3	47	30	11	0	65	75	1.02	-3.10	0.65	5	2	0.0	0	7.1	S	34	W	3	16	5	9	4.3	78
FLORIDA																																
APALACHICOLA U	13	1014.4		85	72	78.9	0.0	92	5	60	16	3	0			0.78	-6.87	0.24	6	3	0.0	0			34	NE	5	12	8	10	5.1	77
DAYTONA BEACH	31	1015.2	1017.1	86	72	78.7	- 0.7	92	14	68	27+	1	0	71	79	3.20	-3.32	1.91	7	6	0.0	0	8.5	E	27*	NE	16	4	17	9	6.5	
FORT MYERS	13	1014.7		91	74	82.6	1.3	94	1	70	24	27	0			2.80	-5.79	1.13	8	9	0.0	0	7.6		21*	N	15	6	17	7	5.7	
JACKSONVILLE	24	1016.3	1017.7	88	70	79.4	0.2	96	26	64	19+	18	0	70	76	1.02	-5.94	0.35	11	2	0.0	0	10.5	NE	35	NE	17	6	11	13	6.2	55
KEY WEST	5	1014.2	1014.9	88	78	83.0	0.3	90	30+	73	8	6	0	73	72	1.71	-4.34	0.54	10	8	0.0	0	9.8	ESE	49	SE	7	4	19	7	6.0	58
LAKELAND U	214			88	72	80.1	0.0	92	26	68	19	9	0			1.55	-4.82	0.78	12	11	0.0	0	6.6					5	19	6	5.5	67
MIAMI BEACH	9			86	79	82.4	0.5	90	20	73	17	1	0			0.74	-5.11	0.48	6		0.0	0	7.1		26	NW	16	7	21	2	4.7	78
MIAMI	7	1013.7	1015.0	89	75	82.0	0.3	92	20	71	16	10	0	72	73	3.40	-4.93	1.17	10	7	0.0	0	8.7	E	30*	ESE	1	4	19	7	5.7	
ORLANDO	106	1012.0	1016.5	91	72	81.1	0.4	95	14+	68	19+	22	0	71	77	4.84	-2.31	4.59	5	2	0.0	0	7.9	ENE	18*	ENE	30+	4	16	10	5.9	
PENSACOLA U	13			85	71	78.1	- 0.2	94	24+	57	16	7	0			6.44	0.66	2.39	10	8	0.0	0	9.9		25	E	9					63
TALLAHASSEE	58	1014.7	1017.5	88	68	77.9	- 0.1	96	5	56	16	14	0	69	79	3.00	-2.36	1.10	8	9	0.0	0	8.2	E	35	E	10	11	8	11	5.7	
TAMPA	19	1014.8	1016.5	91	73	81.8	1.3	96	7+	67	19	21	0	71	75	2.43	-4.02	1.08	10	11	0.0	0	10.0	NNE	31*	E	8	5	16	9	6.1	57
WEST PALM BEACH	15	1014.1	1015.3	90	74	82.0	0.8	95	14	68	17	17	0	72	75	3.01	-6.11	1.12	10	3	0.0	0	8.8	ENE	27*	NE	18	1	22	7	6.2	
GEORGIA																																
ATHENS	803	990.5	1019.6	85	64	74.2	- 1.0	93	4	51	16	7	0	65	77	1.75	-1.31	1.17	6	2	0.0	0	5.5	N	23*	ENE	5	14	11	5	4.6	
ATLANTA	975	979.0	1019.1	83	64	73.0	- 1.4	90	24	50	16	1	0	62	73	1.68	-1.28	0.80	4	2	0.0	0	8.6	NE	23*	SSE	1	11	14	5	4.6	75
AUGUSTA	143	1011.4	1018.1	87	64	75.5	- 0.3	95	25	50	17	11	0	65	76	1.26	-1.95	0.54	5	5	0.0	0	5.4	N	22*	E	29	12	12	6	5.0	
COLUMBUS	385	1004.4		87	65	76.4	0.2	94	24	53	17+	15	0			1.17	-1.19	0.67	5	5	0.0	0	7.6		23	NNE	17	13	12	5	4.8	
MACON	356	1004.7	1018.3	88	66	76.8	- 0.7	96	25+	51	17	13	0	65	74	1.29	-1.63	0.58	7	7	0.0	0	7.2	NE	34	N	5	9	15	6	5.3	73
ROME	637	995.7		86	60	72.8	- 1.4	94	24	45	17+	8	0			1.85	-1.13	0.63	6	5	0.0	0						14	10	6	4.5	
SAVANNAH	48	1015.7	1018.3	87	68	77.1	0.4	95	26	57	18	11	0	68	78	2.61	-3.89	1.60	12	8	0.0	0	7.8	NNE	47	NW	5	8	15	7	5.2	62
THOMASVILLE U	283			89	68	78.6	0.7	94	25+	56	16	21	0			1.79	-3.16	0.65	8	8	0.0	0										
HAWAII																																
HILO	31	1013.2	1015.2	84	67	75.4	0.1	86	29+	63	16	0	0	66	76	6.76	-3.66	1.67	23	0	0.0	0	7.6	WSW	25*	E	7	5	12	13	6.6	34
HONOLULU	7	1014.2	1014.6	87	73	79.8	0.6	90	26	70	26	1	0	67	66	0.48	-0.66	0.40	5	0	0.0	0	9.9	NE	31	NE	19	8	16	6	5.3	87
LIHUE	115	1009.8	1015.3	86	72	78.9	1.1	88	11+	67	18	0	0	69	73	1.70	-0.50	0.43	16	0	0.0	0	10.6	NE	30	NE	20	5	18	7	5.9	79
IDAHO																																
BOISE	2838	918.7	1014.6	71	44	57.2	- 5.2	87	5	30	24	0	2	35	48	0.79	0.33	0.51	6	3	0.0	0	8.9	WNW	30	W	1	13	9	8	4.6	79
IDAHO FALLS 42NW R	4790			64	36	50.0	- 5.4	83	15+	22	14	0	13			2.51	1.92	0.75	10				7.0	NNW	42A	SW	1					
IDAHO FALLS 46W R	4933	848.0		64	38	50.8	- 5.2	83	5	25	25+	0	11			3.52	3.16	1.55	9	1	1.0	T	7.8	SW	37A	SW	1					
LEWISTON	1413	963.8		73	46	59.7	- 3.5	85	15	36	27	0	0			0.51	-0.45	0.46	4	0	0.0	0						10	14	6	5.1	
POCATELLO	4444	862.9	1015.4	67	41	53.5	- 6.3	85	15	26	14	0	5	36	56	1.97	1.07	1.05	12	7	T	0	10.3	WSW	57	W	1	7	8	15	5.9	58
ILLINOIS																																
CAIRO U	314	1004.8		83	65	73.5	0.5	91	6	50	15	4	0			1.58	-1.74	0.90	7	4	0.0	0	7.8	SW	34	SE	13	14	12	4	4.2	76
CHICAGO O HARE	658	992.0	1016.7	77	55	65.6		89	11+	32	29	0	1	58	77	11.44		2.92	16	12	0.0	0	9.0	SSW	29*	SW	30+	11	10	9	5.0	
CHICAGO MIDWAY	610	994.6	1017.4	79	60	69.2	3.6	93	9	40	29+	4	0	57	69	14.17	10.94	2.63	15	12	0.0	0	10.2	S	38	W	12	11	10	9	5.1	62
MOLINE	582	994.4	1016.6	77	55	66.1	0.7	93	2	37	29+	5	0	57	75	11.00	6.91	6.29	11	6	0.0	0	8.3	SSW	44	SW	1	12	6	12	5.3	68
PEORIA	652	995.2	1017.5	77	56	66.2	- 0.1	90	2	37	28	1	0	58	77	13.09	9.36	4.15	13	11	0.0	0	9.5	S	29	W	30	11	11	8	4.7	57

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In	M.p.h.		M.p.h.							%
ILLINOIS																																
ROCKFORD	728	989.7	1016.9	76	55	65.1	1.5	91	9+	34	28	4	0	56	75	10.68	6.55	5.56	12	11	0.0	0	9.5	S	52*	SSW	1	12	8	10	5.1	
SPRINGFIELD	588	994.0	1017.1	81	58	69.4	2.5	91	22+	41	29+	4	0	59	73	6.35	2.45	2.26	8	10	0.0	0	10.3	SSW	43	SW	30	15	7	8	4.1	70
INDIANA																																
EVANSVILLE	378	1002.4	1018.0	85	60	72.3	1.8	94	24	41	26	13	0	62	74	0.84	-2.56	0.39	6	4	0.0	0	8.1	S	30	S	13	13	11	6	4.3	84
FORT WAYNE	801	987.0	1018.3	80	59	69.3	4.7	90	11	32	29	1	1	60	74	4.51	1.44	1.34	11	10	0.0	0	10.8	S	42	W	6	13	8	9	4.9	66
INDIANAPOLIS	793	988.4	1018.3	83	59	70.9	3.7	91	10+	41	29	10	0	60	72	4.40	0.73	3.07	7	4	0.0	0	7.3	S				14	9	7	4.3	79
SOUTH BEND	768	989.2	1017.2	78	58	68.2	3.7	92	9	36	29	3	0	59	76	5.78	2.07	1.39	14	11	0.0	0	9.2	S	34*	SW	30	10	9	11	5.4	
IOWA																																
BURLINGTON	694	991.5	1017.2	77	55	65.6	- 1.1	94	2	34	28	3	0	57	76	11.19	7.06	5.96	12	7	0.0	0	10.5	S	32	NW	14	13	7	10	5.0	64
DES MOINES	948	979.0	1017.2	72	53	62.4	- 3.4	93	2	35	28	1	0	55	80	10.19	6.55	4.47	13	9	0.0	0	9.6	S	40	N	22	12	4	14	5.6	52
DUBUQUE	1065	991.2		72	52	61.9	- 0.4	88	9+	34	28	0	0			13.13	8.95	5.80	10	7	0.0	0						10	7	13	5.8	
SIOUX CITY	1095	974.3	1015.4	71	51	61.2	- 3.2	87	9+	31	28	0	2	51	70	2.94	-0.30	0.81	9	4	0.4	T	10.2	SSE	27	NW	30	11	5	14	5.6	52
WATERLOO	868	984.3	1016.4	71	52	61.7	- 1.5	93	2	30	28	2	1	54	78	8.13	3.61	3.08	13	7	0.0	0	8.9	S	23*	SSE	20+	8	8	14	6.2	
KANSAS																																
CONCORDIA U	1375	965.7		74	54	64.0	- 5.5	96	2	38	28	2	0	52	70	5.23	2.77	3.14	13	6	0.0	0	8.2	S#	30	N	30	13	6	11	4.9	64
DODGE CITY	2594	927.2	1014.3	76	52	64.1	- 5.8	96	2	36	25	5	0	48	63	0.43	-1.28	0.23	8	3	0.0	0	12.8	SSW	38	NE	27	14	10	6	4.5	70
GOODLAND	3645	887.9	1014.1	73	45	58.7	- 5.9	94	8	32	30+	4	3	43	64	1.64	0.27	1.29	4	3	0.0	0	13.4	S	37*	NNW	29+	13	8	9	4.9	
TOPEKA	877	980.2	1015.9	76	54	65.0	- 4.0	93	2	37	28	1	0	57	79	5.69	2.25	2.85	10	8	0.0	0	13.2	S	45	S	2	11	8	11	5.0	63
WICHITA	1321	966.6	1014.9	77	57	66.8	- 4.9	101	2	41	15	2	0	57	74	5.24	2.01	2.16	10	8	0.0	0	12.8	SSE	50	N	13	13	7	10	4.8	63
KENTUCKY																																
COVINGTON	869	987.3	1019.3	84	60	71.8	4.5	93	10+	42	27	10	0	59	68	0.97	-2.00	0.55	7	4	0.0	0	8.4	SSW	28*	S	30	12	12	6	4.6	
LEXINGTON	979	983.5	1019.2	83	61	71.9	2.4	91	10	43	16	4	0	61	73	1.50	-1.33	0.48	6	3	0.0	0	7.7	S				17	11	2	3.2	
LOUISVILLE	474	999.5	1018.4	85	62	73.0	2.8	92	12+	45	29+	11	0	63	75	1.48	-1.22	0.61	6	3	0.0	0	6.6	S	23	SW	1	14	12	4	4.1	76
LOUISIANA																																
ALEXANDRIA	92	1011.6	1016.1	85	65	75.2		91	5+	48	19	5	0	68	83	3.18		1.88	10	7	0.0	0	6.2	ENE				9	13	8	5.2	
BATON ROUGE	64	1013.1	1016.2	86	68	76.9	- 0.6	92	5	55	19+	7	0	70	85	9.67	5.35	3.54	15	14	0.0	0	9.3	NE				7	13	10	5.9	
BURWOOD R	5		1016.0	85	77	80.7	- 0.3	90	1	69	18+	1	0	73	79	4.50	-2.23	1.81	9	6	0.0	0	12.2	NE								
LAKE CHARLES	12	1013.5	1015.0	87	70	78.2	- 0.4	94	5	56	17	12	0	69	77	3.48	-1.05	1.06	7	2	0.0	0	7.8	NE	44*	SE	12	10	13	7	5.2	
NEW ORLEANS U	9	1013.9		86	74	80.2	- 0.1	93	5	61	16	12	0	70	76	4.43	-1.39	0.97	13	8	0.0	0	7.5		26	E	9	5	17	8	5.9	49
NEW ORLEANS	3	1013.8	1016.0	86	71	78.1	- 1.4	91	25+	56	19	8	0	71	80	8.90	3.84	2.62	14	10	0.0	0	7.7	ENE	27*	SE	9	12	9	9	5.0	
SHREVEPORT	252	1007.0	1016.3	86	67	76.5	- 2.3	94	2	53	17+	10	0	66	74	5.75	3.53	5.39	5	3	0.0	0	10.7	S				7	17	6	5.2	74
MAINE																																
CARIBOU	624	994.6	1017.6	69	50	59.5	6.3	84	11	33	30	0	0	54	83	6.19	2.69	2.43	15	4	0.0	0	9.3	SW	28*	NW	11	6	6	18	7.1	
PORTLAND	61	1014.1	1018.3	75	53	64.1	5.5	91	12+	32	30+	2	2	57	81	4.21	1.13	2.48	4	0	0.0	0	7.4	S	28	SW	26	14	6	10	5.0	66
MARYLAND																																
BALTIMORE	146	1014.2	1019.0	84	62	73.2	5.3	94	2	40	30	12	0	62	72	1.57	-1.89	1.28	6	2	0.0	0	9.7	WNW	42	N	3	15	8	7	4.1	67
BALTIMORE U	14			85	68	76.7	6.3	96	4+	50	30	14	0			0.67	-2.79	0.41	4		0.0	0										
FREDERICK	294			83	59	70.9	2.4	92	23+	35	30	12	0			3.38	-0.18	2.90	7		0.0	0										
MASSACHUSETTS																																
BLUE HILL OBS R	629	994.2	1017.3	76	58	66.9		92	12	42	18	3	0		81	10.00	6.23	5.86	8		0.0	0	12.8	ENE	50	SW	15					60
BOSTON	15	1014.2	1017.7	77	61	69.0	4.7	94	11	46	18	4	0	60	76	7.04	4.05	3.08	6	1	0.0	0	10.5	WSW	45	NE	21+	14	5	11	5.1	66
NANTUCKET	43	1017.0	1017.5	71	60	65.7	3.7	82	5	44	30	0	0	62	88	3.25	-0.12	1.60	7	2	0.0	0	13.3	WSW	40	E	21	4	10	16	7.1	48
PITTSFIELD	1170			78	54	66.0	7.7	89	4+	31	30	0	1			1.72	-2.51	0.86	7		0.0	0										
WORCESTER	986	982.0	1018.4	75	57	66.0	4.9	88	1	41	29	0	0	59	80	5.66	2.05	3.96	8	0	0.0	0	7.6	W	35*	NE	21	13	7	10	4.9	
MICHIGAN																																
ALPENA	689	991.1		74	50	61.9	3.9	90	10	26	29	1	2			5.99	2.18	2.54	11	5	0.0	0	6.6	SW#	27	E	13	7	12	11	5.9	59
DETROIT	619	991.6	1018.3	78	60	68.8	4.5	88	11+	36	29	0	0	60	75	5.55	2.77	1.80	12	6	0.0	0	8.7	SW	38	W	2	14	5	11	4.9	64
DETROIT M WAYNE CO	630	993.9	1017.9	77	59	67.9		90	10	35	29	1	0	60	77	5.83		2.07	14	8	0.0	0	8.8	SW				15	4	11	4.8	
DETROIT WILLOW RUN	711	989.5	1017.9	79	56	67.4	3.1	90	11+	30	29	2	1	60	81	6.53	3.51	2.20	12	9	0.0	0	7.9	SSW	28*	SW	30	13	6	11	5.1	
ESCANABA U	594	993.2		68	52	60.0	2.6	84	3	35	29+	0	0	54	81	3.56	0.44	1.35	12	2	0.0	0	10.9		31	N	13	8	9	13	6.0	56
FLINT	766	990.3	1018.2	77	56	66.1	4.5	90	10	30	29	1	1	58	78	3.09	-0.39	1.19	13	7	0.0	0	8.0	S	25*	NNW	25	13	7	10	5.1	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 0.1 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
GRAND RAPIDS	681	992.1	1017.4	77	57	67.0	5.1	90	10	33	29	1	0	57	74	9.15	5.71	3.52	14	10	0.0	0	9.2	S	35	W	30	9	9	12	5.7	58
LANSING	852	985.6	1017.6	77	56	66.4	4.6	88	10	30	29	0	1	58	78	4.61	1.56	1.73	12	7	0.0	0	12.2	SSE	45	N	25	9	7	14	5.5	66
MARQUETTE U	677	987.9		68	51	59.8	2.0	92	9	35	29	1	0			4.84	1.41	1.30	12	3	T	0	9.2	W#	29	SW	17	8	7	15	6.3	63
MUSKEGON	627	993.8	1017.0	75	59	66.8	5.5	88	10	36	29	0	0	57	73	8.54	5.20	1.89	16	10	0.0	0	9.1	SSW	40*	SSW	22	11	8	11	5.5	
SAULT STE MARIE	721	993.2	1016.2	69	51	59.8	4.6	87	1	32	29	0	1	53	80	3.61	0.12	1.27	14	6	0.4	T	10.5	SW	25*	NW	27	3	9	18	7.3	46
MINNESOTA																																
DULUTH	1426	973.2	1014.8	65	44	54.7	- 0.7	90	9	24	28	1	6	44	70	3.01	-0.21	0.67	12	4	T	0	8.6	SSW	36	W	27	4	8	18	7.2	46
INTERNATIONAL FALLS	1179	972.4	1014.2	61	43	52.1	- 1.2	84	8+	25	28	0	5	45	79	7.36	4.56	2.80	14	5	T	0	8.5	S	30*	SW	1	4	5	21	7.7	
MINNEAPOLIS	830	981.7	1015.3	69	49	59.1	- 3.1	93	2	27	28	1	2	51	75	3.01	0.16	0.99	12	5	0.1	T	8.7	S	31	SW	2	7	8	15	6.5	46
ROCHESTER	1297	968.2	1015.8	69	49	58.9	- 1.9	89	2	27	28	0	1	51	79	3.96	-0.09	1.37	16	9	0.8	T	12.6	S				10	6	14	5.9	
ST CLOUD	1034	976.8	1014.9	67	48	57.3	- 1.5	94	2	25	28	2	3		75	2.96	-0.04	0.72	12	6	T	0						5	8	17	6.9	
MISSISSIPPI																																
JACKSON	305	1005.2	1017.1	86	66	75.9	- 0.8	93	5+	49	19	12	0	66	76	1.22	-0.88	0.53	10	6	0.0	0	5.3	S	25	SW	13	10	13	7	4.9	61
MERIDIAN	292	1004.1	1017.8	87	64	75.6	- 0.3	94	4+	48	19+	13	0	67	81	1.87	-0.74	0.72	8	2	0.0	0	5.3	N	21*	NW	5	10	11	9	5.1	
VICKSBURG U	234	1008.4		84	66	75.2	- 1.8	92	4	49	16	5	0			2.14	0.37	0.67	10	8	0.0	0	7.9		41	SW	13	11	13	6	4.9	53
MISSOURI																																
COLUMBIA	778	987.4	1016.1	79	57	67.9	- 0.8	94	2	43	28+	2	0	59	77	8.20	3.58	3.47	7	4	0.0	0	10.1	SSE	30	NW	24	13	9	8	4.6	64
KANSAS CITY	742	981.3	1016.1	76	56	66.0	- 4.6	91	2	41	28	1	0	54	70	11.58	7.73	5.44	12	8	0.0	0	9.7	S	35	SW	29	14	5	11	4.9	63
ST JOSEPH	809	981.1		75	54	64.3	- 5.6	93	2	39	30	2	0			9.74	5.45	4.46	10	7	0.0	0	12.2	S	35*	NW	30	14	4	12	4.9	
ST LOUIS	535	996.6	1017.2	83	59	71.1	0.7	93	10+	43	26	12	0	57	63	4.01	0.47	1.93	8	5	0.0	0	9.6	S	35	SW	30+	12	12	6	4.1	75
ST LOUIS RFC	465			82	63	72.5	1.1	92	9	48	15	9	0			3.65	0.27	1.40	7		0.0	0										
SPRINGFIELD	1265	969.6	1016.8	81	57	68.8	- 0.3	94	2	38	15	4	0	59	74	5.94	2.08	2.63	9	6	0.0	0	12.6	SSE	45	NW	13	13	9	8	4.8	79
MONTANA																																
BILLINGS	3567	891.0	1014.9	63	42	52.5	- 7.5	85	16	30	30+	0	3	38	62	3.99	2.67	1.46	14	5	2.3	T	10.7	WSW	33	NW	2	8	5	17	6.6	53
GLASGOW	2277	939.7		62	40	51.1	- 6.1	85	17+	21	30	0	4	36	62	2.04	0.82	1.00	9	2	T	0						8	6	16	6.3	
GREAT FALLS	3662	888.3	1015.4	61	39	50.2	- 6.7	85	5	29	29+	0	8	33	58	1.95	0.51	0.70	9	0	0.4	T	10.9	SW	41	SW	28	8	7	15	6.2	51
HAVRE	2582	925.5		64	37	50.8	- 6.2	90	5	21	27	1	12			1.26	0.11	0.91	7	0	0.0	0	10.0	NW#	36	NW	28	13	6	11	5.2	74
HELENA	3893	874.4	1016.5	61	36	48.9	- 6.0	84	5	23	27+	0	9	34	61	1.16	0.00	0.37	12	2	T	T	8.4	WNW	42	S	16	8	6	16	6.3	50
KALISPELL	2965	912.0		63	36	49.1	- 5.4	82	5	24	19	0	8			2.08	0.78	0.68	10	5	T	T	6.5					9	6	15	6.2	
MILES CITY	2629			64	41	52.6	- 7.8	90	16	25	30	1	6	39	64	2.83	1.63	1.19	12	3	T	0	10.7	NW	35*	NW	28+	8	5	17	6.5	
MISSOULA	3190	902.5	1017.5	63	37	49.9	- 5.9	82	5	24	24	0	9	38	68	1.53	0.46	0.45	11	2	T	0	6.6	NW	27	W	5	5	8	17	6.6	56
NEBRASKA																																
GRAND ISLAND	1841	949.1		73	50	61.1	- 5.7	94	10	32	28	5	1	47	65	2.55	-0.02	1.60	12	7	T	T	12.4	S				13	5	12	5.2	
LINCOLN U	1150			72	52	62.4	- 5.7	98	2	34	28	4	0			5.71	2.79	1.92	13	9	0.0	0	12.2	S#	36	SE	19	9	10	11	5.4	60
NORFOLK	1544	959.3		71	48	59.3	- 5.2	91	9	28	28	3	3			1.84	-0.93	0.65	8	3	0.7	1						12	4	14	5.6	
NORTH PLATTE	2779	915.4	1013.8	71	44	57.5	- 6.3	93	8	28	25	4	2	44	64	2.78	1.03	1.23	11	2	T	0	12.8	SSE	50	N	29	11	8	11	5.5	61
OMAHA	978	975.8	1015.8	72	53	62.3	- 4.7	94	2	35	28	1	0	53	75	4.77	1.61	1.76	11	9	T	0	13.2	SSE	39	NW	13	12	6	12	5.3	55
OMAHA N OMAHA AP	1323	967.7		70	51	60.8	- 4.4	92	2	34	30	1	0			4.74	1.58	1.51	11	10	T	0						11	6	13	5.7	
SCOTTSBLUFF	3950	878.6	1013.9	70	42	56.1	- 6.1	89	18+	29	30	0	1	40	60	1.90	0.61	0.72	8	2	T	0	10.7	WNW	38*	NNW	2	8	10	12	5.8	
VALENTINE	2587	923.1		72	43	57.2	- 4.4	95	9+	29	13	6	6	43	62	1.85	0.65	0.72	9	1	T	T	11.9	N#	57	S	28	12	5	13	5.3	60
NEVADA																																
ELKO	5075	844.2	1014.3	72	35	53.5	- 4.3	84	15+	19	25	0	11	26	38	0.07	-0.32	0.05	3	0	T	0	6.4	SW	26*	NW	1	13	8	9	4.6	
ELY	6257	809.0		71	34	52.6	- 5.2	84	1	20	30	0	13	23	36	0.41	-0.27	0.35	2	0	T	T	9.8	S	34	S	17	17	7	6	3.8	91
LAS VEGAS	2162	945.1	1009.3	90	61	75.6	- 5.1	98	13+	54	25	17	0	32	24	0.26	-0.08	0.17	2	2	0.0	0	9.6	SW	37*	SW	16	24	5	1	1.9	94
RENO	4404	861.5	1014.6	78	34	55.9	- 4.6	89	5	25	30	0	11	31	43	0.39	0.17	0.33	3	1	0.0	0	5.9	SW	29	SW	1	19	8	3	2.6	90
WINNEMUCCA	4299	867.9		73	37	54.9	- 5.0	87	5	22	25	0	9	28	40	0.88	0.54	0.79	4	1	0.0	0	7.5	W	30	W	1	14	8	8	4.2	75
NEW HAMPSHIRE																																
CONCORD	339	1007.8	1018.5	79	55	67.1	8.3	92	4	33	30	6	0	57	75	3.44	0.05	1.08	6	0	0.0	0	4.4	NW	24	NE	21	12	10	8	5.0	63
MT WASHINGTON OBS	6262	816.5		55	43	49.2	8.1	63	1	21	29	0	6		83	5.09	-1.47	1.77	8	0	0.0	0	22.8	W	74Y	W	28	7	11	12	6.4	43
NEW JERSEY																																
ATLANTIC CITY	58	1016.4	1018.4	83	64	73.4	6.0	95	3	42	30	9	0	63	75	3.36	-0.01	3.03	6	2	0.0	0	10.3	NE	46*	NW	21	13	9	8	4.4	64
ATLANTIC CITY U	10			78	67	72.3	4.0	88	3	53	29	0	0			3.36	-0.15	1.38	6				10.8		63*	NNW	21					

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II NEW JERSEY	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEWARK	11	1017.2	1018.4	83	66	74.5	7.7	95	12+	49	30	9	0	63	70	1.49	-2.40	0.86	6	0	0.0	0	8.9	SW	46*	NNW	21	14	8	8	4.4	
TRENTON U	56	1010.9		82	64	72.9	5.9	93	12+	44	30	8	0			1.72	-2.03	1.23	5	4	0.0	0	8.1	S#	34	NW	21	13	9	8	4.7	72
NEW MEXICO																																
ALBUQUERQUE	5310	849.0	1012.0	79	52	65.6	- 4.3	87	2	40	4	0	0	42	48	1.09	0.04	0.78	4	3	0.0	0	7.7	N	42	SW	18	14	10	6	3.7	84
CLAYTON	4969	845.9		74	47	60.3	- 5.6	90	2	33	4	1	0			3.01	1.14	1.54	8	5	0.0	0						18	4	8	3.8	
RATON	6379	806.6		73	42	57.5	- 3.3	84	2	30	4	0	1			1.51	-0.50	0.67	7	4	T	0						16	7	7	4.2	
ROSWELL	3612	892.7		87	53	69.6	- 1.7	97	23+	40	4	12	0	48	53	0.44	-1.56	0.29	3	2	0.0	0	8.6		25	W	8	17	8	5	3.6	
SILVER CITY	5373	834.4		80	54	66.6		87	27	47	25	0	0			1.98		0.67	8	8	0.0	0						16	9	5	3.7	
NEW YORK																																
ALBANY	277	1014.5	1018.4	80	58	68.9	7.3	91	4+	34	30	5	0	60	77	2.47	-0.68	1.33	6	3	0.0	0	6.2	S	48	S	2	11	11	8	5.0	70
BINGHAMTON	1590	960.3	1019.2	75	56	65.9	6.1	86	4+	36	29	0	0	58	77	0.61	-2.65	0.29	4	2	0.0	0	7.0	SW	24	S	26+	9	12	9	5.1	72
BUFFALO	706	990.7	1018.9	79	58	68.6	6.2	89	14+	38	29	0	0	59	74	2.53	-0.48	2.12	7	2	0.0	0	8.2	SW	34	SW	26	10	13	7	5.0	72
NEW YORK U	132	1006.7		83	65	73.6	5.3	95	2	49	18+	8	0	62	73	1.70	-2.32	1.28	5	0	0.0	0	8.1	NE	36	N	21	19	3	8	3.7	69
NEW YORK	19	1016.2	1018.2	81	67	73.6	5.2	95	1	50	18	6	0	62	69	1.93	-1.62	1.46	5	1	0.0	0	13.0	NE	50	NNW	21	11	11	8	4.9	
ROCHESTER	543	999.4	1018.6	80	57	68.5	6.5	90	14+	36	30	3	0	58	73	0.39	-2.27	0.18	6	1	0.0	0	9.5	SSW	35	W	26	11	13	6	4.6	69
SCHENECTADY	217			78	58	68.4	6.6	89	4+	38	30	0	0			1.25	-2.01	0.49	5	2	0.0	0						20	7	3	2.9	
SYRACUSE	424	996.6	1018.5	80	59	69.5	6.1	91	13+	37	30	4	0	59	71	1.21	-1.70	0.60	4	3	0.0	0	8.8	WSW	35	W	14	11	12	7	4.7	69
NORTH CAROLINA																																
ASHEVILLE U	2203	941.3		79	58	68.4	0.5	90	3	42	17	1	0			1.07	-1.65	0.88	4	3	0.0	0	5.9		21	NW	15	12	14	4	4.2	69
CAPE HATTERAS R	7	1016.2	1016.9	82	70	75.8	0.5	89	3	64	30+	0	0	70	82	3.43	-2.66	1.59	9	5	0.0	0	12.4	ENE	36	N	20+	12	8	10	4.9	68
CHARLOTTE	725	990.8	1018.7	86	65	75.4	2.8	94	26+	51	16	10	0	62	68	0.06	-3.59	0.04	2	0	0.0	0	6.1	NNE	21	NE	17	13	13	4	4.4	79
GREENSBORO	891	987.7	1019.4	83	61	72.0	1.3	93	3	48	16	5	0	62	75	0.20	-3.46	0.17	3	1	0.0	0	7.1	NE	25	NE	17+	14	11	5	4.1	75
RALEIGH	433	1004.7	1018.5	84	62	73.2	0.6	92	4+	46	17	7	0	64	77	1.25	-3.24	0.62	5	2	0.0	0	6.5	N	25*	E	2	17	8	5	4.2	66
WILMINGTON	30	1014.9	1017.8	86	67	76.3	0.9	93	4	53	17	9	0	69	82	4.25	-1.70	1.91	11	6	0.0	0	8.4	N	31	E	4	10	10	10	5.5	74
WINSTON SALEM	967	984.2	1019.4	82	63	72.7	1.8	92	25+	47	16	3	0	61	69	0.44	-3.05	0.30	4	4	0.0	0	8.8	NE	27*	NE	19+	14	12	4	4.0	
NORTH DAKOTA																																
BISMARCK	1647	953.7	1014.3	65	40	52.4	- 6.1	86	18	26	28	0	4	40	68	2.81	1.38	0.74	14	7	T	0	11.4	WNW	57	W	2	8	7	15	6.5	52
DEVILS LAKE U	1471	960.5		63	42	52.7	- 3.6	84	18	25	30	0	3			5.00	2.93	1.08	14	4	0.0	0	8.7	W#	32	NE	10	7	9	14	6.7	46
FARGO	900	979.8	1014.3	67	45	56.0	- 2.9	91	1	24	28	1	3	47	76	4.44	2.72	2.37	13	3	0.0	0	12.8	SSE	56	N	10	6	5	19	7.1	54
WILLISTON U	1877	946.4		63	41	51.9	- 5.3	83	17+	22	30	0	3			2.49	1.28	0.90	14	1	1.5	T	6.9	W#	26	NW	2	7	7	16	6.9	52
OHIO																																
AKRON	1210	981.6	1019.7	80	58	68.8	4.2	89	24+	37	29	0	0	58	72	2.17	-1.46	0.84	6	4	0.0	0	8.6	S				13	12	5	4.3	
CINCINNATI OBS	761			84	61	72.1	3.2	92	5+	41	29	9	0			2.06	-0.82	1.20	6	5	0.0	0	4.7	S#	17	W	25					82
CINCINNATI	553	996.0		84	63	73.7	3.6	94	4	46	29	12	0			1.13	-1.75	0.44	6	5	0.0	0										
CLEVELAND	777	990.8	1018.7	79	58	68.5	3.0	89	3	34	29	0	0	58	70	2.35	-0.78	0.93	8	5	0.0	0	8.6	S	30	S	14	13	11	6	4.5	71
COLUMBUS	812	990.6	1019.5	83	59	71.0	4.5	92	24	32	29	9	1	60	72	1.05	-1.86	0.42	6	3	0.0	0	6.1	S	28	W	25	16	9	5	3.9	76
COLUMBUS U	724			82	62	72.0	4.2	93	6	41	29	6	0			1.49	-1.09	1.05	4		0.0	0										
DAYTON	1002	982.9	1019.0	81	60	70.2	3.3	91	6	40	29	2	0	59	70	4.37	1.57	2.07	7	6	0.0	0	8.4	SSW	42	NW	24	16	8	6	3.8	87
MANSFIELD	1296			78	58	68.1		89	6	37	29	0	0			4.49		1.80	10	6	0.0	0						13	12	5	4.3	
SANDUSKY U	603	996.8		80	61	70.2	3.7	91	13+	40	29	4	0			5.84	2.58	3.45	11	7	0.0	0	7.5		47	SW	14	19	7	4	3.3	78
TOLEDO	676	993.1	1018.6	80	55	67.6	3.4	90	11	29	29	1	1	61	82	2.86	-0.16	1.40	11	8	0.0	0	7.7	SSW	26	SW	30+	14	7	9	4.5	71
YOUNGSTOWN	1178	977.0	1019.4	78	56	67.2	2.5	88	3+	34	29	0	0	57	74	2.46	-1.12	0.90	8	6	0.0	0	8.0	SW	29*	W	2	14	10	6	4.5	
OKLAHOMA																																
OKLAHOMA CITY	1280	972.1	1015.3	81	60	70.6	- 3.4	97	2+	47	25+	3	0	59	70	7.37	3.94	3.62	9	6	0.0	0	13.7	SSE	54	NW	13	11	13	6	4.9	69
TULSA	650	1002.6	1015.5	82	60	70.7	- 3.1	99	2	46	15+	10	0	62	77	7.37	3.12	3.46	8	4	0.0	0	11.3	SSE	31*	SE	30	11	9	10	5.7	63
OREGON																																
ASTORIA	8	1018.0	1018.5	66	47	56.4	- 3.9	85	12	40	27+	0	0	50	81	1.45	-1.59	1.21	11	1	0.0	0	8.8	WNW	25*	NW	8	9	8	13	6.1	
BURNS U	4151	873.4		69	37	53.1	- 5.2	83	5	25	24	0	10	29	44	0.61	0.18	0.49	3	0	0.0	0						16	9	5	3.6	
EUGENE	361	1004.4		73	44	58.5	- 2.4	89	12	33	26	0	0			1.12	-0.48	0.66	4	0	0.0	0	8.5		25*	SW	13	12	8	10	5.0	
MEACHAM	4050			61	39	49.9	- 5.8	76	4	29	24	0	4			1.12	-0.34	0.40	5	2	T	0						12	9	9	4.6	
MEDFORD	1298	971.2	1016.9	79	43	60.6	- 3.8	95	4	31	29	3	1	42	59	0.93	0.28	0.79	4	1	0.0	0	4.4	WNW	20*	NW	13+	16	7	7	3.9	
PENDLETON	1482	962.4	1015.9	73	46	59.5	- 5.1	88	4	34	24	0	0	34	43	0.17	-0.54	0.20	1	0	0.0	0	10.9	W	46*	W	1	15	11	4	3.9	
PORTLAND	21	1011.9	1017.7	71	48	59.5	- 2.8	83	13	34	22	0	0	48	69	0.64	-1.20	0.34	7	0	0.0	0	8.0	NW	26	S	13+	10	10	10	5.5	58

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

SEPTEMBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		°F.				°F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
II OREGON																																
PORTLAND U	30			71	52	61.6	- 2.3	83	13+	43	26	0	0			0.80	-1.03	0.33	6		0.0	0										
ROSEBURG	505	998.6		75	44	59.4	- 2.4	89	12	36	30+	0	0			0.71	-0.40	0.38	7	0	0.0	0	4.7	N#	20	N	8+	11	10	9	4.9	71
SALEM	195	1010.5	1017.9	74	43	58.3	- 4.1	91	13	31	26	2	1	46	70	0.91	-0.58	0.44	7	0	0.0	0	4.9	N	18*	NW	20	13	6	11	5.0	
SEXTON SUMMIT R	3836	884.9		63	44	53.8	- 6.0	81	4	36	29+	0	0			1.33	0.16	0.61	6	0	0.0	0	12.5	N				15	6	9	4.1	
PACIFIC AREA																																
CANTON ISLAND	8	1008.8	1009.2	89	78	83.7	- 0.7	91	29	74	7	14	0	73	73	1.77	1.08	0.81	12	0	0.0	0	12.6	ENE	28*	ESE	14	9	14	7	5.2	
ENIWETOK	13	1008.8		87	77	82.0		90	19+	73	25+	4	0	76	80	10.18		2.39	25	1	0.0	0	12.7									
JOHNSTON	7	1011.5	1014.6	84	75	79.4		85	26+	71	29	0	0	73	79	11.61	-1.70	3.31	18	6	0.0	0	7.0	W	26	SW	12	0	1	29	9.7	48
KOROR R	94	1006.1	1008.7	87	76	81.3	0.2	90	8	71	3	1	0	75	84	15.53		3.48	24	3	0.0	0	7.9	E	29*	S	21	0	6	24	8.7	
KWAJALEIN	8	1008.1	1009.0	86	76	81.2		88	27+	73	8	0	0	75	80	1.15		0.35	16	0	0.0	0	15.7		35	E	12	4	20	6	5.8	83
PONAPE R	123	1004.1	1008.7	87	72	79.7	- 0.4	89	19+	70	21	0	0	74	87	20.69	4.73	4.45	26	6	0.0	0	3.3	ESE	17	NW	25+	0	1	29	9.2	53
TAGUAC GUAM R	361			86	71	78.5	- 0.5	89	25+	68	20+	0	0			15.40	1.00	4.27	26	7	0.0	0	4.6	SE#	34	NE	10					35
TRUK MOEN ISLAND	5	1008.0	1008.3	87	75	80.7	0.0	89	24+	73	21+	0	0	76	85	17.12	4.51	5.16	24	3	0.0	0	6.2	SW	30	SW	10	0	4	26	9.3	84
WAKE ISLAND	11	1010.8	1011.2	87	76	81.5	- 0.7	89	18+	70	24	0	0	75	80	10.81	5.33	4.61	21	3	0.0	0	12.7	E	30*	SE	21+	3	5	22	8.2	
YAP R	55	1004.4	1007.4	86	75	80.6	- 1.2	91	15	69	28	1	0	76	87	15.10	0.94	3.30	25	8	0.0	0	8.7	SW	31	W	12	0	0	30	10.0	40
PENNSYLVANIA																																
ALLENTOWN	376	1005.1	1019.3	82	60	70.8	6.1	91	12+	37	30	5	0	61	75	1.53	-1.94	0.77	6	2	0.0	0	7.9	SW	30*	NW	21	14	9	7	4.4	
ERIE	732	992.5	1018.5	77	60	68.5	5.3	90	13+	39	29	2	0	59	73	2.16	-1.23	1.26	7	6	0.0	0	11.9	S	36*	SSW	14	13	11	6	4.7	
HARRISBURG	335	1005.5	1019.2	83	62	72.3	6.2	93	1	40	30	9	0	62	75	1.24	-1.39	0.86	6	4	0.0	0	6.9	W	21	NW	15	15	10	5	4.2	75
PHILADELPHIA	5	1013.9	1018.3	81	62	71.5	3.8	92	5	39	30	4	0	61	71	2.41	-1.05	0.95	5	3	0.0	0	8.6	WSW	34	NW	2	12	10	8	4.7	77
PHILADELPHIA U	35			84	67	75.3	6.0	96	3+	51	18	10	0																			
PITTSBURGH	1151	989.6	1020.2	81	56	68.5	3.6	91	13	36	29	1	0	58	74	1.98	-0.99	0.85	8	4	0.0	0	6.5	SW	31*	NW	2	12	11	7	4.9	76
PITTSBURGH U	749			82	61	71.5	3.6	92	12	42	29	5	0			1.78	-0.99	0.89	8		0.0	0										51
READING U	266	1006.7	1018.2	82	64	73.0	5.9	93	5	41	30	9	0			2.62	-0.66	1.04	6	3	0.0	0	8.0		42	W	2	13	10	7	4.9	69
SCRANTON	940	985.5	1019.7	79	58	68.4	5.2	89	13	37	30	0	0	60	78	0.99	-2.23	0.45	9	3	0.0	0	6.7	ESE	25	SW	14	12	9	9	4.8	62
WILLIAMSPORT	527	1000.6	1019.6	81	59	70.0	5.4	93	12	37	30	3	0	60	78	0.89	-2.44	0.42	8	6	0.0	0	5.4	W	23*	SSE	14	5	17	8	5.5	
RHODE ISLAND																																
BLOCK ISLAND	110	1012.9	1017.0	73	62	67.7	4.2	83	5	47	30	0	0			11.51	8.53	7.26	4	0	0.0	0						7	12	11	6.5	
PROVIDENCE	55	1011.8	1017.8	78	60	69.0	6.3	91	12+	42	30	4	0	61	79	7.92	4.73	4.89	7	2	0.0	0	10.2	N	42*	S	15	13	7	10	5.2	58
SOUTH CAROLINA																																
CHARLESTON	41	1015.6	1017.8	86	67	76.8	0.5	94	4	55	17	9	0	67	78	2.97	-2.50	1.46	6	7	0.0	0	7.2	NNE	40	NW	4	8	16	6	5.2	72
CHARLESTON U	9			84	72	77.9	0.2	92	4	60	17	2	0			1.21	-4.10	0.72	8		0.0	0	9.8		43	NE	4					
COLUMBIA	217	1005.4	1018.1	88	64	76.2	0.3	97	25	51	17	14	0	65	74	1.46	-2.96	0.68	4	3	0.0	0	5.1	NNE	25*	ESE	5	14	8	8	4.1	69
FLORENCE	146	1011.9	1017.7	87	65	75.9	0.6	95	4	50	17	10	0	66	77	2.13	-2.15	1.00	8	4	0.0	0	7.3	N	23*	E	6	14	11	5	4.2	
GREENVILLE	1009	981.8	1018.8	85	65	74.9	1.8	92	25+	49	16	9	0	63	71	1.49	-2.10	0.63	5	2	0.0	0	7.1	NE	21	SW	14	10	15	5	4.7	68
SPARTANBURG	801	989.4	1019.1	85	64	74.1	0.9	93	24+	47	16	10	0	62	71	0.52	-3.16	0.33	3		0.0	0	6.5	NNE	28	SW	14	11	14	5	4.6	
SOUTH DAKOTA																																
HURON	1282	966.9	1014.2	71	45	58.1	- 4.7	97	9	27	27	4	4	46	69	1.69	-0.04	0.76	6	2	0.0	0	11.6	SSE	35	NW	2	9	8	13	5.9	67
RAPID CITY	3165	900.6	1014.4	69	42	55.6	- 4.9	95	16	26	30	2	3	36	55	0.98	-0.20	0.44	10	2	0.2	T	11.8	NNW	43	SW	18	8	9	13	5.9	46
SIOUX FALLS	1420	963.1	1014.7	71	48	59.3	- 3.1	92	9	28	30+	2	3	47	67	2.36	-0.57	1.58	9	2	T	T	11.9	SSE	30*	NNW	30+	9	9	12	6.0	
TENNESSEE																																
BRISTOL	1507	965.6	1019.6	83	59	70.9	2.4	90	24+	44	17+	2	0	60	75	1.00	-1.79	0.48	5	3	0.0	0	5.0	NE	25*	NW	25	16	8	6	4.3	
CHATTANOOGA	670	991.5	1019.0	85	63	74.0	1.5	94	4	50	18+	10	0	62	72	0.61	-2.08	0.34	3	3	0.0	0	5.5	NNE	26	NE	16	11	14	5	4.6	73
KNOXVILLE	950	984.4	1019.6	84	61	72.4	0.3	92	25+	47	18+	5	0	60	69	0.50	-2.03	0.28	6	1	0.0	0	6.6	NE	38	NW	25	11	15	4	4.7	54
MEMPHIS	263	1002.9	1017.6	85	64	74.6	0.3	94	6	47	16	14	0	63	69	0.66	-1.89	0.24	5	3	0.0	0	8.9	E	31	S	13	9	16	5	4.9	77
MEMPHIS U	271			83	66	74.7	- 0.1	92	11	53	15	8	0			1.60	-0.90	0.77	5		0.0	0										
NASHVILLE	577	998.5	1018.4	86	61	73.5	0.3	94	24+	43	16	14	0	62	71	0.35	-2.39	0.15	4	3	0.0	0	6.3	S	27	SE	13	11	15	4	4.5	73
OAK RIDGE	905	986.5		84	60	72.2	1.4	91	24	44	18+	2	0			0.41	-2.14	0.16	7	4	0.0	0	3.4		26Y		12	14	12	4	3.8	
TEXAS																																
ABILENE	1759	951.7	1013.6	84	62	72.9	- 2.6	95	3+	49	15	8	0	61	68	7.86	5.26	6.70	7	5	0.0	0	11.1	S	36	SE	2	15	8	7	4.6	68
AMARILLO	3607	890.9	1012.9	81	54	67.6	- 1.7	96	2	42	25	4	0	49	57	1.87	-0.41	1.24	7	5	0.0	0	13.6	S	33	N	27+	15	11	4	3.5	81
AUSTIN	597	991.9	1013.6	88	69	78.2	- 1.1	97	1	55	17	16	0	65	68	3.68	-0.38	2.89	2	2	0.0	0	10.3	S	45	NE	12+	8	16	6	5.2	63
BROWNSVILLE	16	1009.7	1012.2	87	74	80.5	- 0.9	95	13	65	18	9	0	73	80	13.30	8.17	5.76	11	3	0.0	0	12.4	SE	40	SE	14	8	13	9	5.4	60

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
II TEXAS	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
CORPUS CHRISTI	43	1011.4	1012.6	88	73	80.2	- 0.5	96	1	63	18	15	0	71	77	3.14	-1.56	1.13	8	2	0.0	0	13.6	SE	63	NW	11	5	14	11	6.2	65
DALLAS	481	995.8	1014.4	87	68	77.3	- 1.6	98	1	53	15	14	0	63	64	5.54	2.83	4.31	5	2	0.0	0	13.1	S	42	SE	12	12	13	5	4.6	66
DEL RIO U	957			91	71	81.1	1.3	100	1	60	15	21	0			0.87	-1.64	0.65	3	1	0.0	0										
EL PASO	3918	885.6	1011.4	86	63	74.5	- 0.4	93	27+	53	16	8	0	50	46	0.69	-0.44	0.41	7	5	0.0	0	7.1	NNE	45	W	28	17	8	5	3.8	86
FORT WORTH	544	993.5	1014.1	87	67	76.9	- 1.3	99	1	54	17+	15	0	63	64	2.92	0.23	2.15	4	1	0.0	0	15.8	S	53*	ESE	12	13	12	5	4.4	
GALVESTON U	7			83	75	78.8	- 1.5	90	6	63	17	1	0			15.41	9.97	11.65	7		0.0	0	14.8		80	SE	11					76
GALVESTON	5	1013.2	1014.0	84	75	79.4	- 1.0	90	6	65	17+	1	0	62	64	16.26	10.44	7.45	5	2	0.0	0	14.5	SE				14	9	7	4.5	
HOUSTON U	41			87	73	80.2	0.2	94	6+	60	17	14	0			4.17	0.52	2.56	6		0.0	0										
HOUSTON	50	1011.4	1014.1	88	71	79.7	1.0	96	6	59	18+	15	0	69	75	7.89	3.54	5.19	8	4	0.0	0	10.1	SSE				8	16	6	5.1	73
LAREDO	500	997.1	1012.3	94	73	83.3	- 0.2	103	1	64	18	23	0	66	61	2.68	-0.48	2.33	6	4	0.0	0	12.8	SE	35*	NW	11	9	14	7	5.0	
LUBBOCK	3243	903.9	1013.9	83	56	69.9	- 1.3	94	2	46	5	7	0	54	60	0.18	-2.67	0.09	4	3	0.0	0	15.3	S	35*	S	2	15	11	4	3.7	
MIDLAND	2854	915.0	1012.5	86	61	73.3	- 2.0	97	2+	50	15	9	0	56	59	3.12	0.98	1.77	4	2	0.0	0	11.6	SSE	28*	SSE	3	12	12	6	4.6	
PORT ARTHUR	16	1012.9	1014.4	88	70	79.1	1.2	96	6	54	17	16	0	70	80	4.79	-0.09	2.70	8	6	0.0	0	11.5	NE	49	SE	12+	8	17	5	5.2	61
SAN ANGELO	1903	946.8	1013.0	86	64	74.8	- 1.7	100	1	52	15	11	0	61	67	2.95	0.65	2.78	6	3	0.0	0	10.9	SSW	35*	NE	11	11	13	6	4.9	
SAN ANTONIO	792	988.5	1013.3	90	71	80.5	1.1	99	2+	57	18	18	0	66	66	2.24	-1.13	1.06	5	1	0.0	0	11.0	SSE	47	N	11	7	17	6	5.0	68
VICTORIA	104	1008.1		88	71	79.6	- 1.2	95	9+	60	19+	15	0			6.55	2.86	5.55	7	2	0.0	0			150Y	NNE	11	6	16	8	5.4	
WACO	500	993.2	1014.0	88	68	78.0	- 0.9	97	6+	56	17+	16	0	65	67	2.28	-0.69	2.05	3	2	0.0	0	14.9	S	46*	NNE	11	12	13	5	4.5	
WICHITA FALLS	994	977.5	1013.8	86	64	74.7	- 1.7	101	2	53	25+	14	0	61	65	4.21	1.49	2.16	7	3	0.0	0	13.1	S	40*	N	12+	12	12	6	4.5	
UTAH																																
MILFORD	5028	843.9		75	41	57.8	- 4.8	86	6	26	30	0	3			1.66	1.26	0.98	7	5	0.0	0						17	7	6	3.7	
SALT LAKE CITY	4220	867.3	1014.0	74	46	60.0	- 4.2	92	6	32	24	3	1	39	52	1.10	0.36	0.66	8	5	0.0	0	10.6	SSE	40	N	1	12	5	13	5.5	64
WENDOVER	4237	869.6		73	50	61.1		91	1	37	25	1	0			0.46		0.39	3	5	0.0	0						12	13	5	4.1	
VERMONT																																
BURLINGTON	331	1003.3	1017.8	77	54	65.4	5.5	88	4+	31	30	0	1	58	79	2.69	-0.45	1.44	8	4	0.0	0	6.2	SSW	33	W	4	9	11	10	5.4	64
VIRGINIA																																
LYNCHBURG	947	994.9		81	61	71.2	2.4	92	3	46	16	2	0			4.05	0.95	1.89	9	5	0.0	0	7.2		26	NE	7	18	5	7	3.8	74
NORFOLK	26	1017.1	1018.5	83	68	75.3	3.3	94	3	50	30	4	0	68	80	1.62	-2.24	0.62	7	3	0.0	0	10.0	NE	35	SE	14	14	8	8	4.6	65
RICHMOND	162	1013.2	1019.4	85	62	73.5	3.2	95	3	39	30	12	0	64	78	1.64	-2.01	0.87	10	6	0.0	0	6.9	NNE	22	NE	18	14	8	8	4.7	66
ROANOKE	1174	978.0	1020.0	83	61	71.9	2.8	95	12+	45	16	10	0	61	72	1.79	-1.60	1.43	6	4	0.0	0	6.0	NNE	23*	NW	15	14	8	8	4.3	
WASHINGTON																																
OLYMPIA	190	1010.5	1018.2	70	42	56.0	- 2.1	86	13	30	29	0	3	47	75	0.33	-1.47	0.20	4	0	0.0	0	6.3	WSW	29*	SW	28	5	14	11	6.2	
SEATTLE TACOMA	400	1003.4	1017.6	68	49	58.7	0.0	86	13	39	29	0	0	46	69	0.46	-1.19	0.20	9	0	0.0	0	8.6	SW	37*	SW	28	5	15	10	5.7	
SEATTLE	14		1017.5											48	69								5.4	SSE								
SEATTLE U	14			69	53	60.9	- 0.1	88	13+	46	29+	0	0			0.62	-0.94	0.27	7		0.0	0			43	SW	28					57
SPOKANE	2357	946.2	1015.3	69	43	55.9	- 3.3	81	16	33	30+	0	0	32	45	0.17	-0.76	0.10	8	0	0.0	0	8.5	SW	38	SW	28	9	12	9	5.1	69
STAMPEDE PASS R	3958	880.5		54	39	46.5	- 4.7	70	4	31	29	0	3			5.55	1.51	3.05	12	1	3.0	2						12	3	15	5.8	
TATOOSH ISLAND	101	1014.9	1018.1	58	49	53.2	- 1.3	77	13	43	29+	0	0	49	89	2.50	-1.14	0.82	12	0	0.0	0	11.6	S	42	E	13	7	5	18	7.0	46
WALLA WALLA U	949	979.0		73	51	61.8	- 3.5	86	4	42	24	0	0			0.14	-0.72	0.02	3	0	0.0	0	5.4	W*	28	W	28	16	4	10	4.3	82
YAKIMA	1061	977.0	1016.2	75	42	58.2	- 2.9	85	4	30	29	0	4	37	50	T	-0.39	T	0	0	0.0	0	8.8	WNW	32*	SW	1	20	7	3	2.9	
WEST INDIES																																
SAN JUAN P.R. U	47			86	75	80.8	0.3	94	17	74	24+	3	0			1.63	-4.37	0.32	10	6	0.0	0										
SAN JUAN P.R.	15	1011.3	1014.3	89	74	81.2	0.9	93	17	71	24+	8	0	72	78	1.93	-5.51	0.54	10	6	0.0	0	5.9	ENE	23	E	21+	1	20	9	6.4	65
WEST VIRGINIA																																
CHARLESTON	939	984.5	1019.9	83	60	71.1	2.5	91	13+	39	29	11	0	61	76	1.50	-1.44	0.60	7	3	0.0	0	3.7	SW	23*	NW	25+	7	18	5	5.4	
HUNTINGTON U	567			84	62	72.7	2.2	95	6	43	29	12	0			1.07	-1.81	0.52	7		0.0	0										
PARKERSBURG U	621			84	59	71.8	3.4	93	13+	37	29	11	0			0.65	-2.34	0.33	4	4	0.0	0	4.9		49	W	25					74
WISCONSIN																																
GREEN BAY	689	993.1	1016.0	72	51	61.5	1.3	90	10+	30	29	2	2	53	75	5.02	2.15	1.73	11	5	0.0	0	12.0	SW	35	SW	21	10	8	12	5.6	49
LA CROSSE	652	990.9		70	53	61.5	- 0.8	89	10+	32	28	0	1	53	77	4.97	1.15	2.00	15	6	T	0	10.5	S	40*	W	2	9	7	14	6.2	
MADISON	858	981.3	1016.2	73	51	61.7	- 0.4	90	10+	30	29	2	2	55	79	7.92	3.93	3.57	11	5	0.0	0	9.7	S	37	S	1	11	5	14	6.1	56
MILWAUKEE	670	992.2	1017.4	75	54	64.8	2.2	93	10	31	29	3	1	56	76	9.41	6.08	2.65	13	9	0.0	0	9.9	SSW	38	SW	30	12	7	11	4.9	58

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

SEPTEMBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F				F	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
II WYOMING																																
CASPER	5319	836.8	1013.7	64	39	51.4	- 6.7	84	16+	24	30+	0	7	35	60	2.46	1.24	0.69	13	4	6.3	2	12.3	SW	40*	W	11	7	12	11	6.1	
CHEYENNE	6131	812.1	1014.6	65	38	51.4	- 6.0	84	8	26	30	0	7	33	57	2.17	0.97	0.69	11	3	0.8	T	13.0	WNW	38	W	20	8	9	13	6.2	54
LANDER	5563	834.7		64	37	50.6	- 6.9	84	16	25	30	0	8	35	61	1.59	0.36	0.70	13	4	4.0	2	6.0	SW#	45	SW	16	7	10	13	6.0	72
SHERIDAN	3942	884.2	1011.4	64	38	50.7	- 7.2	90	16	21	30	1	9	37	64	2.56	1.11	1.16	13	1	T	T	8.5	NW	48	NW	10	8	8	14	6.2	52

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

A Maximum hourly average.
\+ And also on an earlier date or dates.
B Number of days maximum 70°F. or above for Alaskan Stations.
\# Wind direction to 8 compass points only.
Y Peak Gust.

CLIMATOLOGICAL DATA

METRIC UNITS

SEPTEMBER 1961

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 32.2 °C or above	Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 25 mm or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb	Mb	C.	C.	C	C	C		C				C.	%	Mm.	Mm	Mm.			Mm	Mm	M.p.s.		M.p.s							%
ALABAMA																																
BIRMINGHAM	186	993.5	1018.7	30.6	18.9	24.7	0.9	35.6	25+	8.9	16	13	0	17.8	71	61	- 7	30	9	3	0	0	2.9	ESE	13.4	SW	12+	11	13	6	5.0	79
HUNTSVILLE	184	995.5	1018.6	30.6	17.2	23.7		35.6	24	8.3	16	16	0	17.2	71	12		6	5	3	0	0	2.7	ESE	10.7*	E	6	15	10	5	4.3	
MOBILE	64	1014.8	1017.2	31.1	20.0	25.6	0.2	35.6	5	12.2	18	15	0	20.0	77	168	22	47	12	10	0	0	4.1	NE	11.6*	SE	26	10	8	12	5.8	
MONTGOMERY	59	1009.9	1018.0	30.6	18.9	24.7	-0.3	34.4	25+	10.6	16	11	0	20.0	80	53	- 36	20	7	4	0	0	2.7	ESE	13.0	NE	4	11	11	8	5.2	69
ALASKA																																
ANCHORAGE	27	1005.4	1010.4	12.8	5.6	9.2	0.3	18.3	1	- 1.1	26	0	2	5.0	75	138	69	49	17	1	0	0	2.4	SSE	8.9*	W	18+	1	6	23	6.4	36
ANNETTE	34	1012.9	1016.9	15.6	7.8	11.7	-0.1	22.2	14	3.3	26	3	0	7.8	79	148	- 96	36	10	0	0	0	2.6	NNW	8.0*	SE	2	7	8	15	6.3	
BARROW	7	1008.8	1009.4	2.8	- 0.6	1.0	1.8	13.3	6	- 3.3	30	0	24	0.0	92	8	- 6	3	12	0	66	25	5.6	E	16.5*	ENE	12	0	0	30	9.8	
BARTER ISLAND	12	1007.8	1009.7	2.2	- 1.1	0.6	1.0	8.3	6	- 5.0	30	0	24	- 1.1	88	22	- 1	7	11	0	112	51	6.8	E	17.9*	E	12	1	3	26	9.1	
BETHEL	38	1005.8	1007.0	10.6	4.4	7.5	0.1	14.4	1	- 1.1	30	0	1	5.6	89	89	13	18	25	0	0	0	6.8	SSW	15.6*	SW	23+	1	0	29	9.0	
COLD BAY	29	1008.5	1012.1	11.7	6.1	8.9	0.3	14.4	19	2.2	10	0	0	6.7	84	49	- 42	15	15	0	T	0	6.9	SSE	17.9*	SSE	5	0	2	28	9.5	
CORDOVA	12	1010.5	1012.3	13.3	2.8	7.9	-0.9	18.9	11	- 2.2	27+	0	8	6.1	89	343	- 50	61	19	1	0	0	2.6	E	11.6*	ESE	18	2	8	20	8.1	
FAIRBANKS	133	992.2	1009.3	11.7	1.7	6.7	-0.3	23.3	11	- 5.6	30	1	11	3.3	80	49	18	12	15	0	T	0	3.1	SW	8.0*	SW	25	1	5	24	8.6	
JUNEAU	5	1013.9	1014.6	13.3	3.9	8.7	-0.7	18.9	17	- 3.3	28	0	3	6.1	84	178	2	40	15	0	0	0	3.0	E	17.4*	ESE	7	6	6	18	7.2	49
KING SALMON	13	1007.8	1009.7	11.7	5.6	8.6	-0.1	15.6	1	0.0	17	0	1	6.7	86	185	100	34	26	0	T	0	4.6	SW	14.3*	W	18	0	3	27	9.3	
KOTZEBUE	3	1005.1	1005.7	8.9	3.3	6.1	1.1	12.8	9	- 3.3	29	0	3	4.4	89	68	44	13	20	0	0	0	6.0	ESE	17.9*	SW	2	2	2	26	8.8	
MC GRATH	99	995.9	1009.2	10.6	2.8	6.8	0.1	18.9	2	- 6.7	30	0	3	2.8	79	96	35	22	18	0	T	0	3.4	S	11.2*	SSW	24	2	4	24	8.4	
NOME	4	1004.1	1004.6	8.3	4.4	6.4	0.9	13.3	1	- 1.1	30	0	2	3.9	84	114	39	20	22	0	0	0	6.8	ENE	17.0*	WSW	20	2	2	26	8.8	25
ST. PAUL ISLAND	7	1006.1	1007.0	9.4	5.0	7.2	-0.2	11.7	1	- 1.1	9	0	3	6.1	91	88	- 1	33	21	0	0	0	7.5	SSW	16.5*	WSW	22	1	5	24	8.6	
SHEMYA	37	1006.1	1009.5	10.0	7.8	8.8		11.7	18+	5.6	30+	0	0	7.2	89	56		12	17	0	0	0	7.6	NW	19.7*	S	3	2	5	23	8.2	
YAKUTAT	9	1012.9	1013.8	13.3	5.0	9.0	-0.1	16.1	13+	- 3.3	27	0	4	7.2	89	374	- 41	107	15	1	0	0	2.7	ENE	17.4*	SE	18	1	6	23	8.4	
ARIZONA																																
FLAGSTAFF	2131			21.1	3.3	12.1	-1.8	25.6	12	- 2.8	30+	0	8			49	2	32	5	4	0	0						16	9	5	3.6	
PHOENIX	338	971.2	1009.5	35.0	19.4	27.0	-1.2	38.3	7+	12.8	30	27	0	10.6	41	6	- 20	5	2	3	0	0	3.3	E	12.5*	S	13	21	4	5	2.7	91
PRESCOTT	1528	847.3	1012.2	26.7	10.0	18.2	-1.9	30.6	6	4.4	4	0	0	3.9	45	16	- 39	8	5	6	0	0	3.6	SSW	13.9	SW	2	21	7	2	2.6	85
TUCSON	788	923.5	1009.8	31.7	18.3	25.1	-1.7	35.0	28	13.3	24+	16	0	10.0	44	13	- 25	9	6	4	0	0	4.0	SE	13.4	SW	2	19	6	5	3.1	88
WINSLOW	1487	851.7	1011.2	27.8	10.6	19.2	-1.2	32.2	28	5.0	4	1	0	5.0	47	38	9	16	6	4	0	0	4.4	SW	13.4*	WSW	2	22	3	5	2.7	
YUMA	61	1004.4	1009.4	37.8	20.6	29.2	-2.1	41.1	6+	15.0	23	29	0	10.0	36	0	- 16	0	0	1	0	0	3.0	SSE	18.8	SE	12	24	5	1	1.7	96
ARKANSAS																																
FORT SMITH	137	999.4	1016.1	28.3	16.7	22.5	-1.4	33.3	3+	6.7	16	8	0	18.3	80	81	- 13	23	9	5	0	0	3.1	ENE	13.4	NW	13	12	7	11	5.5	60
LITTLE ROCK	78	1004.3	1017.3	30.0	17.2	23.5	-0.3	35.0	6	7.2	16	13	0	17.2	74	41	- 32	28	6	1	0	0	3.6	ESE	17.0	SE	13	8	14	8	5.6	62
TEXARKANA	110			29.4	18.9	24.0	-1.1	34.4	6	9.4	16	11	0	19.4	82	146	75	104	9	5	0	0	4.2	ENE								
CALIFORNIA																																
BAKERSFIELD	151	993.9	1012.0	31.1	16.1	23.6	-0.7	37.2	6	11.7	18	13	0	8.3	41	T	- 2	T	0	0	0	0	3.3	NW	9.8*	NNW	16	26	4	0	1.0	
BISHOP	1252	872.0		29.4	7.2	18.4	-1.2	35.6	1	3.3	20	7	0			T	- 5	T	0	0	0	0						26	4	0	1.1	
BLUE CANYON	1609	838.8		21.1	10.6	15.7	-1.8	25.6	5+	3.3	17	0	0			19	4	19	2	0	0	0	3.6	ENE	16.1	ENE	3+	23	3	4	2.3	
BURBANK	213	986.1	1012.5	27.8	15.0	21.3	-0.4	36.1	4	10.6	23	8	0	11.1	62	1	- 7	1	1	0	0	0	3.0	S	7.2*	ESE	12+	21	4	5	2.9	
EUREKA U	13	1013.5		16.1	10.0	12.9	-0.5	20.0	27	6.7	30+	0	0			13	- 4	11	3	0	0	0	2.7	N#	15.2	N	2	15	7	8	4.3	73
FRESNO	99	999.0	1010.9	31.7	13.3	22.4	-0.6	37.8	12	8.9	30	14	0	8.3	46	T	- 1	T	0	0	0	0	2.3	NW	9.4	N	16	27	2	1	1.1	95
LONG BEACH	10	1010.8	1012.5	26.7	15.6	21.1		39.4	4	12.8	23+	5	0	13.9	72	T		T	0	0	0	0	2.8	WNW	9.4*	W	4	14	12	4	4.1	
LOS ANGELES	30	1008.8	1012.8	23.9	16.1	20.1	0.8	38.3	4	13.9	30+	2	0	13.9	74	1	- 4	1	1	0	0	0	3.2	WSW	8.0*	WSW	24+	12	13	5	4.3	
LOS ANGELES U	95			27.2	16.1	21.7	0.0	37.2	5+	13.9	23	6	0	12.2	64	1	- 6	1	2	0	0	0	2.3	W#	8.9	W	4	19	7	4	3.2	76
MT SHASTA R	1080	892.7		22.8	16.1	14.3	-1.2	31.1	4	0.0	24	0	1			13	- 7	12	2	0	0	0						25	1	4	1.8	
OAKLAND	1	1012.5	1013.0	25.0	12.8	18.8	1.4	36.1	4	9.4	30	4	0	10.0	65	8	6	8	1	0	0	0	3.8	WNW	13.0*	NE	2	23	5	2	2.5	
POINT ARGUELLO	112	999.3		19.4	10.6	15.1		31.7	4	7.8	23+	0	0			1		1	2	0	0	0	2.7		11.2*	N	18	8	9	13	5.9	
RED BLUFF	104	999.0	1011.6	31.1	15.0	22.8	-1.1	35.6	12+	11.1	30+	13	0	3.9	36	24	16	24	2	1	0	0	4.3	N	16.1	N	8	23	5	2	2.1	95
SACRAMENTO	5	1010.8	1011.9	30.6	12.2	21.3	0.1	36.7	5	7.8	30	13	0	8.9	55	4	3	4	1	0	0	0	3.6	SW	16.5	NW	2	21	8	1	1.8	95
SACRAMENTO U	7			29.4	13.3	21.3	-0.6	35.0	11+	9.4	30	11	0			4	2	4	1		0	0										
SANDBERG R	1377	861.8		23.9	12.8	18.6	-2.2	30.6	12+	6.1	22+	0	0			0	- 6	0	0	0	0	0	5.1	S	17.9*	NE	3	23	5	2	1.5	
SAN DIEGO	4	1008.8	1012.0	25.0	16.7	20.9	0.5	35.0	4	14.4	28+	2	0	13.9	70	T	- 4	T	0	0	0	0	2.8	NW	9.4	NW	4	17	7	6	4.0	72
SAN FRANCISCO	2	1012.9	1013.6	23.9	11.7	17.9	1.2	33.9	3	8.9	30	2	0	10.6	71	10	8	10	1	0	0	0	4.5	WNW	15.6	WNW	1	24	4	2	2.3	
SAN FRANCISCO U	16			21.7	13.3	17.4	1.0	33.3	3	11.1	12+	2	0			6	2	6	1	0	0	0	3.8	W#	11.6	W	1					79
SANTA MARIA	73	1004.7	1013.6	22.8	10.6	16.7	-0.1	36.7	4	7.2	23	2	0	11.1	76	T	- 3	0	1	0	0	0	2.7	WNW	10.3*	WNW	18+	15	12	3	3.3	
COLORADO																																
ALAMOSA	2297	772.4		20.6	2.8	11.7	-0.9	24.4	13+	- 6.7	25	0	8			35	18	23	6	3	107	25						16	9	5	4.1	
COLORADO SPRINGS	1882	812.1	1016.1	20.0	5.0	12.4	-4.3	28.3	1	- 2.2	30	0	4	3.3	60	49	21	21	8	2	107	T	4.2	NNE	13.4*	NW	29	14	8	8	4.9	
DENVER	1610	837.8	1014.7	20.6	6.1	13.5	-3.6	29.4	18+	- 1.7	30+	0	2	3.9	60	119	91	42	10	3	147	25	3.4	SSW	13.9	W	29	7	12	11	5.7	60
GRAND JUNCTION	1478	859.5	1014.3	21.7	8.3	14.9	-4.7	29.4	1	1.1	30	0	0	3.9	53	56	30	14	12	4	0	0	4.1	ESE	16.1	W	2	10	10	10	5.1	63

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm			Mm.	Mm	M.p.s.		M.p.s							%
COLORADO																																
PUEBLO	1414	856.1	1013.4	23.3	7.8	15.5	-2.7	32.2	1	0.0	25	1	1	5.6	57	31	12	19	4	1	0	0	3.6	SE	19.2	SW	29	11	13	6	4.7	78
CONNECTICUT																																
BRIDGEPORT	2	1017.9	1018.8	26.1	15.6	20.9	2.4	32.8	5	6.7	30	1	0	16.7	77	77	- 13	26	6	2	0	0	5.2	NE	21.0*	NNE	21	14	8	8	4.6	
HARTFORD	52	1012.5	1018.3	26.7	13.9	20.4	2.7	35.6	1	1.1	30	6	0	15.0	74	121	34	51	8	2	0	0	3.0	N	17.0	N	21	13	7	10	5.0	65
NEW HAVEN	2	1017.9		26.1	16.7	21.2	3.7	31.7	5+	6.1	30+	0	0			103	15	51	5	2	0	0	3.3		18.3	N	21	12	10	8	4.7	73
DELAWARE																																
WILMINGTON	24	1015.2	1018.5	27.8	17.2	22.5	2.5	33.9	5+	5.6	29	8	0	17.2	75	59	- 37	43	4	2	0	0	4.0	NW	12.5*	NW	15	15	7	8	4.4	
DIST. OF COLUMBIA																																
WASHINGTON U	22			27.8	18.9	23.3	2.3	35.0	3	9.4	30	9	0			25	- 86	11	6													
WASH NATL AP	4	1015.1	1019.4	28.9	18.9	23.8	2.9	35.0	3	8.3	30	11	0	18.3	75	26	- 79	17	5	2	0	0	3.2	S	15.2	W	3	16	5	9	4.3	78
FLORIDA																																
APALACHICOLA U	4	1014.4		29.4	22.2	26.1	0.0	33.3	5	15.6	16	3	0			20	-174	6	6	3	0	0			15.2	NE	5	12	8	10	5.1	77
DAYTONA BEACH	9	1015.2	1017.1	30.0	22.2	25.9	-0.4	33.3	14	20.0	27+	1	0	21.7	79	81	- 84	49	7	6	0	0	3.8	E	12.1*	NE	16	4	17	9	6.5	
FORT MYERS	4	1014.7		32.8	23.3	28.1	0.7	34.4	1	21.1	24	27	0			71	-147	29	8	9	0	0	3.4		9.4*	N	15	6	17	7	5.7	
JACKSONVILLE	7	1016.3	1017.7	31.1	21.1	26.3	0.1	35.6	26	17.8	19+	18	0	21.1	76	26	-151	9	11	2	0	0	4.7	NE	15.6	NE	17	6	11	13	6.2	55
KEY WEST	2	1014.2	1014.9	31.1	25.6	28.3	0.2	32.2	30+	22.8	8	6	0	21.8	72	43	-110	14	10	8	0	0	4.4	ESE	21.9	SE	7	4	19	7	6.0	58
LAKELAND U	65			31.1	22.2	26.7	0.0	33.3	26	20.0	19	9	0			39	-122	20	12	11	0	0	3.0					5	19	6	5.5	67
MIAMI BEACH	3			30.0	26.1	28.0	0.3	32.2	20	22.8	17	1	0			19	-130	12	6		0	0	3.2		11.6	NW	16	7	21	2	4.7	78
MIAMI	2	1013.7	1015.0	31.7	23.9	27.8	0.2	33.3	20	21.7	16	10	0	22.2	73	86	-125	30	10	7	0	0	3.9	E	13.4*	ESE	1	4	19	7	5.7	
ORLANDO	32	1012.0	1016.5	32.8	22.2	27.3	0.2	35.0	14+	20.0	19+	22	0	21.7	77	123	- 59	117	5	2	0	0	3.5	ENE	8.0*	ENE	30+	4	16	10	5.9	
PENSACOLA U	4			29.4	21.7	25.6	-0.1	34.4	24+	13.9	16	7	0			164	17	61	10	8	0	0	4.4		11.2	E	9					63
TALLAHASSEE	18	1014.7	1017.5	31.1	20.0	25.5	-0.1	35.6	5	13.3	16	14	0	20.6	79	76	- 60	28	8	9	0	0	3.7	E	15.6	E	10	11	8	11	5.7	
TAMPA	6	1014.8	1016.5	32.8	22.8	27.7	0.7	35.6	7+	19.4	19	21	0	21.7	75	62	-102	27	10	11	0	0	4.5	NNE	13.9*	E	8	5	16	9	6.1	57
WEST PALM BEACH	5	1014.1	1015.3	32.2	23.3	27.8	0.4	35.0	14	20.0	17	17	0	22.2	75	76	-155	28	10	3	0	0	3.9	ENE	12.1*	NE	18	1	22	7	6.2	
GEORGIA																																
ATHENS	245	990.5	1019.6	29.4	17.8	23.4	-0.6	33.9	4	10.6	16	7	0	18.3	77	44	- 33	30	6	2	0	0	2.5	N	10.3*	ENE	5	14	11	5	4.6	
ATLANTA	297	979.0	1019.1	28.3	17.8	22.8	-0.8	32.2	24	10.0	16	1	0	16.7	73	43	- 33	20	4	2	0	0	3.8	NE	10.3*	SSE	1	11	14	5	4.6	75
AUGUSTA	44	1011.4	1018.1	30.6	17.8	24.2	-0.2	35.0	25	10.0	17	11	0	18.3	76	32	- 50	14	5	5	0	0	2.4	N	9.8*	E	29	12	12	6	5.0	
COLUMBUS	117	1004.4		30.6	18.3	24.7	0.1	34.4	24	11.7	17+	15	0			30	- 30	17	5	5	0	0	3.4		10.3	NNE	17	13	12	5	4.8	
MACON	109	1004.7	1018.3	31.1	18.9	24.9	-0.4	35.6	25+	10.6	17	13	0	18.3	74	33	- 41	15	7	7	0	0	3.2	NE	15.2	N	5	9	15	6	5.3	73
ROME	194	995.7		30.0	15.6	22.7	-0.8	34.4	24	7.2	17+	8	0			47	- 29	16	6	5	0	0						14	10	6	4.5	
SAVANNAH	15	1015.7	1018.3	30.6	20.0	25.1	0.2	35.0	26	13.9	18	11	0	20.0	78	66	- 99	41	12	8	0	0	3.5	NNE	21.0	NW	5	8	15	7	5.2	62
THOMASVILLE U	86			31.7	20.0	25.9	0.4	34.4	25+	13.3	16	21	0			45	- 80	17	8	8	0	0										
HAWAII																																
HILO	9	1013.2	1015.2	28.9	19.4	24.1	0.1	30.0	29+	17.2	16	0	0	18.9	76	172	- 93	42	23	0	0	0	3.4	WSW	11.2*	E	7	5	12	13	6.6	34
HONOLULU	2	1014.2	1014.6	30.6	22.8	26.6	0.3	32.2	26	21.1	26	1	0	19.4	66	12	- 17	10	5	0	0	0	4.4	NE	13.9	NE	19	8	16	6	5.3	87
LIHUE	35	1009.8	1015.3	30.0	22.2	26.1	0.6	31.1	11+	19.4	18	0	0	20.6	73	43	- 13	11	16	0	0	0	4.7	NE	13.4	NE	20	5	18	7	5.9	79
IDAHO																																
BOISE	865	918.7	1014.6	21.7	6.7	14.0	-2.9	30.6	5	- 1.1	24	0	2	1.7	48	20	8	13	6	3	0	0	4.0	WNW	13.4	W	1	13	9	8	4.6	79
IDAHO FALLS 42NW R	1460			17.8	2.2	10.0	-3.0	28.3	15+	- 5.6	14	0	13			64	49	19	10				3.1	NNW	18.8A	SW	1					
IDAHO FALLS 46W R	1504	848.0		17.8	3.3	10.4	-2.9	28.3	5	- 3.9	25+	0	11			89	80	39	9	1	25	T	3.5	SW	16.5A	WSW	1					
LEWISTON	431	963.8		22.8	7.8	15.4	-1.9	29.4	15	2.2	27	0	0			13	- 11	12	4	0	0	0						10	14	6	5.1	
POCATELLO	1355	862.9	1015.4	19.4	5.0	11.9	-3.5	29.4	15	- 3.3	14	0	5	2.2	56	50	27	27	12	7	T	0	4.6	WSW	25.5	W	1	7	8	15	5.9	58
ILLINOIS																																
CAIRO U	96	1004.8		28.3	18.3	23.1	0.3	32.8	6	10.0	15	4	0			40	- 44	23	7	4	0	0	3.5	S#	15.2	SE	13	14	12	4	4.2	76
CHICAGO O HARE	201	992.0	1016.7	25.0	12.8	18.7		31.7	11+	0.0	29	0	1	14.4	77	291		74	16	12	0	0	4.0	SSW	13.0*	WSW	30+	11	10	9	5.0	
CHICAGO MIDWAY	186	994.6	1017.4	26.1	15.6	20.7	2.0	33.9	9	4.4	29+	4	0	13.9	69	360	278	67	15	12	0	0	4.6	S	17.0	W	12	11	10	9	5.1	62
MOLINE	177	994.4	1016.6	25.0	12.8	18.9	0.4	33.9	2	2.8	29+	5	0	13.9	75	279	176	160	11	6	0	0	3.7	SSW	19.7	SW	1	12	6	12	5.3	68
PEORIA	199	995.2	1017.5	25.0	13.3	19.0	-0.1	32.2	2	2.8	28	1	0	14.4	77	332	238	105	13	11	0	0	4.2	S	13.0	W	30	11	11	8	4.7	57
ROCKFORD	222	989.7	1016.9	24.4	12.8	18.4	0.8	32.8	9+	1.1	28	4	0	13.3	75	271	166	141	12	11	0	0	4.2	S	23.2*	SSW	1	12	8	10	5.1	
SPRINGFIELD	179	994.0	1017.1	27.2	14.4	20.8	1.4	32.8	22+	5.0	29+	4	0	15.0	73	161	62	57	8	10	0	0	4.6	SSW	19.2	SW	30	15	7	8	4.1	70
INDIANA																																
EVANSVILLE	115	1002.4	1018.0	29.4	15.6	22.4	1.0	34.4	24	5.0	26	13	0	16.7	74	21	- 65	10	6	4	0	0	3.6	S	13.4	S	13	13	11	6	4.3	84
FORT WAYNE	244	987.0	1018.3	26.7	15.0	20.7	2.6	32.2	11	0.0	29	1	1	15.6	74	115	37	34	11	10	0	0	4.8	S	18.8	W	6	13	8	9	4.9	66

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

SEPTEMBER 1972

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb	C.	C.	C.	C	C		C				C	%	Mm.	Mm.	Mm			Mm	Mm.	M p.s		M p.s							%
INDIANA																																
INDIANAPOLIS	242	988.4	1018.3	28.3	15.0	21.6	2.1	32.8	10+	5.0	29	10	0	15.6	72	112	19	78	7	4	0	0	3.3	S				14	9	7	4.3	79
SOUTH BEND	234	989.2	1017.2	25.6	14.4	20.1	2.1	33.3	9	2.2	29	3	0	15.0	76	147	53	35	14	11	0	0	4.1	S	15.2*	WSW	30	10	9	11	5.4	
IOWA																																
BURLINGTON	212	991.5	1017.2	25.0	12.8	18.7	-0.6	34.4	2	1.1	28	3	0	13.9	76	284	179	151	12	7	0	0	4.7	S	14.3	NW	14	13	7	10	5.0	64
DES MOINES	289	979.0	1017.2	22.2	11.7	16.9	-1.9	33.9	2	1.7	28	1	0	12.8	80	259	166	114	13	9	0	0	4.3	S	17.9	N	22	12	4	14	5.6	52
DUBUQUE	325	991.2		22.2	11.1	16.6	-0.2	31.1	9+	1.1	28	0	0			334	227	147	10	7	0	0						10	7	13	5.8	
SIOUX CITY	334	974.3	1015.4	21.7	10.6	16.2	-1.8	30.6	9+	- 0.6	28	0	2	10.6	70	75	- 8	21	9	4	10	T	4.6	SSE	12.1	NW	30	11	5	14	5.6	52
WATERLOO	265	984.3	1016.4	21.7	11.1	16.5	-0.8	33.9	2	- 1.1	28	2	1	12.2	78	207	92	78	13	7	0	0	4.0	S	10.3*	SSE	20+	8	8	14	6..	
KANSAS																																
CONCORDIA U	419	965.7		23.3	12.2	17.8	-3.1	35.6	2	3.3	28	2	0	11.1	70	133	70	80	13	6	0	0	3.7	S#	13.4	N	30	13	6	11	4.9	64
DODGE CITY	791	927.2	1014.3	24.4	11.1	17.8	-3.2	35.6	2	2.2	25	5	0	8.9	63	11	- 33	6	8	3	0	0	5.7	SSW	17.0	NE	27	14	10	6	4.5	70
GOODLAND	1111	887.9	1014.1	22.8	7.2	14.8	-3.3	34.4	8	0.0	30+	4	3	6.1	64	42	7	33	4	3	0	0	6.0	S	16.5*	NNW	29+	13	8	9	4.9	
TOPEKA	267	980.2	1015.9	24.4	12.2	18.3	-2.2	33.9	2	2.8	28	1	0	13.9	79	145	57	72	10	8	0	0	5.9	S	20.1	S	2	11	8	11	5.0	63
WICHITA	403	966.6	1014.9	25.0	13.9	19.3	-2.7	38.3	2	5.0	15	2	0	13.9	74	133	51	55	10	8	0	0	5.7	SSE	22.4	N	13	13	7	10	4.8	63
KENTUCKY																																
COVINGTON	265	987.3	1019.3	28.9	15.6	22.1	2.5	33.9	10+	5.6	27	10	0	15.0	68	25	- 51	14	7	4	0	0	3.8	SSW	12.5*	S	30	12	12	6	4.6	
LEXINGTON	298	983.5	1019.2	28.3	16.1	22.2	1.3	32.8	10	6.1	16	4	0	16.1	73	38	- 34	12	6	3	0	0	3.4	S				17	11	2	3.2	
LOUISVILLE	144	999.5	1018.4	29.4	16.7	22.8	1.6	33.3	12+	7.2	29+	11	0	17.2	75	38	- 31	15	6	3	0	0	3.0	S	10.3	SW	1	14	12	4	4.1	76
LOUISIANA																																
ALEXANDRIA	28	1011.6	1016.1	29.4	18.3	24.0		32.8	5+	8.9	19	5	0	20.0	83	81		48	10	7	0	0	2.8	ENE				9	13	8	5.2	
BATON ROUGE	20	1013.1	1016.2	30.0	20.0	24.9	-0.3	33.3	5	12.8	19+	7	0	21.1	85	246	136	90	15	14	0	0	4.2	NE				7	13	10	5.9	
BURWOOD R	2		1016.0	29.4	25.0	27.1	-0.2	32.2	1	20.6	18+	1	0	22.8	79	114	- 57	46	9	6	0	0	5.5	NE								
LAKE CHARLES	4	1013.5	1015.0	30.6	21.1	25.7	-0.2	34.4	5	13.3	17	12	0	20.6	77	88	- 27	27	7	2	0	0	3.5	NE	19.7*	SE	12	10	13	7	5.2	
NEW ORLEANS U	3	1013.9		30.0	23.3	26.8	-0.1	33.9	5	16.1	16	12	0	21.1	76	113	- 35	25	13	8	0	0	3.4		11.6	E	9	5	17	8	5.9	49
NEW ORLEANS	1	1013.8	1016.0	30.0	21.7	25.6	-0.8	32.8	25+	13.3	19	8	0	21.7	80	226	98	67	14	10	0	0	3.4	ENE	12.1*	SE	9	12	9	9	5.0	
SHREVEPORT	77	1007.0	1016.3	30.0	19.4	24.7	-1.3	34.4	2	11.7	17+	10	0	18.9	74	146	90	137	5	3	0	0	4.8	S				7	17	6	5.2	74
MAINE																																
CARIBOU	190	994.6	1017.6	20.6	10.0	15.3	3.5	28.9	11	0.6	30	0	0	12.2	83	157	68	62	15	4	0	0	4.2	SW	12.5*	NW	11	6	6	18	7.1	
PORTLAND	19	1014.1	1018.3	23.9	11.7	17.8	3.1	32.8	12+	0.0	30+	2	2	13.9	81	107	29	63	4	0	0	0	3.3	S	12.5	SW	26	14	6	10	5.0	66
MARYLAND																																
BALTIMORE	45	1014.2	1019.0	28.9	16.7	22.9	2.9	34.4	2	4.4	30	12	0	16.7	72	40	- 48	33	6	2	0	0	4.3	WNW	18.8	N	3	15	8	7	4.1	67
BALTIMORE U	4			29.4	20.0	24.8	3.5	35.6	4+	10.0	30	14	0			17	- 71	10	4		0	0										
FREDERICK	90			28.3	15.0	21.6	1.3	33.3	23+	1.7	30	12	0			86	- 5	74	7		0	0										
MASSACHUSETTS																																
BLUE HILL OBS R	192	994.2	1017.3	24.4	14.4	19.4		33.3	12	5.6	18	3	0		81	254	158	149	8		0	0	5.7	ENE	22.4	SW	15					60
BOSTON	5	1014.2	1017.7	25.0	16.1	20.6	2.6	34.4	11	7.8	18	4	0	15.6	76	179	103	78	6	1	0	0	4.7	WSW	0.1	NE	21+	14	5	11	5.1	66
NANTUCKET	13	1017.0	1017.5	21.7	15.6	18.7	2.1	27.8	5	6.7	30	0	0	16.7	88	83	- 3	41	7	2	0	0	5.9	WSW	17.9	E	21	4	10	16	7.1	48
PITTSFIELD	357			25.6	12.2	18.9	4.3	31.7	4+	- 0.6	30	0	1			44	- 64	22	7		0	0										
WORCESTER	301	982.0	1018.4	23.9	13.9	18.9	2.7	31.1	1	5.0	29	0	0	15.0	80	144	52	101	8	0	0	0	3.4	W	15.6*	NE	21	13	7	10	4.9	
MICHIGAN																																
ALPENA	210	991.1		23.3	10.0	16.6	2.2	32.2	10	- 3.3	29	1	2			152	55	65	11	5	0	0	3.0	SW#	12.1	E	13	7	12	11	5.9	59
DETROIT	189	991.6	1018.3	25.6	15.6	20.4	2.5	31.1	11+	2.2	29	0	0	15.6	75	141	70	46	12	6	0	0	3.9	SW	17.0	W	2	14	5	11	4.9	64
DETROIT M WAYNE CO	192	993.9	1017.9	25.0	15.0	19.9		32.2	10	1.7	29	1	0	15.6	77	148		53	14	8	0	0	3.9	SW				15	4	11	4.8	
DETROIT WILLOW RUN	217	989.5	1017.9	26.1	13.3	19.7	1.7	32.2	11+	- 1.1	29	2	1	15.6	81	166	89	56	12	9	0	0	3.5	SSW	12.5*	WSW	30	13	6	11	5.1	
ESCANABA U	181	993.2		20.0	11.1	15.6	1.4	28.9	3	1.7	29+	0	0	12.2	81	90	11	34	12	2	0	0	4.9		13.9	N	13	8	9	13	6.0	56
FLINT	233	990.3	1018.2	25.0	13.3	18.9	2.5	32.2	10	- 1.1	29	1	1	14.4	78	78	- 10	30	13	7	0	0	3.6	S	11.2*	NNW	25	13	7	10	5.1	
GRAND RAPIDS	208	992.1	1017.4	25.0	13.9	19.4	2.8	32.2	10	0.6	29	1	0	13.9	74	232	145	89	14	10	0	0	4.1	S	15.6	W	30	9	9	12	5.7	58
LANSING	260	985.6	1017.6	25.0	13.3	19.1	2.6	31.1	10	- 1.1	29	0	1	14.4	78	117	40	44	12	7	0	0	5.5	SSE	20.1	N	25	9	7	14	5.5	66
MARQUETTE U	206	987.9		20.0	10.6	15.4	1.1	33.3	9	1.7	29	1	0			123	36	33	12	3	T	0	4.1	W#	13.0	SW	17	8	7	15	6.3	63
MUSKEGON	191	993.8	1017.0	23.9	15.0	19.3	3.1	31.1	10	2.2	29	0	0	13.9	73	217	132	48	16	10	0	0	4.1	SSW	17.9*	SSW	22	11	8	11	5.5	
SAULT STE MARIE	220	993.2	1016.2	20.6	10.6	15.4	2.6	30.6	1	0.0	29	0	1	11.7	80	92	3	32	14	6	10	T	4.7	SW	11.2*	WNW	27	3	9	18	7.3	46
MINNESOTA																																
DULUTH	435	973.2	1014.8	18.3	6.7	12.6	-0.4	32.2	9	- 4.4	28	1	6	6.7	70	76	- 5	17	12	4	T	0	3.8	SSW	16.1	W	27	4	8	18	7.2	46
INTERNATIONAL FALLS	359	972.4	1014.2	16.1	6.1	11.2	-0.7	28.9	8+	- 3.9	28	0	5	7.2	79	187	116	71	14	5	T	0	3.8	S	13.4*	SW	1	4	5	21	7.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

SEPTEMBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	°C.	°C.	°C.	°C.	°C.		°C.				°C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
II MINNESOTA																																
MINNEAPOLIS	253	981.7	1015.3	20.6	9.4	15.1	-1.7	33.9	2	- 2.8	28	1	2	10.6	75	76	4	25	12	5	3	T	3.9	S	13.9	SW	2	7	8	15	6.5	46
ROCHESTER	395	968.2	1015.8	20.6	9.4	14.9	-1.1	31.7	2	- 2.8	28	0	1	10.6	79	101	- 2	35	16	9	20	T	5.6	S				10	6	14	6.9	
ST CLOUD	315	976.8	1014.9	19.4	8.9	14.1	-0.8	34.4	2	- 3.9	28	2	3		75	75	- 1	18	12	6	T	0						5	8	17	6.9	
MISSISSIPPI																																
JACKSON	93	1005.2	1017.1	30.0	18.9	24.4	-0.4	33.9	5+	9.4	19	12	0	18.9	76	31	- 22	13	10	6	0	0	2.4	S	11.2	SW	13	10	13	7	4.9	61
MERIDIAN	89	1004.1	1017.8	30.6	17.8	24.2	-0.2	34.4	4+	8.9	19+	13	0	19.4	81	47	- 19	18	8	2	0	0	2.4	N	9.4*	WNW	5	10	11	9	5.1	
VICKSBURG U	71	1008.4		28.9	18.9	24.0	-1.0	33.3	4	9.4	16	5	0			54	9	17	10	8	0	0	3.5		18.3	SW	13	11	13	6	4.9	53
MISSOURI																																
COLUMBIA	237	987.4	1016.1	26.1	13.9	19.9	-0.4	34.4	2	6.1	28+	2	0	15.0	77	208	91	88	7	4	0	0	4.5	SSE	13.4	NW	24	13	9	8	4.6	64
KANSAS CITY	226	981.3	1016.1	24.4	13.3	18.9	-2.6	32.8	2	5.0	28	1	0	12.2	70	294	196	138	12	8	0	0	4.3	S	15.6	SW	29	14	5	11	4.9	63
ST JOSEPH	247	981.1		23.9	12.2	17.9	-3.1	33.9	2	3.9	30	2	0			247	138	113	10	7	0	0	5.5	S	15.6*	WNW	30	14	4	12	4.9	
ST LOUIS	163	996.6	1017.2	28.3	15.0	21.7	0.4	33.9	10+	6.1	26	12	0	13.9	63	102	12	49	8	5	0	0	4.3	S	15.6	SW	30+	12	12	6	4.1	75
ST LOUIS RFC	142			27.8	17.2	22.5	0.6	33.3	9	8.9	15	9	0			93	7	36	7		0	0										
SPRINGFIELD	386	969.6	1016.8	27.2	13.9	20.4	-0.2	34.4	2	3.3	15	4	0	15.0	74	151	53	67	9	6	0	0	5.6	SSE	20.1	NW	13	13	9	8	4.8	79
MONTANA																																
BILLINGS	1087	891.0	1014.9	17.2	5.6	11.4	-4.2	29.4	16	- 1.1	30+	0	3	3.3	62	101	68	37	14	5	58	T	4.8	WSW	14.8	NW	2	8	5	17	6.6	53
GLASGOW	694	939.7		16.7	4.4	10.6	-3.4	29.4	17+	- 6.1	30	0	4	2.2	62	52	21	25	9	2	T	0						8	6	16	6.3	
GREAT FALLS	1116	888.3	1015.4	16.1	3.9	10.1	-3.7	29.4	5	- 1.7	29+	0	8	0.6	58	50	13	18	9	0	10	T	4.9	SW	18.3	SW	28	8	7	15	6.2	51
HAVRE	787	925.5		17.8	2.8	10.4	-3.4	32.2	5	- 6.1	27	1	12			32	3	23	7	0	0	0	4.5	NW#	16.1	NW	28	13	6	11	5.2	74
HELENA	1187	874.4	1016.5	16.1	2.2	9.4	-3.3	28.9	5	- 5.0	27+	0	9	1.1	61	29	0	9	12	2	T	T	3.8	WNW	18.8	S	16	8	6	16	6.3	50
KALISPELL	904	912.0		17.2	2.2	9.5	-3.0	27.8	5	- 4.4	19	0	8			53	20	17	10	5	T	T	2.9					9	6	15	6.2	
MILES CITY	801			17.8	5.0	11.4	-4.3	32.2	16	- 3.9	30	1	6	3.9	64	72	41	30	12	3	T	0	4.8	NW	15.6*	NW	28+	8	5	17	6.5	
MISSOULA	972	902.5	1017.5	17.2	2.8	9.9	-3.3	27.8	5	- 4.4	24	0	9	3.3	68	39	12	11	11	2	T	0	3.0	NW	12.1	W	5	5	8	17	6.6	56
NEBRASKA																																
GRAND ISLAND	561	949.1		22.8	10.0	16.2	-3.2	34.4	10	0.0	28	5	1	8.3	65	65	- 1	41	12	7	T	T	5.5	S				13	5	12	5.2	
LINCOLN U	351			22.2	11.1	16.9	-3.2	36.7	2	1.1	28	4	0			145	71	49	13	9	0	0	5.5	S#	16.1	SE	19	9	10	11	5.4	60
NORFOLK	471	959.3		21.7	8.9	15.2	-2.9	32.8	9	- 2.2	28	3	3			47	- 24	17	8	3	18	25						12	4	14	5.6	
NORTH PLATTE	847	915.4	1013.8	21.7	6.7	14.2	-3.5	33.9	8	- 2.2	25	4	2	6.7	64	71	26	31	11	2	T	0	5.7	SSE	22.4	N	29	11	8	11	5.5	61
OMAHA	298	975.8	1015.8	22.2	11.7	16.8	-2.6	34.4	2	1.7	28	1	0	11.7	75	121	41	45	11	9	T	0	5.9	SSE	17.4	NW	13	12	6	12	5.3	55
OMAHA N OMAHA AP	403	967.7		21.1	10.6	16.0	-2.4	33.3	2	1.1	30	1	0			120	40	38	11	10	T	0						11	6	13	5.7	
SCOTTSBLUFF	1204	878.6	1013.9	21.1	5.6	13.4	-3.4	31.7	18+	- 1.7	30	0	1	4.4	60	48	15	18	8	2	T	0	4.8	WNW	17.0*	NNW	2	8	10	12	5.8	
VALENTINE	789	923.1		22.2	6.1	14.0	-2.4	35.0	9+	- 1.7	13	6	6	6.1	62	47	17	18	9	1	T	T	5.3	N#	25.5	S	28	12	5	13	5.3	60
NEVADA																																
ELKO	1547	844.2	1014.3	22.2	1.7	11.9	-2.4	28.9	15+	- 7.2	25	0	11	- 3.3	38	2	- 8	1	3	0	T	0	2.9	SW	11.6*	WNW	1	13	8	9	4.6	
ELY	1907	809.0		21.7	1.1	11.4	-2.9	28.9	1	- 6.7	30	0	13	- 5.0	36	10	- 7	9	2	0	T	T	4.4	S	15.2	S	17	17	7	6	3.8	91
LAS VEGAS	659	945.1	1009.3	32.2	16.1	24.2	-2.8	36.7	13+	12.2	25	17	0	0.0	24	7	- 2	4	2	2	0	0	4.3	SW	16.5*	SW	16	24	5	1	1.9	94
RENO	1342	861.5	1014.6	25.6	1.1	13.3	-2.6	31.7	5	- 3.9	30	0	11	- 0.6	43	10	4	8	3	1	0	0	2.6	SW	13.0	SW	1	19	8	3	2.6	90
WINNEMUCCA	1310	867.9		22.8	2.8	12.7	-2.8	30.6	5	- 5.6	25	0	9	- 2.2	40	22	14	20	4	1	0	0	3.4	W	13.4	W	1	14	8	8	4.2	75
NEW HAMPSHIRE																																
CONCORD	103	1007.8	1018.5	26.1	12.8	19.5	4.6	33.3	4	0.6	30	6	0	13.9	75	87	1	27	6	0	0	0	2.0	NW	10.7	NE	21	12	10	8	5.0	63
MT WASHINGTON OBS	1909	816.5		12.8	6.1	9.6	4.5	17.2	1	- 6.1	29	0	6		83	129	- 37	45	8	0	0	0	10.2	W	33.1 Y	W	28	7	11	12	6.4	43
NEW JERSEY																																
ATLANTIC CITY	18	1016.4	1018.4	28.3	17.8	23.0	3.3	35.0	3	5.6	30	9	0	17.2	75	85	- 0	77	6	2	0	0	4.6	NE	20.6*	NW	21	13	9	8	4.4	64
ATLANTIC CITY U	3			25.6	19.4	22.4	2.2	31.1	3	11.7	29	0	0			85	- 4	35	6				4.8		28.2*	NNW	21					
NEWARK	3	1017.2	1018.4	28.3	18.9	23.6	4.3	35.0	12+	9.4	30	9	0	17.2	70	38	- 61	22	6	0	0	0	4.0	SW	20.6*	NNW	21	14	8	8	4.4	
TRENTON U	17	1010.9		27.8	17.8	22.7	3.3	33.9	12+	6.7	30	8	0			44	- 52	31	5	4	0	0	3.6	S#	15.2	NW	21	13	9	8	4.7	72
NEW MEXICO																																
ALBUQUERQUE	1618	849.0	1012.0	26.1	11.1	18.7	-2.4	30.6	2	4.4	4	0	0	5.6	48	28	1	20	4	3	0	0	3.4	N	18.8	SW	18	14	10	6	3.7	84
CLAYTON	1515	845.9		23.3	8.3	15.7	-3.1	32.2	2	0.6	4	1	0			76	29	39	8	5	0	0						18	4	8	3.8	
RATON	1944	806.6		22.8	5.6	14.2	-1.8	28.9	2	- 1.1	4	0	1			38	- 13	17	7	4	T	0						16	7	7	4.2	
ROSWELL	1101	892.7		30.6	11.7	20.9	-0.9	36.1	23+	4.4	4	12	0	8.9	53	11	- 40	7	3	2	0	0	3.8		11.2	W	8	17	8	5	3.6	
SILVER CITY	1638	834.4		26.7	12.2	19.2		30.6	27	8.3	25	0	0			50		17	8	8	0	0						16	9	5	3.7	
NEW YORK																																
ALBANY	84	1014.5	1018.4	26.7	14.4	20.5	4.1	32.8	4+	1.1	30	5	0	15.6	77	63	- 17	34	6	3	0	0	2.8	S	21.5	S	2	11	11	8	5.0	70

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

SEPTEMBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No of days: Max 32.2 °C or above	No of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No of days: 2.5 mm or more	With thunderstorms	Snow Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile (1.6 kilometers): Speed	Direction	Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C	C.	C	C	C		C.				C.	%	Mm.	Mm	Mm			Mm	Mm	M p s		M.p s							%
II NEW YORK																																
BINGHAMTON	485	960.3	1019.2	23.9	13.3	18.8	3.4	30.0	4+	2.2	29	0	0	14.4	77	15	- 67	7	4	2	0	0	3.1	SW	10.7	S	26+	9	12	9	5.1	72
BUFFALO	215	990.7	1018.9	26.1	14.4	20.3	3.4	31.7	14+	3.3	29	0	0	15.0	74	64	- 12	54	7	2	0	0	3.7	SW	15.2	SW	26	10	13	7	5.0	72
NEW YORK U	40	1006.7		28.3	18.3	23.1	2.9	35.0	2	9.4	18+	8	0	16.7	73	43	- 59	33	5	0	0	0	3.6	NE	16.1	N	21	19	3	8	3.7	69
NEW YORK	6	1016.2	1018.2	27.2	19.4	23.1	2.9	35.0	1	10.0	18	6	0	16.7	69	49	- 41	37	5	1	0	0	5.8	NE	22.4	NNW	21	11	11	8	4.9	
ROCHESTER	166	999.4	1018.6	26.7	13.9	20.3	3.6	32.2	14+	2.2	30	3	0	14.4	73	10	- 58	5	6	1	0	0	4.2	SSW	15.6	W	26	11	13	6	4.6	69
SCHENECTADY	66			25.6	14.4	20.2	3.7	31.7	4+	3.3	30	0	0			32	- 51	12	5	2	0	0						20	7	3	2.9	
SYRACUSE	129	996.6	1018.5	26.7	15.0	20.8	3.4	32.8	13+	2.8	30	4	0	15.0	71	31	- 43	15	4	3	0	0	3.9	WSW	15.6	W	14	11	12	7	4.7	69
NORTH CAROLINA																																
ASHEVILLE U	671	941.3		26.1	14.4	20.2	0.3	32.2	3	5.6	17	1	0			27	- 42	22	4	3	0	0	2.6		9.4	NW	15	12	14	4	4.2	69
CAPE HATTERAS R	2	1016.2	1016.9	27.8	21.1	24.3	0.3	31.7	3	17.8	30+	0	0	21.1	82	87	- 68	40	9	5	0	0	5.5	ENE	16.1	N	20+	12	8	10	4.9	68
CHARLOTTE	221	990.8	1018.7	30.0	18.3	24.1	1.6	34.4	26+	10.6	16	10	0	16.7	68	2	- 91	1	2	0	0	0	2.7	NNE	9.4	NE	17	13	13	4	4.4	79
GREENSBORO	272	987.7	1019.4	28.3	16.1	22.2	0.7	33.9	3	8.9	16	5	0	16.7	75	5	- 88	4	3	1	0	0	3.2	NE	11.2	NE	17+	14	11	5	4.1	75
RALEIGH	132	1004.7	1018.5	28.9	16.7	22.9	0.3	33.3	4+	7.8	17	7	0	17.8	77	32	- 82	16	5	2	0	0	2.9	N	11.2*	E	2	17	8	5	4.2	66
WILMINGTON	9	1014.9	1017.8	30.0	19.4	24.6	0.5	33.9	4	11.7	17	9	0	20.6	82	108	- 43	49	11	6	0	0	3.8	N	13.9	E	4	10	10	10	5.5	74
WINSTON SALEM	295	984.2	1019.4	27.8	17.2	22.6	1.0	33.3	25+	8.3	16	3	0	16.1	69	11	- 77	8	4	4	0	0	3.9	NE	12.1*	NE	19+	14	12	4	4.0	
NORTH DAKOTA																																
BISMARCK	502	953.7	1014.3	18.3	4.4	11.3	-3.4	30.0	18	- 3.3	28	0	4	4.4	68	71	35	19	14	7	T	0	5.1	WNW	25.5	W	2	8	7	15	6.5	52
DEVILS LAKE U	448	960.5		17.2	5.6	11.5	-2.0	28.9	18	- 3.9	30	0	3			127	74	27	14	4	0	0	3.9	W#	14.3	NE	10	7	9	14	6.7	46
FARGO	274	979.8	1014.3	19.4	7.2	13.3	-1.6	32.8	1	- 4.4	28	1	3	8.3	76	113	69	60	13	3	0	0	5.7	SSE	25.0	N	10	6	5	19	7.1	54
WILLISTON U	572	946.4		17.2	5.0	11.1	-2.9	28.3	17+	- 5.6	30	0	3			63	33	23	14	1	38	T	3.1	W#	11.6	NW	2	7	7	16	6.9	52
OHIO																																
AKRON	369	981.6	1019.7	26.7	14.4	20.4	2.3	31.7	24+	2.8	29	0	0	14.4	72	55	- 37	21	6	4	0	0	3.8	S				13	12	5	4.3	
CINCINNATI OBS	232			28.9	16.1	22.3	1.8	33.3	5+	5.0	29	9	0			52	- 21	30	6	5	0	0	2.1	S#	7.6	W	25					82
CINCINNATI	169	996.0		28.9	17.2	23.2	2.0	34.4	4	7.8	29	12	0			29	- 44	11	6	5	0	0										
CLEVELAND	237	990.8	1018.7	26.1	14.4	20.3	1.7	31.7	3	1.1	29	0	0	14.4	70	60	- 20	24	8	5	0	0	3.8	S	13.4	S	14	13	11	6	4.5	71
COLUMBUS	247	990.6	1019.5	28.3	15.0	21.7	2.5	33.3	24	0.0	29	9	1	15.6	72	27	- 47	11	6	3	0	0	2.7	S	12.5	W	25	16	9	5	3.9	76
COLUMBUS U	221			27.8	16.7	22.2	2.3	33.9	6	5.0	29	6	0			38	- 28	27	4		0	0										
DAYTON	305	982.9	1019.0	27.2	15.6	21.2	1.8	32.8	6	4.4	29	2	0	15.0	70	111	40	53	7	6	0	0	3.8	SSW	18.8	NW	24	16	8	6	3.8	87
MANSFIELD	395			25.6	14.4	20.1		31.7	6	2.8	29	0	0			114		46	10	6	0	0						13	12	5	4.3	
SANDUSKY U	184	996.8		26.7	16.1	21.2	2.1	32.8	13+	4.4	29	4	0			148	66	88	11	7	0	0	3.4		21.0	SW	14	19	7	4	3.3	78
TOLEDO	206	993.1	1018.6	26.7	12.8	19.8	1.9	32.2	11	- 1.7	29	1	1	16.1	82	73	- 4	36	11	8	0	0	3.4	SSW	11.6	SW	30+	14	7	9	4.5	71
YOUNGSTOWN	359	977.0	1019.4	25.6	13.3	19.6	1.4	31.1	3+	1.1	29	0	0	13.9	74	62	- 28	23	8	6	0	0	3.6	SW	13.0*	W	2	14	10	6	4.5	
OKLAHOMA																																
OKLAHOMA CITY	390	972.1	1015.3	27.2	15.6	21.4	-1.9	36.1	2+	8.3	25+	3	0	15.0	70	187	100	92	9	6	0	0	6.1	SSE	24.1	NW	13	11	13	6	4.9	69
TULSA	198	1002.6	1015.5	27.8	15.6	21.5	-1.7	37.2	2	7.8	15+	10	0	16.7	77	187	79	88	8	4	0	0	5.1	SSE	13.9*	SE	30	11	9	10	5.7	63
OREGON																																
ASTORIA	2	1018.0	1018.5	18.9	8.3	13.6	-2.2	29.4	12	4.4	27+	0	0	10.0	81	37	- 40	31	11	1	0	0	3.9	WNW	11.2*	NW	8	9	8	13	6.1	
BURNS U	1265	873.4		20.6	2.8	11.7	-2.9	28.3	5	- 3.9	24	0	10	- 1.7	44	15	5	12	3	0	0	0						16	9	5	3.6	
EUGENE	110	1004.4		22.8	6.7	14.7	-1.3	31.7	12	0.6	26	0	0			28	- 12	17	4	0	0	0	3.8		11.2*	WSW	13	12	8	10	5.0	
MEACHAM	1234			16.1	3.9	9.9	-3.2	24.4	4	- 1.7	24	0	4			28	- 9	10	5	2	T	0						12	9	9	4.6	
MEDFORD	396	971.2	1016.9	26.1	6.1	15.9	-2.1	35.0	4	- 0.6	29	3	1	5.6	59	24	7	20	4	1	0	0	2.0	WNW	8.9*	NW	13+	16	7	7	3.9	
PENDLETON	452	962.4	1015.9	22.8	7.8	15.3	-2.8	31.1	4	1.1	24	0	0	1.1	43	4	- 14	5	1	0	0	0	4.9	W	20.6*	W	1	15	11	4	3.9	
PORTLAND	6	1011.9	1017.7	21.7	8.9	15.3	-1.6	28.3	13	1.1	22	0	0	8.9	69	16	- 30	9	7	0	0	0	3.6	NW	11.6	S	13+	10	10	10	5.5	58
PORTLAND U	9			21.7	11.1	16.4	-1.3	28.3	13+	6.1	26	0	0			20	- 26	8	6		0	0										
ROSEBURG	154	998.6		23.9	6.7	15.2	-1.3	31.7	12	2.2	30+	0	0			18	- 10	10	7	0	0	0	2.1	N#	8.9	N	8+	11	10	9	4.9	71
SALEM	59	1010.5	1017.9	23.3	6.1	14.6	-2.3	32.8	13	- 0.6	26	2	1	7.8	70	23	- 15	11	7	0	0	0	2.2	N	8.0*	WNW	20	13	6	11	5.0	
SEXTON SUMMIT R	1169	884.9		17.2	6.7	12.1	-3.3	27.2	4	2.2	29+	0	0			34	4	15	6	0	0	0	5.6	N				15	6	9	4.1	
PACIFIC AREA																																
CANTON ISLAND	2	1008.8	1009.2	31.7	25.6	28.7	-0.4	32.8	29	23.3	7	14	0	22.8	73	45	27	21	12	0	0	0	5.6	ENE	12.5*	ESE	14	9	14	7	5.2	
ENIWETOK	4	1008.8		30.6	25.0	27.8		32.2	19+	22.8	25+	4	0	24.4	80	259		61	25	1	0	0	5.7									
JOHNSTON	2	1011.5	1014.6	28.9	23.9	26.3		29.4	26+	21.7	29	0	0	22.8	79	29		9	16	0	0	0	7.0		15.6	E	12	4	20	6	5.8	83
KOROR R	29	1006.1	1008.7	30.6	24.4	27.4	0.1	32.2	8	21.7	3	1	0	23.9	84	295	- 43	84	18	6	0	0	3.1	W	11.6	SW	12	0	1	29	9.7	48
KWAJALEIN	2	1008.1	1009.0	30.0	24.4	27.3		31.1	27+	22.8	8	0	0	23.9	80	394		88	24	3	0	0	3.5	E	13.0*	S	21	0	6	24	8.7	
PONAPE R	37	1004.1	1008.7	30.6	22.2	26.5	-0.2	31.7	19+	21.1	21	0	0	23.3	87	526	120	113	26	6	0	0	1.5	ESE	7.6	NW	25+	0	1	29	9.2	53
TAGUAC GUAM R	110			30.0	21.7	25.8	-0.3	31.7	25+	20.0	20+	0	0			391	25	108	26	7	0	0	2.1	SE#	15.2	NE	10					35
TRUK MOEN ISLAND	2	1008.0	1008.3	30.6	23.9	27.1	0.0	31.7	24+	22.8	21+	0	0	24.4	85	435	115	131	24	3	0	0	2.8	SW	13.4	SW	10	0	4	26	9.3	84
WAKE ISLAND	3	1010.8	1011.2	30.6	24.4	27.5	-0.4	31.7	18+	21.1	24	0	0	23.9	80	275	135	117	21	3	0	0	5.7	E	13.4*	SE	21+	3	5	22	8.2	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

SEPTEMBER 1961

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb	Mb.	C	C	C.	C	C		C.				C.	%	Mm.	Mm.	Mm			Mm	Mm	M.p.s.		M.p.s							%
II PACIFIC AREA																																
YAP R	17	1004.4	1007.4	30.0	23.9	27.0	-0.7	32.8	15	20.6	28	1	0	24.4	87	384	24	84	25	8	0	0	3.9	SW	13.9	W	12	0	0	30	10.0	46
PENNSYLVANIA																																
ALLENTOWN	115	1005.1	1019.3	27.8	15.6	21.6	3.4	32.8	12+	2.8	30	5	0	16.1	75	39	- 49	20	6	2	0	0	3.5	SW	13.4*	WNW	21	14	9	7	4.4	
ERIE	223	992.5	1018.5	25.0	15.6	20.3	2.9	32.2	13+	3.9	29	2	0	15.0	73	55	- 31	32	7	6	0	0	5.3	W	16.1*	SSW	14	13	11	6	4.7	
HARRISBURG	102	1005.5	1019.2	28.3	16.7	22.4	3.4	33.9	1	4.4	30	9	0	16.7	75	31	- 35	21	6	4	0	0	3.1	W	9.4	NW	15	15	10	5	4.2	75
PHILADELPHIA	2	1013.9	1018.3	27.2	16.7	21.9	2.1	33.3	5	3.9	30	4	0	16.1	71	61	- 27	24	5	3	0	0	3.8	WSW	15.2	NW	2	12	10	8	4.7	77
PHILADELPHIA U	11			28.9	19.4	24.1	3.3	35.6	3+	10.6	18	10	0																			
PITTSBURGH	351	989.6	1020.2	27.2	13.3	20.3	2.0	32.8	13	2.2	29	1	0	14.4	74	50	- 25	22	8	4	0	0	2.9	SW	13.9*	NW	2	12	11	7	4.9	76
PITTSBURGH U	228			27.8	16.1	21.9	2.0	33.3	12	5.6	29	5	0			45	- 25	23	8		0	0										51
READING U	81	1006.7	1018.2	27.8	17.8	22.8	3.3	33.9	5	5.0	30	9	0			67	- 17	26	6	3	0	0	3.6		18.8	W	2	13	10	7	4.9	69
SCRANTON	287	985.5	1019.7	26.1	14.4	20.2	2.9	31.7	13	2.8	30	0	0	15.6	78	25	- 57	11	9	3	0	0	3.0	ESE	11.2	SW	14	12	9	9	4.8	62
WILLIAMSPORT	161	1000.6	1019.6	27.2	15.0	21.1	3.0	33.9	12	2.8	30	3	0	15.6	78	23	- 62	11	8	6	0	0	2.4	W	10.3*	SSE	14	5	17	8	5.5	
RHODE ISLAND																																
BLOCK ISLAND	34	1012.9	1017.0	22.8	16.7	19.8	2.3	28.3	5	8.3	30	0	0			292	217	184	4	0	0	0						7	12	11	6.5	
PROVIDENCE	17	1011.8	1017.8	25.6	15.6	20.6	3.5	32.8	12+	5.6	30	4	0	16.1	79	201	120	124	7	2	0	0	4.6	N	18.8*	S	15	13	7	10	5.2	58
SOUTH CAROLINA																																
CHARLESTON	12	1015.6	1017.8	30.0	19.4	24.9	0.3	34.4	4	12.8	17	9	0	19.4	78	75	- 64	37	6	7	0	0	3.2	NNE	17.9	NW	4	8	16	6	5.2	72
CHARLESTON U	3			28.9	22.2	25.5	0.1	33.3	4	15.6	17	2	0			31	-104	16	8		0	0	4.4		19.2	NE	4					
COLUMBIA	66	1005.4	1018.1	31.1	17.8	24.6	0.2	36.1	25	10.6	17	14	0	18.3	74	37	- 75	17	4	3	0	0	2.3	NNE	11.2*	ESE	5	14	8	8	4.1	69
FLORENCE	45	1011.9	1017.7	30.6	18.3	24.4	0.3	35.0	4	10.0	17	10	0	18.9	77	54	- 55	25	8	4	0	0	3.3	N	10.3*	E	6	14	11	5	4.2	
GREENVILLE	308	981.8	1018.8	29.4	18.3	23.8	1.0	33.3	25+	9.4	16	9	0	17.2	71	35	- 53	16	5	2	0	0	3.2	NE	9.4	SW	14	10	15	5	4.7	68
SPARTANBURG	244	989.4	1017.1	29.4	17.8	23.4	0.5	33.9	24+	8.3	16	10	0	16.7	71	13	- 80	8	3		0	0	2.9	NNE	12.5	WSW	14	11	14	5	4.6	
SOUTH DAKOTA																																
HURON	391	966.9	1014.2	21.7	7.2	14.5	-2.6	36.1	9	- 2.8	27	4	4	7.8	69	43	- 1	19	6	2	0	0	5.2	SSE	15.6	NW	2	9	8	13	5.9	67
RAPID CITY	965	900.6	1014.4	20.6	5.6	13.1	-2.7	35.0	16	- 3.3	30	2	3	2.2	55	25	- 5	11	10	2	5	T	5.3	NNW	19.2	SW	18	8	9	13	5.9	46
SIOUX FALLS	433	963.1	1014.7	21.7	8.9	15.2	-1.7	33.3	9	- 2.2	30+	2	3	6.3	67	60	- 14	40	9	2	T	T	5.3	SSE	13.4*	NNW	30+	9	9	12	6.0	
TENNESSEE																																
BRISTOL	459	965.6	1019.6	28.3	15.0	21.6	1.3	32.2	24+	6.7	17+	2	0	15.6	75	25	- 45	12	5	3	0	0	2.2	NE	11.2*	NW	25	16	8	6	4.3	
CHATTANOOGA	204	991.5	1019.0	29.4	17.2	23.3	0.8	34.4	4	10.0	18+	10	0	16.7	72	15	- 53	9	3	3	0	0	2.5	NNE	11.6	NE	16	11	14	5	4.6	73
KNOXVILLE	290	984.4	1019.6	28.9	16.1	22.4	0.2	33.3	25+	8.3	18+	5	0	15.6	69	13	- 52	7	5	1	0	0	3.0	NE	17.6	NW	25	12	15	4	4.7	54
MEMPHIS	80	1002.9	1017.6	29.4	17.8	23.7	0.2	34.4	6	8.3	16	14	0	17.2	69	17	- 48	6	5	3	0	0	4.0	E	13.9	S	13	9	16	5	4.9	77
MEMPHIS U	83			28.3	18.9	23.7	-0.1	33.3	11	11.7	15	8	0			41	- 23	20	5		0	0										
NASHVILLE	176	998.5	1018.4	30.0	16.1	23.1	0.2	34.4	24+	6.1	16	14	0	16.7	71	9	- 61	4	4	3	0	0	2.8	S	12.1	SE	13	11	15	4	4.5	73
OAK RIDGE	276	986.5		28.9	15.6	22.3	0.8	32.8	24	6.7	18+	2	0			10	- 54	4	7	4	0	0	1.5		11.6Y		12	14	12	4	5.8	
TEXAS																																
ABILENE	536	951.7	1013.6	28.9	16.7	22.7	-1.4	35.0	3+	9.4	15	8	0	16.1	68	200	134	170	7	5	0	0	5.0	S	16.1	SE	2	15	8	7	4.6	66
AMARILLO	1099	890.9	1012.9	27.2	12.2	19.8	-0.9	35.6	2	5.6	25	4	0	9.4	57	47	- 10	31	7	5	0	0	6.1	S	14.8	N	27+	15	11	4	3.5	81
AUSTIN	182	991.9	1013.6	31.1	20.6	25.7	-0.6	36.1	1	12.8	17	16	0	18.3	68	93	- 10	73	2	2	0	0	4.6	S	6.1	NE	12+	8	16	6	5.2	63
BROWNSVILLE	5	1009.7	1012.2	30.6	23.3	26.9	-0.5	35.0	13	18.3	18	9	0	22.8	80	338	208	146	11	3	0	0	5.5	SE	17.9	SE	14	8	13	9	5.4	60
CORPUS CHRISTI	13	1011.4	1012.6	31.1	22.8	26.8	-0.3	35.6	1	17.2	18	15	0	21.7	77	80	- 40	29	8	2	0	0	6.1	SE	28.2	NW	11	5	14	11	6.2	65
DALLAS	147	995.8	1014.4	30.6	20.0	25.2	-0.9	36.7	1	11.7	15	14	0	17.2	64	141	72	109	5	2	0	0	5.9	S	18.8	SE	12	12	13	5	4.6	66
DEL RIO U	292			32.8	21.7	27.3	0.7	37.8	1	15.6	15	21	0			22	- 42	17	3	1	0	0										
EL PASO	1194	885.6	1011.4	30.0	17.2	23.6	-0.2	33.9	27+	11.7	16	8	0	10.0	46	18	- 11	10	7	5	0	0	3.2	NNE	20.1	W	28	17	8	5	5.5	86
FORT WORTH	168	993.5	1014.1	30.6	19.4	24.9	-0.7	37.2	1	12.2	17+	15	0	17.2	64	74	6	55	4	1	0	0	7.1	S	23.1*	ESE	12	13	12	5	4.4	
GALVESTON U	2			28.3	23.9	26.0	-0.8	32.2	6	17.2	17	1	0			391	253	246	7		0	0	6.6		35.8	SE	11					76
GALVESTON	2	1013.2	1014.0	28.9	23.9	26.3	-0.6	32.2	6	18.3	17+	1	0	16.7	64	413	265	189	5	2	0	0	6.5	SE				14	9	7	4.5	
HOUSTON U	12			30.6	22.8	26.8	0.1	34.4	6+	15.6	17	14	0			106	13	65	6		0	0										
HOUSTON	15	1011.4	1014.1	31.1	21.7	26.5	0.6	35.6	6	15.0	18+	15	0	20.6	75	200	90	132	8	4	1	0	4.5	SSE				8	16	6	5.1	73
LAREDO	152	997.1	1012.3	34.4	22.8	28.5	-0.1	39.4	1	17.8	18	23	0	18.9	61	68	- 12	59	6	4	0	0	5.7	SE	15.6*	NW	11	9	14	7	5.0	
LUBBOCK	988	903.9	1013.9	28.3	13.3	21.1	-0.7	34.4	2	7.8	5	7	0	12.2	60	5	- 68	2	4	3	0	0	5.8	S	15.6*	S	2	15	11	4	5.7	
MIDLAND	870	915.0	1012.5	30.0	16.1	22.9	-1.1	36.1	2+	10.0	15	9	0	13.3	59	79	25	45	4	1	0	0	5.2	SSE	12.5*	SSE	3	12	12	6	4.6	
PORT ARTHUR	5	1012.9	1014.4	31.1	21.1	26.2	0.7	35.6	6	12.2	17	16	0	21.1	80	122	- 2	64	6	6	0	0	6.1	NE	24.9	SE	12+	8	17	5	5.2	61
SAN ANGELO	580	946.8	1013.0	30.0	17.8	23.8	-0.9	37.8	1	11.1	15	11	0	16.1	67	75	17	71	6	2	0	0	4.9	SSW	15.6*	NE	11	11	13	6	4.7	
SAN ANTONIO	241	988.5	1013.3	32.2	21.7	26.9	0.6	37.2	2+	13.9	18	18	0	18.9	66	57	- 29	27	5	1	0	0	4.9	SSE	21.0	N	11	7	17	6	5.0	60
VICTORIA	32	1008.1		31.1	21.7	26.4	-0.7	35.0	9+	15.6	19+	15	0			166	73	141	7	2	0	0			67.1Y	NNE	11	6	16	8	5.4	
WACO	152	993.2	1014.0	31.1	20.0	25.6	-0.5	36.1	6+	13.3	17+	16	0	18.3	67	58	- 18	52	3	2	0	0	6.7	S	20.6*	NNE	11	12	15	5	4.5	
WICHITA FALLS	303	977.5	1013.8	30.0	17.8	23.7	-0.9	38.3	2	11.7	25+	14	0	16.1	65	107	38	55	7	3	0	0	5.9	S	17.9*	N	12+	12	12	6	4.5	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

SEPTEMBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
II UTAH																																
MILFORD	1533	843.9		23.9	5.0	14.3	-2.7	30.0	6	- 3.3	30	0	3			42	32	25	7	5	0	0						17	7	6	3.7	
SALT LAKE CITY	1286	867.3	1014.0	23.3	7.8	15.6	-2.3	33.3	6	0.0	24	3	1	3.9	52	28	9	17	8	5	0	0	4.7	SSE	17.9	N	1	12	5	13	5.5	64
WENDOVER	1291	869.6		22.8	10.0	16.2		32.8	1	2.8	25	1	0			12		10	3	5	0	0						12	13	5	4.1	
VERMONT																																
BURLINGTON	101	1003.3	1017.8	25.0	12.2	18.6	3.1	31.1	4+	- 0.6	30	0	1	14.4	79	68	- 11	37	8	4	0	0	2.8	SSW	14.8	W	4	9	11	10	5.4	64
VIRGINIA																																
LYNCHBURG	289	994.9		27.2	16.1	21.8	1.3	33.3	3	7.8	16	2	0			103	24	48	9	5	0	0	3.2		11.6	NE	7	18	5	7	3.8	74
NORFOLK	8	1017.1	1018.5	28.3	20.0	24.1	1.8	34.4	3	10.0	30	4	0	20.0	80	41	- 57	16	7	3	0	0	4.5	NE	15.6	SE	14	14	8	8	4.6	65
RICHMOND	49	1013.2	1019.4	29.4	16.7	23.1	1.8	35.0	3	3.9	30	12	0	17.8	78	42	- 51	22	10	6	0	0	3.1	NNE	9.8	NE	18	14	8	8	4.7	66
ROANOKE	358	978.0	1020.0	28.3	16.1	22.2	1.6	35.0	12+	7.2	16	10	0	16.1	72	45	- 41	36	6	4	0	0	2.7	NNE	10.3*	NW	15	14	8	8	4.3	
WASHINGTON																																
OLYMPIA	58	1010.5	1018.2	21.1	5.6	13.3	-1.2	30.0	13	- 1.1	29	0	3	8.3	75	8	- 37	5	4	0	0	0	2.8	WSW	13.0*	WSW	28	5	14	11	6.2	
SEATTLE TACOMA	122	1003.4	1017.6	20.0	9.4	14.8	0.0	30.0	13	3.9	29	0	0	7.8	69	12	- 30	5	9	0	0	0	3.8	SW	16.5*	SW	28	5	15	10	5.7	
SEATTLE	4		1017.5											8.9	69								2.4	SSE								
SEATTLE U	4			20.6	11.7	16.1	-0.1	31.1	13+	7.8	29+	0	0			16	- 24	7	7		0	0			19.2	SW	28					57
SPOKANE	718	946.2	1015.3	20.6	6.1	13.3	-1.8	27.2	16	0.6	30+	0	0	0.0	45	4	- 19	3	8	0	0	0	3.8	SW	17.0	SW	28	9	12	9	5.1	69
STAMPEDE PASS R	1206	880.5		12.2	3.9	8.1	-2.6	21.1	4	- 0.6	29	0	3			141	38	77	12	1	76	51						12	3	15	5.8	
TATOOSH ISLAND	31	1014.9	1018.1	14.4	9.4	11.8	-0.7	25.0	13	6.1	29+	0	0	9.4	89	64	- 29	21	12	0	0	0	5.2	S	18.8	E	13	7	5	18	7.0	46
WALLA WALLA U	289	979.0		22.8	10.6	16.6	-1.9	30.0	4	5.6	24	0	0			4	- 18	1	3	0	0	0	2.4	W#	12.5	W	28	16	4	10	4.3	82
YAKIMA	323	977.0	1016.2	23.9	5.6	14.6	-1.6	29.4	4	- 1.1	29	0	4	2.8	50	T	- 10	T	0	0	0	0	3.9	WNW	14.3*	WSW	1	20	7	3	2.9	
WEST INDIES																																
SAN JUAN P.R. U	14			30.0	23.9	27.1	0.2	34.4	17	23.3	24+	3	0			41	-111	8	10	6	0	0										
SAN JUAN P.R.	5	1011.3	1014.3	31.7	23.3	27.3	0.5	33.9	17	21.7	24+	8	0	22.2	78	49	-140	14	10	6	0	0	2.6	ENE	10.3	E	21+	1	20	9	6.4	65
WEST VIRGINIA																																
CHARLESTON	286	984.5	1019.9	28.3	15.6	21.7	1.4	32.8	13+	3.9	29	11	0	16.1	76	38	- 37	15	7	3	0	0	1.7	SW	10.3*	WNW	25+	7	18	5	5.4	
HUNTINGTON U	173			28.9	16.7	22.6	1.2	35.0	6	6.1	29	12	0			27	- 46	13	7		0	0										
PARKERSBURG U	189			28.9	15.0	22.1	1.9	33.9	13+	2.8	29	11	0			17	- 59	8	4	4	0	0	2.2		21.9	W	25					74
WISCONSIN																																
GREEN BAY	210	993.1	1016.0	22.2	10.6	16.4	0.7	32.2	10+	- 1.1	29	2	2	11.7	75	128	55	44	11	5	0	0	5.4	SW	15.6	SW	21	10	8	12	5.6	49
LA CROSSE	199	990.9		21.1	11.7	16.4	-0.4	31.7	10+	0.0	28	0	1	11.7	77	126	29	51	15	6	T	0	4.7	S	17.9*	W	2	9	7	14	6.2	
MADISON	262	981.3	1016.2	22.8	10.6	16.5	-0.2	32.2	10+	- 1.1	29	2	2	12.8	79	201	100	91	11	5	0	0	4.3	S	16.5	S	1	11	5	14	6.1	56
MILWAUKEE	204	992.2	1017.4	23.9	12.2	18.2	1.2	33.9	10	- 0.6	29	3	1	13.3	76	239	154	67	13	9	0	0	4.4	SSW	17.0	SW	30	12	7	11	4.9	58
WYOMING																																
CASPER	1621	836.8	1013.7	17.8	3.9	10.8	-3.7	28.9	16+	- 4.4	30+	0	7	1.7	60	62	31	18	13	4	160	51	5.5	SW	17.9*	W	11	7	12	11	6.1	
CHEYENNE	1869	812.1	1014.6	18.3	3.3	10.8	-3.3	28.9	8	- 3.3	30	0	7	0.6	57	55	25	18	11	3	20	T	5.8	WNW	17.0	W	20	8	9	13	6.2	54
LANDER	1696	834.7		17.8	2.8	10.3	-3.8	28.9	16	- 3.9	30	0	8	1.7	61	40	9	18	13	4	102	51	2.7	SW#	20.1	SW	16	7	10	13	6.0	72
SHERIDAN	1202	884.2	1011.4	17.8	3.3	10.4	-4.0	32.2	16	- 6.1	30	1	9	2.8	64	65	28	29	13	1	T	T	3.8	NW	21.5	NW	10	8	8	14	6.2	52

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.
A Maximum hourly average.
\+ And also on an earlier date or dates.
Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
\# Wind direction to 8 compass points only.
Y Peak Gust.

Data in this table is obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	3	3	13
Huntsville	11	11	
Mobile	0	0	0
Montgomery	2	2	0
ALASKA			
Anchorage	489	1028	1040
Annette	355	617	836
Barrow	927	2663	2641
Barter Island	951	2528	
Bethel	580	1397	1298
Cold Bay	504	1416	1390
Cordova	556	1346	1233
Fairbanks	622	1095	1057
Juneau	511	1112	1134
King Salmon	521	1305	1160
Kotzebue	655	1453	1550
McGrath	616	1316	1193
Nome	637	1671	1660
St. Paul	591	1771	1710
Shemya	506	1651	
Yakutat	496	1224	1257
ARIZONA			
Flagstaff	330	401	370
Phoenix (U)	0	0	0
Phoenix	0	0	0
Prescott	51	52	34
Tucson	0	0	0
Winslow	33	33	20
Yuma	0	0	0
ARKANSAS			
Ft. Smith	14	14	5
Little Rock	10	10	10
Texarkana	4	4	0
CALIFORNIA			
Bakersfield	0	0	0
Bishop	39	39	55
Blue Canyon	155	197	182
Burbank	5	5	11
Eureka (U)	281	765	779
Fresno	0	0	0
Long Beach	0	0	
Los Angeles (U)	2	2	17
Los Angeles	1	1	109
Mt. Shasta (R)	214	249	248
Oakland	39	108	237
Point Arguello (R)	181	545	
Red Bluff	2	2	0
Sacramento (U)	7	7	17
Sacramento	6	6	22
Sandberg (R)	93	99	26
San Diego	0	0	42
San Francisco (U)	91	385	476
San Francisco	61	171	381
San Jose (U)	14	20	44
Santa Maria	106	203	303
COLORADO			
Alamosa	354	464	494
Colorado Springs	321	355	153
Denver	273	284	136
Grand Junction	196	196	36
Pueblo	184	188	74
CONNECTICUT			
Bridgeport	41	45	66
Hartford	78	91	115
Middletown	68	73	
New Haven	41	42	111
DELAWARE			
Wilmington	36	36	47
DIST. OF COLUMBIA			
Washington (U)	15	15	32
Washington	16	16	37
FLORIDA			
Apalachicola (U)	0	0	0
Daytona Beach	0	0	0
Fort Myers	0	0	0
Jacksonville	0	0	0
Key West	0	0	0
Lakeland (U)	0	0	0
Miami	0	0	0
Miami Beach	0	0	0
Orlando	0	0	0
Pensacola (U)	0	0	0
Tallahassee	0	0	0
Tampa	0	0	0
West Palm Beach	0	0	0
GEORGIA			
Athens	5	9	5
Atlanta	12	12	8
Augusta	8	6	0
Columbus	0	0	0
Macon	3	3	0
Rome	16	16	8
Savannah	3	3	0
Thomasville (U)	0	0	0
IDAHO			
Boise	239	239	135
Idaho Falls 46W (R)	420	432	373
IDAHO (Cont'd.)			
Idaho Falls 42NW(R)	444	468	417
Lewiston	169	169	133
Pocatello	342	344	183
ILLINOIS			
Cairo (U)	16	16	28
Chicago (Midway)	77	82	90
Chicago (O'Hare)	126	152	
Moline	121	122	104
Peoria	120	127	97
Rockford	133	145	
Springfield	75	79	89
INDIANA			
Evansville	44	45	59
Ft. Wayne	79	82	124
Indianapolis	60	63	79
South Bend	79	91	119
IOWA			
Burlington	125	125	83
Des Moines	167	167	116
Dubuque	174	185	185
Sioux City	189	195	153
Waterloo	184	187	169
KANSAS			
Concordia (U)	145	145	55
Dodge City	126	127	40
Goodland	245	245	95
Topeka	116	121	67
Wichita	86	88	32
KENTUCKY			
Lexington	32	32	56
Louisville	30	30	51
LOUISIANA			
Alexandria	6	6	
Baton Rouge	0	0	0
Lake Charles	0	0	0
New Orleans (U)	0	0	0
New Orleans	0	0	0
Shreveport	1	1	0
MAINE			
Caribou	188	353	572
Greenville (U)	166	343	
Portland	104	217	270
MARYLAND			
Baltimore (U)	12	12	29
Baltimore	30	30	50
Frederick	61	64	47
MASSACHUSETTS			
Blue Hill Obs. (R)	69	101	
Boston	51	60	84
Nantucket	53	83	167
Pittsfield	100	187	301
Worcester	88	141	
MICHIGAN			
Alpena	172	315	350
Detroit (City AP)	64	70	104
Detroit (M. Wayne Co.)	74	83	
Detroit (Willow Run)	83	88	106
Escanaba (U)	208	277	404
Flint	103	148	188
Grand Rapids	89	107	187
Lansing	100	143	
Marquette (U)	224	320	392
Muskegon	80	98	226
S. Ste. Marie	214	345	533
MINNESOTA			
Duluth	343	433	445
Internat. Falls	395	474	544
Minneapolis	239	249	182
Rochester	244	259	244
St. Cloud	278	295	310
MISSISSIPPI			
Jackson	5	5	0
Meridian	7	7	0
Vicksburg (U)	6	6	0
MISSOURI			
Columbia	80	87	68
Kansas City	100	144	44
St. Joseph	121	121	54
St. Louis (RFC)	33	33	38
St. Louis	52	52	45
Springfield	69	73	69
MONTANA			
Billings	379	384	222
Butte	606	691	739
Glasgow	419	421	288
Great Falls	449	462	347
Havre	432	443	328
Helena	476	484	422
Kalispell	467	493	456
Miles City	386	389	204
Missoula	448	464	371
NEBRASKA			
Grand Island	203	203	90
Lincoln (U)	183	187	86
Norfolk	233	237	139
North Platte	278	278	138
Omaha	174	178	93
Omaha N. Omaha AP	204	210	
Scottsbluff	291	292	137
Valentine	301	301	166
NEVADA			
Elko	341	343	263
Ely	368	393	294
Las Vegas	0	0	0
Reno	267	283	253
Tonopah	153	154	101
Winnemucca	297	300	197
NEW HAMPSHIRE			
Concord	86	132	260
Mt. Washington Obs. (R)	466	1471	
NEW JERSEY			
Atlantic City	29	29	
Atlantic City (U)	10	10	29
Newark	21	21	47
Trenton (U)	34	34	55
NEW MEXICO			
Albuquerque	43	43	10
Clayton	172	174	68
Raton	221	233	201
Roswell	21	21	8
Silver City	17	17	
NEW YORK			
Albany	79	108	163
Binghamton	117	192	271
Buffalo	76	123	168
New York (U)	20	20	39
New York (LaGuardia)	22	22	28
Rochester	82	131	176
Schenectady	77	101	156
Syracuse	70	97	146
NORTH CAROLINA			
Asheville (U)	49	51	50
Cape Hatteras (R)	0	0	0
Charlotte	8	8	7
Greensboro	23	25	29
Raleigh	19	19	16
Wilmington	0	0	0
Winston-Salem	27	29	28
NORTH DAKOTA			
Bismarck	385	399	293
Devils Lake (U)	378	405	384
Fargo	301	312	281
Grand Forks CAA	289	308	
Pembina	306	338	
Williston (U)	397	412	332
OHIO			
Akron	74	91	100
Cincinnati (U)	22	22	42
Cincinnati	22	22	83
Cincinnati Obs.	40	40	56
Cleveland	74	96	85
Columbus	60	64	77
Columbus (U)	43	43	59
Dayton	58	60	79
Mansfield	83	102	
Sandusky (U)	48	49	66
Toledo	87	126	114
Youngstown	89	114	102
OKLAHOMA			
Oklahoma City	40	40	14
Tulsa	37	37	18
OREGON			
Astoria	254	469	395
Burns (U)	350	369	266
Eugene	195	242	211
Meacham	446	526	484
Medford	144	154	77
Pendleton	167	167	104
Portland (U)	112	123	112
Portland	169	184	163
Roseburg	169	194	178
Salem	199	234	157
Sexton Summit (R)	334	468	326
PENNSYLVANIA			
Allentown	56	57	98
Erie	66	99	145
Harrisburg	41	43	69
Philadelphia (U)	14	14	33
Philadelphia	45	45	47
Pittsburgh (U)	45	51	56
Pittsburgh	71	90	114
Reading (U)	32	32	62
Scranton	80	90	133
Williamsport	73	78	117
RHODE ISLAND			
Block Island	39	50	115
RHODE ISLAND (Cont'd.)			
Providence	49	55	133
SOUTH CAROLINA			
Charleston (U)	1	1	0
Charleston	3	3	0
Columbia	7	7	0
Florence	7	7	0
Greenville	9	9	10
Spartanburg	18	18	7
SOUTH DAKOTA			
Huron	276	278	175
Pierre	269	271	
Rapid City	327	329	249
Sioux Falls	236	241	192
TENNESSEE			
Bristol	27	29	58
Chattanooga	9	9	24
Knoxville	15	15	33
Memphis (U)	10	10	13
Memphis	8	8	17
Nashville	23	23	22
Oak Ridge	22	22	40
TEXAS			
Abilene	20	20	5
Amarillo	63	63	37
Austin	0	0	0
Brownsville	0	0	0
Corpus Christi	0	0	0
Dallas	1	1	0
Del Rio (U)	1	1	
El Paso	0	0	0
Ft. Worth	0	0	0
Galveston (U)	0	0	0
Galveston	0	0	0
Houston (U)	0	0	0
Houston	0	0	0
Laredo	0	0	0
Lubbock	24	24	23
Midland	12	12	0
Port Arthur	0	0	0
San Angelo	8	8	0
San Antonio	0	0	0
Victoria	0	0	0
Waco	0	0	0
Wichita Falls	4	4	5
UTAH			
Milford	223	223	114
Salt Lake City	207	207	88
Wendover	160	160	
VERMONT			
Burlington	104	185	238
VIRGINIA			
Lynchburg	37	39	49
Norfolk	7	7	9
Richmond	27	27	33
Roanoke	36	36	50
WASHINGTON			
Olympia	266	347	381
Seattle (U)	134	152	228
Seattle	167	178	265
Seattle-Tacoma	197	228	337
Spokane	268	269	250
Stampede Pass (R)	546	924	925
Tatoosh Island (R)	348	834	898
Walla Walla	134	134	
Walla Walla (U)	119	119	93
Yakima	202	211	157
WEST VIRGINIA			
Charleston	57	60	60
Huntington (U)	35	35	35
Parkersburg (U)	50	50	56
WISCONSIN			
Green Bay	183	226	273
La Crosse	188	189	183
Madison	188	217	194
Milwaukee	134	161	186
WYOMING			
Casper	409	433	268
Cheyenne	405	430	313
Lander	426	439	274
Sheridan	434	448	307

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

NORTH ATLANTIC TROPICAL CYCLONES, SEPTEMBER 1961

Compiled by Arthur I. Cooperman and Howard C. Sumner
Marine Area Section, Climatology, U. S. Weather Bureau

Two hurricanes, Carla and Esther, reached the coastline of the United States in September. Carla crossed the Texas coast on the 11th resulting in severe damage and some loss of life. Esther, after causing mild damage while passing northeastward off the Middle Atlantic Coast, caused only minor damage in New England and Long Island. No lives were reported lost. The following is a summarization of these two storms.

HURRICANE CARLA

Carla, one of the most severe Gulf hurricanes of this century, was spawned in an area of squalls that moved into the western Caribbean Sea on September 4. Timely hurricane advices and a memory of "Audrey" in 1957, resulted in the largest mass movement of persons from danger areas in the Nation's history. Evacuation along the Louisiana and upper Texas coast, began on September 9, and progressed southward to the Corpus Christi area. An estimated 350,000 persons fled inland from the Texas and Louisiana coastal areas. Evacuation was near 100 percent in small coastal towns, unprotected by sea walls or levees. In larger towns, with levees and a few substantial buildings, evacuation was on the order of 75 to 90 percent. In cities, such as Corpus Christi and Galveston, evacuation was between 20 and 25 percent. This evacuation from low, unprotected areas of the Texas coast helped keep the death total to a modest figure for such a violent storm. Reports indicate 46 deaths, approximately half of which can be attributed to the tornadoes and floods associated with the hurricane. Preliminary damage estimates total over $300 million.

From the time of its inception Carla moved generally northwestward, passing through the Yucatan Channel on the 7th, and reaching the Texas coast during the afternoon of the 11th. The first advisory on Carla was issued on the evening of the 4th and by the morning of the 5th the circulation reached tropical storm intensity (39 miles per hour), at which time the center was located about 60 miles north of Cape Gracias, Nicaragua. Hurricane force winds (74 miles per hour or more) were reported late on the 6th as the storm, moving with a forward speed of 9 miles per hour, passed the 20th parallel and approached the Yucatan Channel.

As it moved through the Yucatan Channel close off the Mexican Coast on the 7th, winds had increased to 110 miles per hour and gales, extending several hundred miles out from the center, battered western Cuba and the Yucatan Peninsula. On the 8th the center began a west-northwestward movement toward the Texas coast, and by the 9th Carla's circulation enveloped the entire Gulf of Mexico with fringe effects being felt by all the Gulf Coast States. Maximum winds near the center were now estimated by reconnaissance aircraft at 135 miles per hour.

The hurricane continued to move toward the central Texas coast at a forward speed of 9 miles per hour. As the center approached Texas on the 10th, winds estimated at 150 miles per hour were reported near the center. Late on the 10th, with the storm centered about 80 miles southeast of Matagorda Island, the forward movement slowed to about 6 miles per hour. Early in the afternoon of the 11th the center moved over the northeastern tip of Matagorda Island and inland over the Port Lavaca - Port O'Connor area. Reconnaissance aircraft indicated a central pressure of 27.50 inches just prior to its crossing the coast.

The eye of the hurricane, approximately 30 miles in diameter, (figure 1) moved into the Port O'Connor area about 1400 C.S.T. of the 11th. The leading edge of the eye reached Port Lavaca at 1545 C.S.T. Carla moved slowly, and was almost stationary at times as she approached the middle Texas Coast. From Port Lavaca, the storm followed a northwesterly course, that carried the center over Inez, Yoakum, and Waelder. No well-defined "eye" was apparent after the storm moved out of the Waelder area about 0100 C.S.T. on the 12th, and it began to weaken rapidly as it followed a more northerly course, passing near Austin, Waco, and Fort Worth.

Increasing its forward movement it began a recurve northeastward and by the morning of the 13th, it became extratropical and was located over east-central Oklahoma. Continuing to pick up speed it moved northeastward toward the Great Lakes at about 35 miles per hour, reaching Lake Huron on the 14th. Extensive flooding from heavy rains was reported from areas along the storm's path.

WINDS

Gusts of hurricane force were reported for the Texas coast from Port Arthur to north of Brownsville, a distance of over 300 miles. The highest wind was reported at Port Lavaca with a peak gust estimated at 175 miles per hour at Bauer Dredging Company on bay front. At 1414 C.S.T. at this location a wind gust of 153 miles per hour was observed on the anemometer before the instrument failed. Matagorda reported a gust of 160 miles per hour and gusts of 150 miles per hour were estimated at Aransas Pass, Austwell, Edna, Port Aransas, and Victoria. Sustained winds (fastest mile) were reported as 145 at Matagorda and Port Lavaca. Aransas Pass and Victoria estimated fastest miles of 135 and 110, respectively.

In Louisiana sustained winds were generally less than 50 miles per hour. Peak gusts of 75, 60, and 58 miles per hour were reported at Chauvin, Cameron, and Lake Charles, respectively.

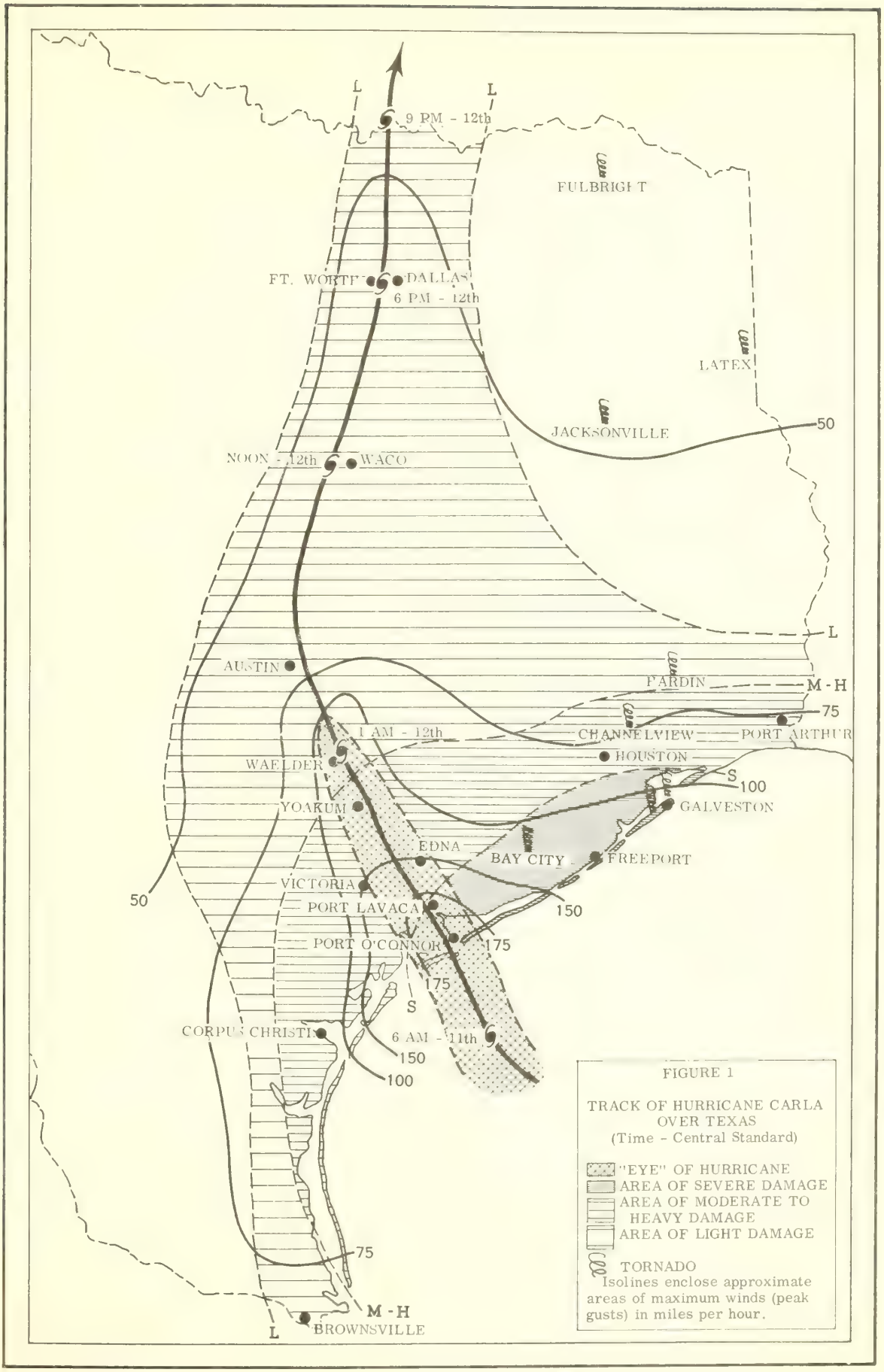
PRESSURE

A low pressure of 27.62 inches was reported by the Bauer Dredging Company at Port Lavaca from a recently calibrated barometer before the needle went below the scale. Other low pressures were 27.91 inches at Victoria and 28.60 inches at Matagorda. Austin, Fort Worth, and Waco reported their lowest pressures of record; 28.76, 28.94, and 28.91 inches, respectively.

STORM SURGE*

More data, descriptive of the storm surge, have been collected for hurricane Carla than for any other hurricane entering Texas. Perhaps more than for any other hurricane entering the United States. Several months, if not

* Preliminary report compiled by D. Lee Harris, Storm Surge Research Project, U. S. Weather Bureau.


9 PM - 12th
FULBRIGHT
FT. WORTH
DALLAS
6 PM - 12th
LATEX
JACKSONVILLE
50
NOON - 12th
WACO
L
AUSTIN
PARDIN
M-H
75
1 AM - 12th
CHANNELVIEW
PORT ARTHUR
WAELDER
HOUSTON
S
100
YOAKUM
GALVESTON
EDNA
BAY CITY
FREEPORT
VICTORIA
50
PORT LAVACA
150
PORT O'CONNOR
175
175
S
CORPUS CHRISTI
6 AM - 11th
150
100
75
M-H
L
BROWNSVILLE
FIGURE 1
TRACK OF HURRICANE CARLA
OVER TEXAS
(Time - Central Standard)
"EYE" OF HURRICANE
AREA OF SEVERE DAMAGE
AREA OF MODERATE TO
HEAVY DAMAGE
AREA OF LIGHT DAMAGE
TORNADO
Isolines enclose approximate
areas of maximum winds (peak
gusts) in miles per hour.

years will be required for a full evaluation of these data. However, a few significant features are already well established and are presented in figure 2.

The storm surge records presented here were derived by substracting the tide predicted from astronomical considerations from that actually observed at Coast and Geodetic Survey tide stations at hourly intervals. Oscillations with periods varying from 5 to 30 minutes and amplitudes of 0.5 foot or less, prominent in some of the original recordings, have been screened from this presentation. A few small superimposed oscillations having periods on the order of 2 hours are shown. Some of these small oscillations can be identified in the records of as many as five independent gages (not all shown here). The actual effect of the storm on sea level is believed to be a little less than that indicated in these curves, for a trend toward slowly increasing sea levels, not accounted for in the astronomical predictions, is well established. (Disney 1955, Harris 1959)†. The actual sea level for each year oscillates about this trend. Although complete information is not yet available, it appears that the sea level along the Texas coast was nearly a foot above normal even before hurricane Carla formed. The time of the extreme storm surge is indicated by an arrow above the curve. The peak surge elevation in feet and tenths is given near the arrow. The time of the high and low tides predicted from astronomical considerations for two stations are indicated by arrows below the curves. The corresponding tide elevations are given beneath the arrows. It will be observed that the storm occurred near the high point of the normal seasonal cycle of sea level, but that the tide range was rather small during the storm surge period.

A short section of the storm track, the location of the recording tide gages, and a few high water marks and peak surge elevations are shown on the map in figure 2. The high water marks shown on the map are referred to "Sea Level Datum of 1929." This is the datum used on most land maps and land surveys. In general it differs by a few tenths of a foot from the locally determined mean sea level. The location of recording tide gages is indicated by a dot, and the location of high water marks by the free end of the straight line leading to the numerical value of the high water mark in feet. If two values are given the lower refers to the storm surge. At recording tide stations the date and hour of the peaks are shown. Two values are shown for each of the gages in Galveston. The upper two are high water values, the lower two are storm surge values. The peak surge as shown for the high water marks is the difference between the peak observed and the predicted peak for the day, and is thus a conservative value.

Except where otherwise noted, the high water marks were all obtained from the interior of closed structures which are believed to function as stilling wells, and to eliminate most of the direct effects of waves and spray. The values shown are among the highest in each locality; the actual high water elevations varied by several feet within a mile or two of many of the points shown in Texas. As yet no results of the detailed survey in Louisiana are available.

The only data clearly representative of coastal conditions are those for the gage located on Pleasure Pier in Galveston. This is on a pier extending into the Gulf from Galveston Island. However, the crest elevation of the barrier islands from Port Aransas to Galveston is generally less than 10 feet MSL and for much of the distance, it is less than 5 feet. So it is reasonably certain that the greater part of each of the barrier islands was under water during the height of the storm, and the high water marks shown on the islands cannot differ much from conditions on the open Gulf coast. The higher values reported on the mainland result from the combined effects of convergence in bays and additional wind setup due to the wind blowing over the shallow inland waters. Records from many additional recording gages operated by the U. S. Army Corps of Engineers or other agencies are, or will become available for a more detailed study to be published later.

Appreciation is expressed to the Galveston Office of the Corps of Engineers and the Coast and Geodetic Survey for furnishing many of the data summarized here.

RAINFALL

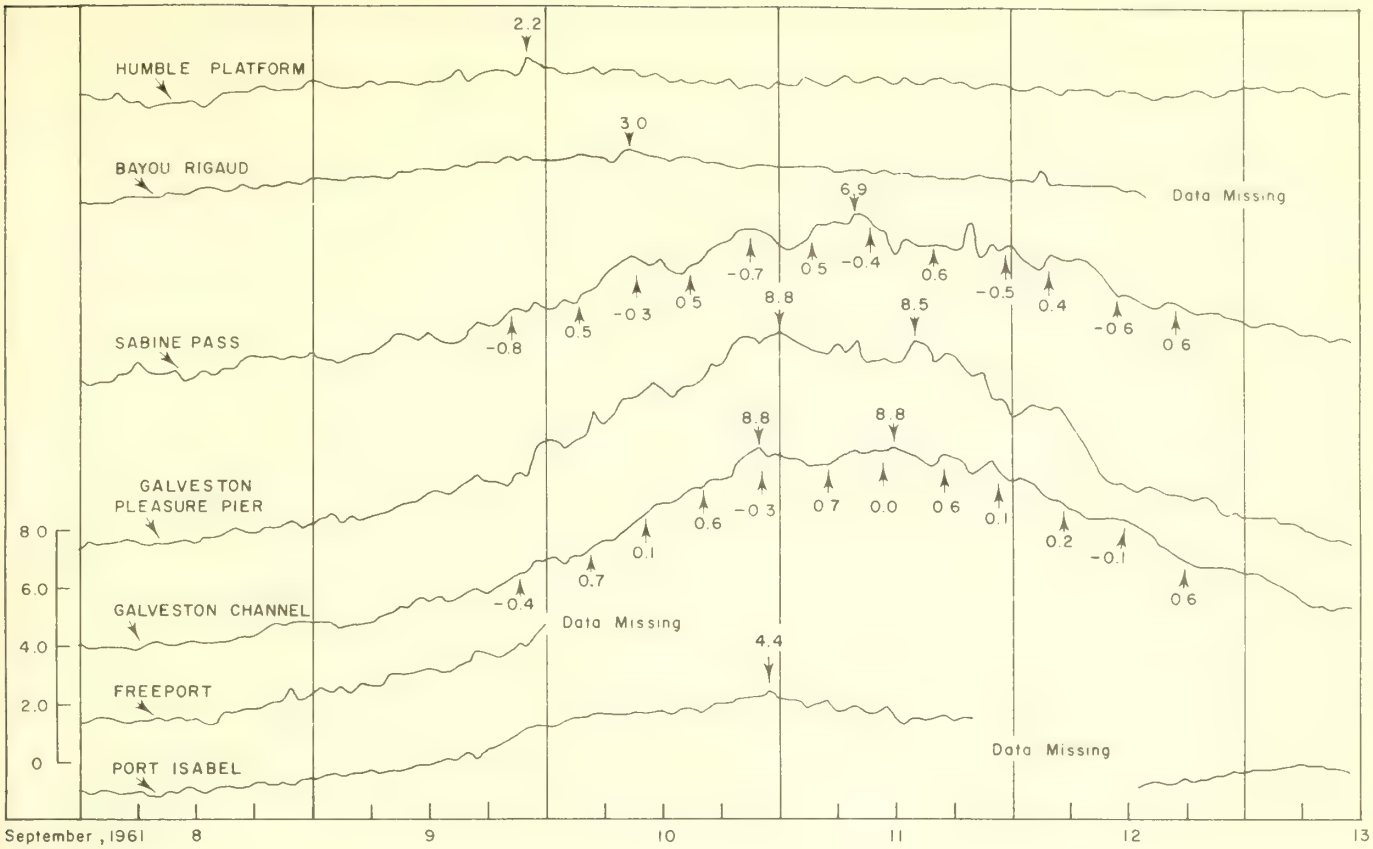
Torrential rains of more than 16 inches fell in a narrow coastal belt from Galveston to Bay City, in the northeast quadrant of the hurricane. Bay City reported a storm total of 17.10 inches. More than 13 inches accompanied the storm as far as 130 miles inland, in a very irregular pattern. Most interesting was the fact that rainfall was comparatively light (for hurricane rainfall), 3.87 to 5.97 inches, from downtown Houston westward about 40 miles, while 12-inch rains were reported to the west, north, and east of this area. In general, rainfall gradually decreased northward, away from the coast, with most of northeast Texas, east of the storm center, receiving as much as 4 inches. Most Gulf drainage streams east of the storm track reached, or exceeded, flood stage. The river gage at Wharton, on the lower Colorado read 30.8 feet at 0700 C.S.T. on the 15th, exceeding the 30.0 feet reading at the peak of the 1957 flood. Flooding was extensive in the Eagle Lake-Wharton area.

Some of the heaviest storm totals were Galveston Airport 16.23 inches, Warrenton 16.0 inches, Deer Park, 15.58 inches, Galveston City Office 15.26 inches, Danevang 14.97 inches and Ledbetter 14.2 inches. In Louisiana rainfall associated with the passage of the storm ranged as high as 6 inches at coastal stations.

Rainfall which accompanied Carla in Oklahoma reached almost 7 inches in the southeastern portion. Rainfall associated with the cold front which merged with Carla on the 13th totaled from 4 to 8 inches over a 70-mile wide

† L. P. Disney (1955) "Tide Heights Along the Coasts of the United States, "Proceedings, American Society of Civil Engineers, Vol. 8, Separate No. 666, 9 pp.

D. Lee Harris (1959) "An Interim Hurricane Storm Surge Forecasting Guide" National Hurricane Research Project Report No. 32, 24 pp.



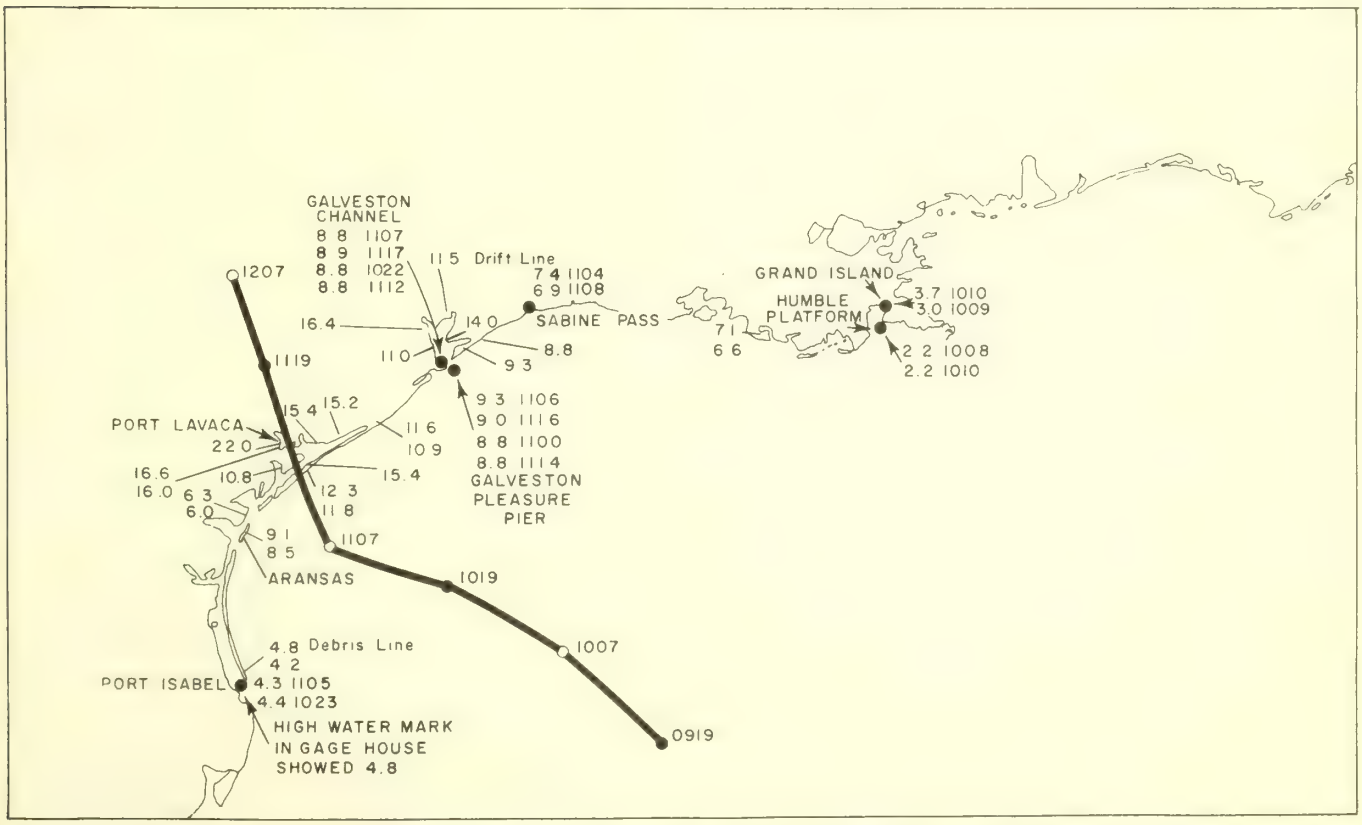


Figure 2 Hurricane Carla Storm Surge and High Water Marks. See text for explanation.

band extending from Ponca City to Fort Sill. Minor to moderate flooding occurred along rivers in the northeastern portion of the State. Elsewhere flooding was due to swollen small streams and extensive rains. Damage to buildings and dwellings was minor with no loss of life.

In Kansas excessive rains of 5 to 8 inches occurred in 24 hours, 4 inches of which fell from midnight to 0600 C. S. T. of the 13th over a 60-mile wide area from Cowley and Chautaugua Counties northeastward to Lynn and Johnson Counties. These excessive rains resulted in extensive and severe flooding. Record high stages occurred on Pottawatomie Creek. In Arkansas there were some locally heavy amounts in the western part of the State, the heaviest amount was 5. 25 inches at Daisy.

Rainfall in Illinois generally ranged between 2 and 5 inches over a band approximately 120 miles wide north of the storm track. Heavy amounts were generally in the northwest portion of the State, which had considerable rain during the previous 24-hour period. Precipitation occurred quite steadily with the oncoming storm and in general was not excessive in most locations. Moline with the greatest storm total received a record 24-hour amount of 6. 29 inches on the 13th. In the Chicago area precipitation ranged from 2. 5 to 3. 5 inches and resulted in the flooding of about 60 viaducts and approximately 1,000 basements. The Chicago River rose 5 feet to near the danger point and its lock gates to Lake Michigan were opened. The resultant onrushing waters caused about $75,000 damage to boats in the Wilmette Harbor.

In Michigan 3-day totals of precipitation totaled over 5 inches at Traverse City and Petosky. One small tornado struck in the Traverse City area at 1506 E. S. T. September 13. Damage occurred to farm buildings and many trees were uprooted. Two power dams were washed out on the Boardman River.

TORNADOES

Eight tornadoes accompanied Carla in Texas. At 0315 C. S. T. on the 12th, a tornado cut a path across Galveston Island between 19th and 25th Streets, leaving 8 dead, and 55 injured, and heavily damaging about 200 buildings, of which 60 to 75 were destroyed. A second tornado cut across the island at 0600 C. S. T., destroying 6 houses, but causing no injuries. In Channelview, near Houston, a tornado, beginning at 1750 C. S. T. on the 11th, injured 22 persons, and resulted in $200,000 property damage. A tornado at Latex (Panola County) injured 2 persons, and one near Jacksonville injured 3 persons. Other tornadoes occurred at Fulbright (Red River County), Hardin (Liberty County), and near Bay City, with no casualties, and relatively minor property damage.

In Louisiana 10 tornadoes accompanied the hurricane. These occurred in the vicinity of Gueydam, Intercoastal City, Kaplan, Morgan City, Patterson, Watson, Slidell, Hammond, Hodge and Junction City. There were 6 deaths and 50 persons were injured in these tornadoes.

LOSS OF LIFE AND DAMAGE

Loss of life in Carla totaled 46: 34 died in Texas, 8 in the Galveston tornado; 6 died in tornadoes in Louisiana, 5 died in flash floods in Kansas and 1 in Missouri.

The American Red Cross lists 460 injured in a 16-county area of Texas most directly affected by the hurricane. Fifty were injured in the Louisiana tornadoes.

Property loss in Texas is estimated at $200 million, of which $80 to $100 million was covered by insurance. Property losses include $6. 5 million to communications and $2. 5 million to highways. Crop losses are estimated at $100 million, with most of this damage to unharvested rice and cotton, and lesser damage to corn, pecans and citrus. Livestock losses were heavy in the Matagorda area. Most damage was inflicted to the coastal counties between Corpus Christi and Port Arthur plus the inland counties of Jackson, Harris, and Wharton. Damage was classified as severe in Calhoun, Matagorda, Brazoria, and Galveston Counties; and heavy in Nueces, Refugio, Chambers, Jefferson, Victoria, Jackson, Wharton, and Harris Counties. Moderate damage occurred in Aransas, San Patricio, Orange, Golian, Fort Bend, DeWitt, Lavaca, and Colorado Counties. Storm damage was relatively minor 100 miles inland from the coast. Percentagewise, the greatest destruction occurred at Palacios and Port O'Connor. Port O'Connor was virtually destroyed. Galveston and Texas City suffered the highest dollar losses because of the size of these cities. Much of the storm damage was the result of flooding without wave action. An American Red Cross tabulation of damage in the 16-county area most heavily affected, listed 1915 homes, 568 farm buildings, and 415 other buildings destroyed; 7398 homes, 1382 farm buildings, and 1219 other buildings received major damage; and, 43,325 homes, 4238 farm buildings, and 9268 other buildings received minor damage.

In Louisiana property damage has been estimated at $25 million, broken down as follows: $6 million to crops, livestock, and pastures; $5 million to buildings, including tornado damage; $4 million to small craft, piers, and beaches; $3 million to roads and bridges; $5 million to oil rigs in the Gulf and an additional $2 million in miscellaneous damage.

HISTORICAL HURRICANES ON THE TEXAS COAST

The devestation left along the Gulf coast as Carla passed inland over Texas recalls other severe hurricanes that have brought death and destruction to the area. Some of the more notable of these hurricanes which occurred during this century are listed below.

1. September 8, 1900, Galveston, Tex.; wind gusts reached 120 miles per hour; water rose at a steady rate from 1500 C. S. T. until about 1930 C. S. T. when there was a sudden rise of about 4 feet; approximately 6,000 persons lost their lives.

2. August 17, 1915, Galveston, Texas, had a fastest mile of 92 and a peak gust of 120 miles per hour; 12-foot storm tides inundated Galveston to a depth of 5 to 6 feet; 275 lives were lost and property damage estimated at $50 million.

3. September 14, 1919, center moved inland south of Corpus Christi; tides 16 feet above normal in that area and 8. 8 feet above normal at Galveston; 284 lives lost with property damage estimated in excess of $20 million.

4. September 4-5, 1933, hurricane crossed the Texas coast north of Brownsville; lowest barometer 28.02 inches; highest wind estimated at 80 miles per hour and damage

estimated at $17 million.

5. August 30, 1942, center moved onto the Texas coast over Matagorda Bay; Seadrift, Texas, reported a low barometer of 28.10 inches and a highest wind estimated at 150 miles per hour. Tide at Matagorda, Texas, 14.7 feet; property losses estimated at $11 million and crop losses at $15 million.

6. July 27, 1943, hurricane moved across the coast east of Galveston, Texas; the lowest pressure reported was 28.95 inches at both Galveston and the Houston Airport; a gust of 104 miles per hour was recorded at Texas City; damage in Texas estimated in excess of $16 million.

7. August 27, 1945, center moved inland north of Corpus Christi; highest wind gust in the vicinity of Port O'Connor and Port Lavaca estimated at 135 miles per hour; damage in excess of $20 million.

8. October 3-4, 1949, center moved inland near Freeport, Texas; wind gusts estimated as high as 135 miles per hour; a high tide of 11.4 feet reported at Harrisburg (on the Houston Ship Channel).

HURRICANE ESTHER

Hurricane Esther which alerted the eastern seaboard from the Carolinas to New England recurved off the coast in sufficient time so that only the fringes of its weaker or left semicircle brushed the heavily populated Northeastern and Central Atlantic States. Except for eastern Long Island and sections of New England damage was comparatively light. Total damage has been estimated at over $6 million in these two areas. No deaths were reported.

A suspicious cloud area, which was located by the weather satelite Tiros III on the afternoon of the 10th near 11°N., 30°W., forewarned meteorologists of the possible development of a tropical cyclone. The existence of such a storm was confirmed on the 11th by additional Tiros pictures and reports from ships operating in the area. A reconnaissance aircraft was dispatched early on September 12 and reported that Esther had developed hurricane force winds.

The first advisory was issued by the San Juan Office at 1830 A.S.T. on the 12th and located the hurricane near 19°N., 44°W, with winds near the center estimated at 130 miles per hour. From the 12th to the 17th the storm moved generally west-northwestward at a forward speed of about 12 miles per hour, with its winds increasing to 150 miles per hour on the morning of the 17th.

As it passed about 375 miles north of Puerto Rico on the 17th it curved to the northwest and for the following 3 days followed a course toward Cape Hatteras. On the evening of the 19th the center was located about 200 miles from the Cape. Early on the 19th hurricane warnings were issued urging people to evacuate low-lying areas which might be affected by the storm.

Fortunately on the 20th Esther started a recurve to the northward and later north-northeastward, a course which kept the center some 120 miles east of Cape Hatteras and about 150 miles off the Delmarva Peninsula and Jersey coast.

Now moving on a north-northeasterly course toward Cape Cod the storm began to diminish in intensity on the 21st. Approaching Nantucket the storm slowed considerably and took a sharp turn to the east, south of that island. On the afternoon of the 21st winds of only tropical storm intensity (39 to 73 miles per hour) were being reported as Esther started moving southeastward, beginning a clockwise loop which took the center to near 36°N., 67.5°W., (most southerly point of the loop) on the morning of the 24th. During this southward movement Esther lost intensity, with ships near its center reporting winds of only 35 to 40 knots. Early on the 26th Esther had completed the loop and moved north-northeastward over Maine on the 26th, dissipating over Labrador on the following day.

The following is based on reports from the State Climatologists in the areas affected by Esther.

NORTH CAROLINA-VIRGINIA. Sustained winds in the Middle Atlantic States were not high as only the western fringes of Esther were felt as the storm paralleled the coast about 150 miles offshore. Along the North Carolina-Virginia coastline sustained winds ranged from 24 miles per hour at Wilmington to 38 miles per hour at Cape Henry. Norfolk reported a fastest mile of 32 and Hatteras a 1-minute wind speed of 36 miles per hour. Gusts of 58 miles per hour and 43 miles per hour were reported at Nags Head and Hatteras, N. C., respectively. Storm surges along the outer banks ranged up to 5 feet. Minor flooding occurred on some beaches and highways but property damage was negligable. In the Hampton Roads area the storm surge raised tides 2.4 feet above normal. No flooding occurred. Rainfall associated with this storm was extremely light with Wilmington, N. C., reporting only 0.03 inch and Norfolk, Va., 0.05 inch.

MARYLAND-DELAWARE. Some heavy rains were reported in the eastern sections about 1700 to 1800 E.S.T. on September 20, with rough seas and northeast winds along the coast averaging a little below gale force and peak gusts exceeding gale force. About 1630 E.S.T. an extremely high storm surge hit the Maryland-Delaware coast, flooding many streets in seashore locations with a foot or more of water. Storm surges on the high tide occurred at 1 to 2 minute intervals and reached peaks of 6 to 7 feet above mean low water from 1630 to 1645 E.S.T. Away from the coast, the winds barely reached gale force.

A sustained wind (fastest mile) of 53 miles per hour and 40 miles per hour were reported from the Lewes and Ocean City Life Boat Stations, respectively. Indian River Inlet reported a fastest mile of 48 and a peak gust of 52 miles per hour. Damage was negligible.

NEW JERSEY. As Esther traveled north-northeastward over the Atlantic, roughly paralleling the Jersey coastline some 130 to 140 miles offshore the coastal strip was swept by gale force winds which, along with the storm surge and rough seas, caused some damage to boats, docks, etc. The rest of the State, experienced only minor effects. It appears that there may have been some agricultural losses, mainly fruit. Rainfall amounts ranged from 2 to 3 inches along the coast to moderate in the western portions, and in most instances were beneficial. Peak gust at Atlantic City WBAS was 69 miles per hour from the northwest at 0144 E.S.T. on the 21st. The fastest mile recorded was 46 from the northwest. Atlantic City reported a lowest pressure (sea level) of 29.47 inches. Total damage was estimated at less than $1 million.

NEW YORK. Moderate rain fell from the Albany area southward through the Hudson Valley and adjacent mountain area, increasing southeastward to over 7 inches over

extreme eastern Long Island. Gale force winds affected only the lower Hudson Valley. There was little or no damage in upstate New York, but damage was experienced in the Metropolitan New York area and considerable damage occurred in Suffolk County, Long Island, including blow down in apple orchards. High tides produced by the storm surge flooded the south shore of Long Island, with lesser flooding in the shore areas of Queens and Brooklyn, N. Y. Fallen trees and power lines delayed railroad and highway travel on Long Island, and left over 300,000 homes without electricity for varying periods. Damage on Long Island was estimated in excess of $3 million. Some peak gusts in the area affected by gale and hurricane force winds: Brookhaven, L. I., 62 miles per hour from the north-northeast (37-foot level) at 0630 E. S. T. on September 21; estimated peak gust at Montauk Point 108 miles per hour at 0500 E. S. T.; 72 miles per hour from the north-northwest at La Guardia Field, N. Y., at 0501 E. S. T.; and 100 miles per hour at Fire Island Coast Guard Station.

CONNECTICUT - RHODE ISLAND. Esther reached a locality about 35 miles south-southeast of Block Island, R. I., at 1100 E. S. T. on September 21, then hesitated and turned east with greatly lessened intensity. As a result, most damage from the storm surge was restricted to comparatively minor floodings in normally susceptible places. The storm surge produced tides of 3.8 feet above normal at New London, Conn., 4.6 feet above normal at Stratford, Conn., and about 6.0 feet above normal at Block Island, R. I. Most property damage in the interior of both States was light and was confined to broken tree limbs, some downed power and telephone lines, and a few windows. Sustained winds averaged 35 to 50 miles per hour on the mainland in both States, with gusts of 45 to 65 miles per hour. Peak gust on Block Island was 83 miles per hour at 0455 E. S. T., with a fastest mile of 74 on September 21. A low pressure of 29.18 inches was reported at Block Island. Some damage to tobacco fields in Connecticut and to fruit crops and grape orchards occurred in both States. Minor flooding occurred in the Pawtuxet River Valley. Rainfall totals from the storm were generally between 1 1/2 and 3 inches in Connecticut, except 4 inches in the north and almost 8 inches in the southeast. Over Rhode Island falls of 5 to 8 inches were recorded with heaviest amounts in the southwest portions. Total damage was estimated at less than $1 million.

MASSACHUSETTS-NEW HAMPSHIRE-MAINE. An estimated 1,000 residents of Cape Cod and about 200 along the eastern Massachusetts and New Hampshire coasts were evacuated in advance of the storm. There were no major floodings and highway washouts and cellar floodings were comparatively few and restricted to the coastal belt. Winds downed power and telephone lines in eastern Massachusetts, resulting in some disruption of utility services, but no widespread breakdowns. There were very few surface transportation delays. Numerous small boats were torn loose along the coast. Agricultural losses were comparatively small. Rainfall generally ranged from 4 to 9 inches in southeastern Massachusetts, decreasing westward and northward, to about 1 inch in central New Hampshire and western Massachusetts. Before the storm looped the Blue Hill Observatory near Boston, Mass., recorded 6.03 inches and a 24-hour amount of 5.86 inches; the latter being the third greatest of record. The storm dropped an additional 2.74 inches on this station during its return trip. Maine received most of its rainfall after the loop, 3 to 4 inches along the southwestern coast.

The peak gust at Blue Hill was 62 miles per hour from the northeast at about 1143 E. S. T. on September 21. Strongest winds and most damage were concentrated on Cape Cod which was raked by gusts exceeding hurricane force, and where the storm surge reached a reported 3 to 5 feet along the south side of the Cape. Chatham reported a peak gust of 70 miles per hour.

Preliminary estimates of Esther's damage to New England is set at about $3 million. Of this total, loss to apple growers was about one million; damage to small craft and coastal installations, also about one million. Other damage such as road washouts, local flash floods, wind-downed antennae, etc., accounts for the third million.

After completing the clockwise loop Esther moved into Maine without damaging winds, but additional rains of 2 to 4 inches fell along the track. These rains resulted in local flooding of low roads, underpasses and cellars along the central Maine coast in the vicinity of the storm's path.

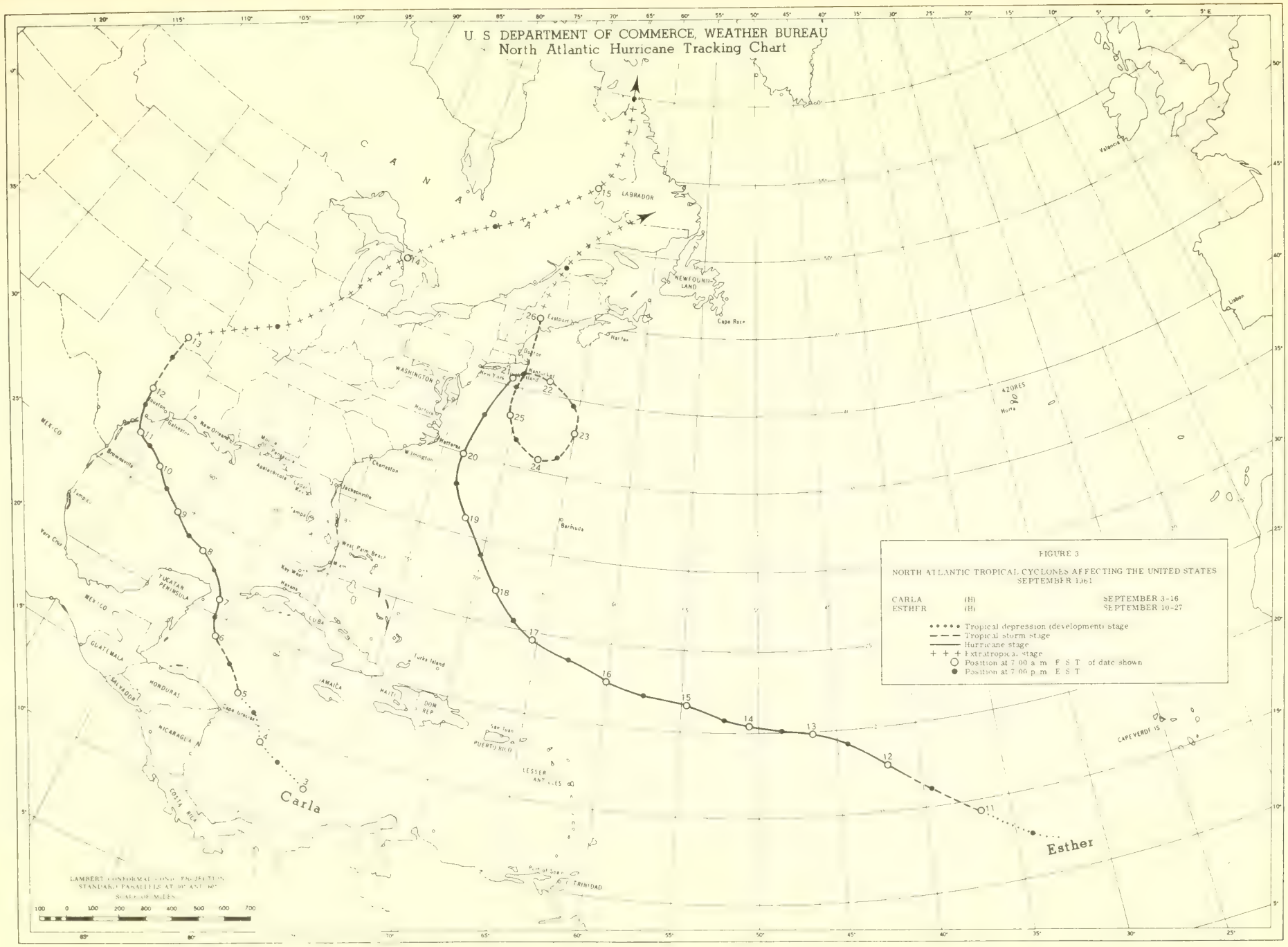


FIGURE 3

NORTH ATLANTIC TROPICAL CYCLONES AFFECTING THE UNITED STATES
SEPTEMBER 1961

CARLA	(H)	SEPTEMBER 3-16
ESTHER	(H)	SEPTEMBER 10-27

- • • • • Tropical depression (development) stage
- — — — Tropical storm stage
- Hurricane stage
- + + + Extratropical stage
- ○ Position at 7 00 a m E S T of date shown
- ● Position at 7 00 p m E S T

TROPICAL CYCLONE DATA

HURRICANE CARLA
September 3-15, 1961

Station	Date Sept.	Pressure (inches) Low	Pressure (inches) Time+	Wind (miles per hour) Fastest Mile	Wind Time+	Wind Gusts	Wind Time+	Highest Tide (feet) #	Time+	Storm Rainfall (inches)	Remarks
TEXAS											
Alice	11			60*		80*				.72	
Anahuac	11			80		93		14.0‡		11.50	Corps of Engineers Tide Gage.
Angleton	11					115*				5.66	
Aransas Pass	11			135*	0100	150*	0100				
Aransas Pass (United Carbon)	11	28.78		73 N	0400						
Austin	11			45 NE	2333	68 NNE	2034			3.68	
Austin	12	28.76	0520	45 NE	0053						Lowest pressure ever recorded.
Austwell	11	28.00	1530			150*		9.0†		7.28	
Bay City	11					100				17.10	Anemometer only calibrated to 100 miles per hour.
Bellville	12					75*	0330			11.56	
Brownsville	11	29.20	0235			64 WNW	0031			1.93	Lowest pressure since 28.02, September, 1933.
Corpus Christi	11	28.88	0730			86* NW	0658	6.6†		1.22	Corps of Engineers Tide Gage, Ship Channel entry.
Corpus Christi	11	28.80				90	0200			5.15	State National Bank.
Corpus Christi	11							7.5†			Corpus Christi Bay.
Corpus Christi	11	28.73									Naval Base.
Dallas	12	29.01		42 SE		50 SE				4.63	Lowest September pressure.
Dryer	12					100*				5.63	
Dublin	12	28.54								3.24	
Edna	11					150*NE	1732			10.37	
El Campo	11	28.50				100*				10.95	
Elgin	11					70*				6.54	
Fisher's Store	12					55*				3.33	
Fort Worth (ACF)	12	28.94	1725	53 ESE	1558	65	0817			2.30	Record lowest pressure.
Freeport	10			65 ENE	2200	90 ENE	2200				From 2200 and 0000 teletype transmission.
	11				0000		0000	13.4‡	0600		
Galveston City	11	29.24	1715	80 SE		112 SE	0315	8.7‡	0430	15.26	Gust recorder inoperative after 1308.
							0558				
Galveston City	11					112 SE	0612				
							1028				
Galveston A.P.	11	29.20	1645	51 ENE	2254	86 E	1415			16.23	
Georgetown	12					67	0045			4.80	
Giddings	12					80*	0100			13.23	
							0300				
Halletsville	12					95*	0015			9.73	Eye over Halletsville-Yoakum about 1/2 to 1 hour.
Lufkin	12					100 SE					Observed KTRE-TV.
High Island	11					75-80*		8.9‡			
Houston A.P.	11	29.20	1858	52 ESE	2058	77 ESE	1533	14.6‡		7.17	Tide along upper ship channel.
Houston City										3.87	
Jacksonville	11	28.68								4.42	
Kaufman	12					45-50*				3.59	
Kenedy	11					82	2000			4.11	
Killeen	12	28 44								5.34	
La Grange	11					98*				10.04	
Matagorda	11	28.60	1500	145 SE		160 SE		15.2‡		12.40	Corps of Engineers Tide Gage,observation shortly after midnight.
Navasota	12	29.19				70					
New Caney	12					40-50 SE				11.10	
New Gulf	11	28.84	1700								
Olney	12					45				2.40	
Palestine	12					50				5.15	
Port Aransas	11	28.73	1350			150* NW	0620	10.3†	0810*		
Port Arthur	11	29.46	0300	75*	0830	85*	0830	7.8†	1730		Corps of Engineers Tide Gage, ship channel record high tide.
Port Arthur	11							8.1†	1730		Corps of Engineers Tide Gage, Sabine Lake.
Port Arthur	11	29.50	0300			110* SE		10.0‡	0800		Sabine; USCG
			1700								
Port Arthur A.P.	11	29.47	0530	49 SE	0712	69 SE	0815			4.77	
Port Isabel	11			53 NW	0200	64 NW	0200	5.0†		2.56	USCG South Padre Island.
Port Lavaca	11	27.62	1545	145 NE		175*	1600	16.6‡		6.55	Anemometer broke at 153 miles per hour at 1414.
Port O'Connor	11							15.4‡			
Port Mansfield	11	29.11	0800	46 WNW	0000			Normal		4.04	
Raymondville	11					80*					
Refugio	11					85-90*				5.51	
Robstown	11					70-75*				1.73	
Rockport	11	28.68	1400			90 WNW	0200	7.8†	0900	5.00	
San Antonio	11			47 N						1.88	
	12	29.01									Lowest since August 20, 1886.
Schulenburg	12					80*	0200			9.05	
Sequin	11	29.50								4.50	
Smithville	11					100*				8.90	
Sugarland	11					90*				7.33	
Taylor	12					62				5.91	
Texas City	11							11.0‡			
Victoria	11	27.91	1847	110* NNE	1715	150* NNE	1755			6.25	Edge of eye over station 1848-1945.
					1840						
Waco	12	28.91		46 NNE		64 NNE	1215			2.27	Lowest pressure on record.
Warren	12	29.33				60*				5.98	
Wharton	11					80-85*				13.05	
Woodsboro	11					75-85*				4.31	
Yoakum	11					110*				5.06	
LOUISIANA											
Burrwood	9			30 SE	2349	47	2349				
	10	29.75	0248							2.13	
Cameron	10	29.50	0400			60	0400	7.1†		2.00	
Lake Charles	11	29.60	0310			58	0646	7.0†	0400	2.81	
New Orleans A.P.	9			27 SE	2000						
	10	29.79	0345			35	1245			3.65	

* Estimated
† Above Mean Low Water
‡ Above Mean Sea Level
+ Central Standard Time
# Some of these high water mark values are affected by wave runup and do not represent a general level of flooding. Most values are preliminary and are being revaluated by the U.S.A. Corps of Engineers. It is hoped that a complete set of final values can be included in the Annual Summary of hurricanes to be published about April 1962.

STORM SUMMARY

SEPTEMBER 1961

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
Alabama *																													
Alaska *																													
Arizona	1	1	0	0	0					0	2	5	0																
Arkansas	1	1	0	0	4																								
California										0	0	5	4	0	0	4	0												
Colorado	1	1	0	0	0	0	0	0	4									0	S0	6	6								
Connecticut														0	2	5	0									0	0	4	5
Delaware *																													
Florida										0	0	3	0																
Georgia	1	1	0	0	4																								
Hawaii	W2	1	0	0	0																								
Idaho						0	0	2	4	0	0	4	4	0	0	4	0												
Illinois	9	4	1	1	5	0	0	4	6	1	1	4	4	0	2	4	0									0	0	5	5
Indiana	1	1	0	1	5	0	0	0	5					0	1	1	0												
Iowa	3	2	0	7	6					0	0	5	4	0	5	4	0									1	0	0	0
Kansas										1				1	1	4										5			
Kentucky *																													
Louisiana N																													
Maine	2	2	0	0	5					0	1	4	0													0	0	5	0
Maryland *																													
Massachusetts										0	0	6	5	0	0	4	0									0	0	6	0
Michigan	2	2	0	1	0	0	0	4	6	1	0	5	4	0	0	5	0												
Minnesota	1	1	0	1	4	0	0	0	3																				
Mississippi N																													
Missouri						0	0	4	4					0	0	4	0											6	5
Montana						0	0	5	0																				
Nebraska										1	0	4	0	0	0	4	0												
Nevada						0	0	?	?	1	31	6	0																
New Hampshire *																													
New Jersey										0	3	E6	C																
New Mexico *																													
New York										0		°6	C	0	0	5										1		5	
North Carolina						0	0	4	0	0	0	5	0	0	3	4	0												
North Dakota						0	0	4	0					0	2	0	0												
Ohio										0	Few	5	3																
Oklahoma	1	1	0	0	2	0	0	5	4	0	0	5	3																
Oregon *																													
Pennsylvania	1	1	0	0	4					0	3	5	0	2	4	5	0												
Puerto Rico														1	2	0	0												
Rhode Island														2	2	5	0									0	0	5	5
South Carolina										0	1	4	0	0	2	3	0												
South Dakota	1	1			4									1	1	5													
Tennessee										0	1	4	0	0	1	4	0												
Texas	H12	6	8	82	6	0	0	3	5	0	0	4	0	0	3	0	0									T26	T383	T8	T8
Utah						0	0	3	3	4	?	4	3													6	0	4	4
Vermont *																													
U. S. Virgin Is. *																													
Virginia						0	0	?	?					1	0	3	0									1	0	3	?
Washington												4	4																
West Virginia														1															
Wisconsin	3	3	0	1	5									0	1	5	0												
Wyoming										0	0	0	5	1	0	2	0	0	0	4	0								

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
C Crop Damage.
° Includes crop damage.
N No report received by printing deadline.
S No serious injuries.
W Waterspouts
E Property damage from Hurricane Esther "less than $1,000,000" according to preliminary estimate of National Board of Fire Underwriters.
H Hurricane Carla.
T Includes 8 tornadoes associated with Carla.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

SEPTEMBER 1961

The most significant floods during September were those associated with hurricane Carla as it moved from Port O'Connor, Tex., along a northerly course across eastern Texas, then northeastward across southeastern Oklahoma, northwestern Arkansas, southeastern Missouri, central Illinois, and through the upper Great Lakes region. The floods were especially severe in north-central and eastern Kansas and in western and northern Missouri. The flooding in the Marais des Cygnes Basin was the most severe and widespread since the record flood of July 1951. Some tributaries experienced the greatest flood of record.

Flash floods in southern Utah caused six deaths. Some streams were the third highest in about 60 years of record.

ST. LAWRENCE DRAINAGE

Lake Erie and Lake Ontario Drainage.--Scattered heavy thundershowers on the 3d caused local flash flooding in parts of Cattaraugus County, New York. A woman was drowned when she was swept into Summerville Valley Creek near Ellicottville, N. Y. Thirty campers were stranded in Allegany State Park when high water washed out a bridge leading to their camping area. Parts of Route 242 from Little Valley to Randolph were under water and some damage was reported to the road and bridges. On the 13th and 14th remnants of hurricane Carla caused local surface water floodings in metropolitan Buffalo.

ATLANTIC SLOPE DRAINAGE

Hurricane Esther threatened the New England States with flash floods in the Pemigewasset River area in New Hampshire as it approached on September 21. Precipitation ranged from 7.59 inches at Laurence, Mass., on the lower Merrimack to 3.44 inches at Concord, N. H., to less than an inch and a half farther upstream. River stages remained low throughout the month with fluctuations of 1.5 feet or less except at East Pepperell, Mass., where a rise of almost 2 feet followed the rains of hurricane Esther.

The slow rise on the Savannah River in Georgia which began during the last week in August continued into September with light flooding at Clyo, Ga., from the 4th to the 13th. No damage is known to have occurred. Farmers had to feed the livestock that they drove out of the swamps. Lumber interests lost time and money due to inability to work in the swamps.

EAST GULF OF MEXICO DRAINAGE

Excessive local rains over the lower Pearl River on the 13th and 14th produced a minor flood at Bogalusa, La., on the 14th and 15th. No damage resulted.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Minor flooding developed in east and south-central Iowa during the middle part of September due to heavy rain resulting from the northeastward movement of the remnants of hurricane Carla. Most of the rainfall occurred during a 48-hour period from the 11th to the 13th and ranged from 4 to 8 inches. The principal rivers affected were the Turkey, Maquoketa, Wapsipinicon, the Middle River, lower portion of the Des Moines River, and the lower portions of the North and South Skunk Rivers. Flood damages were generally minor and occurred principally to low-lying agricultural lands along the river basins. Some damage occurred along small creeks and streams that feed the rivers of southeast Iowa. A few county and state roads were closed for short periods.

Dry weather during the latter part of August and the first part of September kept streams in Illinois at low levels. Heavy rains on the 13th and 14th associated with the remnants of hurricane Carla caused rapid rises with flooding on streams in Illinois and along the main stem of the Mississippi from Clarksville, Mo., to Alton, Ill. Another period of heavy rain from the 23d through the 25th produced even higher stages than those associated with hurricane Carla earlier in the month. Total rainfall for the 3-day period was in excess of 3 inches at several locations. Crests on the La Moine River at Ripley, Ill., exceeded the previous flood of record on both the 14th and 30th. The previous record crest for the period 1921 through 1958 was 26.03 feet on April 25, 1944, compared to 26.35 feet on the 14th and 27.43 feet on the 26th.

Missouri Basin.--Minor flooding occurred on the Platte River at Agency, Mo., on the 3d and on the North Grand River in Missouri on the 4th and 5th. No significant damage resulted.

Widespread damaging floods occurred in north-central and eastern Kansas and in western and northern Missouri from heavy rain associated with the remnants of hurricane Carla as it moved northeastward through southern Missouri on the 12th and 13th. Flood producing rains began with the advance of a cold front into northern Kansas on the 10th and 11th with accumulations of 2 to locally more than 5 inches of rainfall from southeastern Nebraska through north-central Kansas. Circulation associated with the northerly movement of hurricane Carla augmented these rains on the 12th-13th, producing 6-hour downpours of around 4 inches up to 6 a.m. of the 13th and 24-hour totals of 4 to 7 inches on the Marmaton, Marais des Cygnes, and parts of the lower Kansas Basin. These heavy rains had been preceded by more localized amounts of 3 to 5 inches on the 3d and 4th in parts of the Big Blue, Marais des Cygnes, and Marmaton Basins. Monthly precipitation totals of 10 to 16 inches were local record amounts in the Marais des Cygnes and Marmaton Valleys, while generally 5 to 10 inches fell over the lower portions of the principal Kansas River tributaries. The greatest 24-hour totals were 8.04 inches at Paola, Kans., on the 2d to 3d followed by 6.33 inches on the 12th-13th and 7.38 inches at Haddam, Kans., on the 12th. As hurricane Carla moved northeastward across southern Missouri on the 12th and 13th, this movement coincided with the southeastward movement of the cold front through Missouri.

The flooding in the Marais des Cygnes Basin was the most severe and widespread since the record flood of July 1951 with some tributaries experiencing the greatest flood of record. A record flood on Pottawatomie Creek near Garnett, Kans., and a near record flood on Big Bull Creek near Hillsdale, Kans., are computed by the U. S. Geological Survey to have a recurrence interval of approximately 100 years. Big Sugar Creek at Farlinville, Kans., set a new record stage for the second time this year. On the mainstem of the Marais des Cygnes, the crest at La Cygne, Kans., exceeded the great flood of November 1928 and crests at both La Cygne and Quenemo, Kans., were within 2 or 3 feet of July 1951 levels. The Solomon River

experienced heavy flooding from the lower portion of the two forks downstream. The Republican River had heavy flooding from Concordia to Clay Center, Kans. Very severe flooding occurred on Buffalo Creek, a Republican tributary, with the highest stage in at least 70 years at Jamestown, Kans. The Marmaton Valley also experienced major flooding. Only minor overflows developed on the lower portions of the Big Blue and lower Kansas River tributaries. Disastrous flooding occurred on the Blue River that flows through the densely populated industrial districts of southern and eastern Kansas City, Mo., where a new record crest of 44.5 feet was set at the Bannister Road gage. The previous record at this gage was 39.0 feet on November 17, 1928. Flood stage is 21 feet. Industrial and residential damage in this area alone was estimated at $9.5 million. A major flood crest on the Solomon River in Kansas produced 12-to 13-foot overflow in the Beloit-Glasco reach, and about 5-foot overflow at downstream stations. Significant overflow was reported along many lesser tributaries in the Missouri River Basin in Missouri and in Kansas and along the main stem of the Missouri River in the reach between St. Joseph and St. Charles, Mo.

Another period of flooding occurred on the 24th through the 26th on the North Grand, the Blue and Little Blue, the Chariton, and the Blackwater Rivers in Missouri. This flooding was comparatively minor and added little if any to the damage done during the middle part of the month.

Arkansas Basin.--Up to 9 inches of rain occurred in central Oklahoma as hurricane Carla moved northeastward across the eastern half of the State. Runoff was not heavy due to newly plowed land and a preceding dry period. Flash flooding occurred on small streams, but main streams had only minor floods. The Cimarron River at Perkins, Okla., the Salt Fork at Tonkawa, Okla., and Bird Creek at Avant, Okla., and Sperry, Okla., were the highest since October 1959. Most of the flooding lasted only a short time, with the longest duration in extreme northeastern Oklahoma where Commerce, Okla., on the Neosho-Grand River reported above flood stage for 10 days. Only minor flooding was experienced along the Chikaskia River in Oklahoma. Light flooding occurred on the Cimarron River below Perkins, Okla., and along the Caney and Verdigris Rivers in Oklahoma. Minor lowland flooding occurred along the Arkansas River in Oklahoma. Many families were evacuated from their homes during flash-floods in the towns of Skiatook, Kingfisher, and Pawhuska, Okla. There were no deaths attributed to the floods. Widespread flash-flooding occurred on the Neosho River downstream from Burlington, Kans., and on the lower Verdigris River.

Red River Basin.--Locally heavy rains on the 12th and 13th averaging 7 inches in the El Reno-Geary, Okla., area caused flash floods along small streams and creeks in those areas. Minor flooding occurred on the Washita River at Carnegie, Okla. No damage was reported.

Atchafalaya Basin.--The Atchafalaya River at Morgan City, La., rose to a stage of 7.45 feet (flood stage 7 feet) on the 11th at 5 p.m. due to high tidal effect of hurricane Carla. No flood damage was reported.

WEST GULF OF MEXICO DRAINAGE

The only rains of significance during the month occurred from the 10th through the 14th in connection with hurricane Carla. The center of the hurricane entered near Port O'Connor, Tex., and was one of the most violent storms in Texas history. The evacuation of an estimated 250,000 persons from middle and upper Texas coastal cities kept loss of life remarkably low. High tides began affecting the upper Texas coast on September 8. The "eye" of the hurricane, approximately 30 miles in diameter, moved into the Port O'Connor area about 2 p.m. of the 11th. Carla moved slowly and was almost stationary at times as she approached the middle Texas coast. From Port Lavaca, the storm followed a northwesterly course that carried the center over Inez, Yoakum, and Waelder. No well defined "eye" was apparent after the storm moved out of the Waelder area about 1 a.m. on the 12th, and it began to weaken rapidly as it followed a more northerly course near Austin, Waco, and Fort Worth. The storm center crossed the Red River into Oklahoma about 9 p.m on the 12th, with some rainfall continuing into the 14th. The full fury of Carla was felt on September 11. Highest winds and tides were at Port Lavaca. Peak gusts were estimated at 175 m.p.h. Highest tides were 16.6 feet m.s.l. at Port Lavaca, 15.2 feet m.s.l. at Matagorda, 14.6 feet m.s.l. on upper Houston ship channel, and 15.4 feet m.s.l. at Port O'Connor. Torrential rains of more than 16 inches fell in a narrow coastal belt from Galveston to Bay City, in the northeast quadrant of the hurricane. Bay City reported a storm total of 17.10 inches. More than 13 inches accompanied the storm as far as 130 miles inland, in a very irregular pattern. In general, rainfall gradually decreased northward, away from the coast, with most of northeast Texas, east of the storm center, receiving as much as 4 inches. Most Gulf drainage streams east of the storm track reached or exceeded flood stage. Low water stages were prevalent in all streams prior to these rains.

Minor flooding occurred along the extreme upper portion of the Calcasieu River in Louisiana from the 12th to the 19th and along the lower Sabine in Texas from the 11th to the 22d. Flooding was restricted to lowlands near the rivers. Some roads were temporarily flooded, but no damages occurred.

Light flooding occurred on the lower portions of the Neches, Trinity, Little, and Brazos Rivers in Texas. The flooding on the lower Neches and Brazos was caused from tides.

Major flooding occurred on Cummins Creek in Fayette and Colorado Counties in Texas and on the Colorado River from Columbus to the Gulf. Flood stages were exceeded at and below Columbus, Tex. Peak stage at Wharton, Tex., was 30.9 feet which was about 1 foot higher than any stage during the flood year of 1957. Damage was not serious nor extensive, but the usual widespread overflow occurred mostly in pastureland from Columbus to the Gulf. Several thousand acres were inundated just north of the Garwood community and State Road 950 was closed north of Garwood, Tex.

Major flooding occurred on the Lavaca and Navidad Basins. Flood stage was exceeded by 6.1 feet on the Lavaca at Edna, Tex., and on the Navidad at Ganado, Tex., by 11.5 feet. Damage was confined to growing crops and other rural damage.

Heavy rains below Falcon, Tex., and above Anzalduas

on both sides of the Rio Grande on the 14th and 15th caused appreciable runoff from the Rio San Juan and Rio Alamo in Mexico and Los Olmos Arroyo in Texas on the 15th. This, together with increased releases from the Falcon on the 18th and 19th, made it necessary to increase the releases from Anzalduas between the 15th and 21st. As a result, a moderate rise occurred on the Rio Grande below Anzalduas, reaching a peak of 15.1 feet at Mercedes (flood stage 21 feet) on the 17th and a crest of 11.4 feet at Brownsville (flood stage 18 feet) on the 20th.

GREAT BASIN

Flash floods caused five deaths in Zion National Park in Utah along the North Fork Virgin River and one death on the Wahweap Wash near Glen Canyon on the 17th. This flash flood occurred in what is known as "The Narrows" of Zion Canyon. Cloudbursts through Utah caused many flash floods. Some streams were the third highest in about 60 years of record. Considerable property damage resulted from the numerous flash floods.

FLOOD STAGE DATA

(All dates in September unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
ATLANTIC SLOPE DRAINAGE	Ft.			Ft.	
Savannah: Clyo, Ga.	11	4	13	12.0	6-7
EAST GULF OF MEXICO DRAINAGE					
Pearl: Bogalusa, La.	15	14	15	15.5	15
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Turkey: Garber, Iowa	11	13	13	11.7	13
Maquoketa: Maquoketa, Iowa	13	14	14	14.0	14
Wapsipinicon: DeWitt, Iowa	10	14	14	10.3	14
North Skunk: Sigourney, Iowa	T16	14	17	18.8	16
Skunk: Oskaloosa, Iowa	15	12	13	16.2	13
Augusta, Iowa	15	14	14	15.3	14
Middle: Indianola, Iowa	15	12	13	16.75	13
Des Moines: Tracy, Iowa	14	14	14	14.8	14
Eddyville, Iowa	15	14	15	18.[illegible]	14
Ottumwa, Iowa	9	14	15	10.85	15
Salt: New London, Mo.	19	14 25	18 27	25.1 20.4	16 26
Fox: Deyton, Ill.	12	25	26	13.7	26
Vermillion: Lowell, Ill.	10	25	26	10.35	26
Meckinaw: Green Valley, Ill.	11	26	28	11.9	28
Spoon: Seville, Ill.	22	24	28	26.3	26
LaMoine: Ripley, Ill.	22	13 24	19 30	2/26.35 2/27.4	14 26
Illinois: Morris, Ill.	13	24	27	17.4	26
LaSalle, Ill.	20	24	30	25.3	27
Peoria, Ill.	18	28	Oct. 2	18.6	29
Havana, Ill.	14	25	Oct. 10	17.1	30
Beardstown, Ill.	14	17 26	18 Oct. 10	14.15 17.4	17 Oct. 1
Meredosia, Ill.	10	14	22	12.8	17
Mississippi: Hannibal, Mo.	16	15	16	16.5	15
Louisiana, Mo.	15	15	17	16.0	15
Clarksville, Dam 24 TW, Mo.	25	16	18	26.3	17
Winfield, Dam 25 TW. Mo.	26	17	19	26.3	18
Grafton, Ill.	18	18	18	18.2	18
Alton, Dam 26 TW, Ill.	21	17	19	22.0	18
Missouri Basin					
Nemaha: Falls City, Nebr.	20	30	30	23.1	30
Tarkio: Fairfax, Mo.	17	12	12	2/17.5	12
Platte: Agency, Mo.	20	3 13	3 15	21.2 2/25.2 2/25.5	3 13 14
Smoky Hill: Ellsworth, Kans.	20	12	13	21.5	13
North Fork Solomon: Downs, Kans.	18	12	12	22.0	22
South Fork Solomon: Osborne, Kans.	12	12	13	20.5	12-13
Solomon: Beloit, Kans.	20	12	15	31.7	13
Glasco, Kans.	22	12	17	35.2	14
Minneapolis, Kans.	26	15	18	31.0	17
Niles, Kans.	24	16	19	28.2	18
Buffalo Creek: Jamestown, Kans.		12	12	19.3	12
Republican: Concordia, Kans.	10	12	14	13.3	12
Clay Center, Kans.	15	13	15	18.4	15
Wakefield, Kans.	11	14	15	11.9	15
Big Blue: Barneston, Nebr.	18	13 30	13 30	19.7 19.0	13 30
Marysville, Kans.	35	13	13	35.8	13
Blue Rapids, Kans.	20	13	13	21.5	14
Black Vermillion: Frankfort, Kans.	19	3 13	4 14	24.5 23.25	3 13

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
MISSISSIPPI SYSTEM (Cont'd.)	Ft.			Ft.	
Missouri Basin Cont'd.)					
Soldier Creek: Topeka, Kans.	12	13	13	12.45	13
Wakarusa: Lawrence, Kans.	23	13	14	27.8	13
Stranger Creek: Tonganoxie, Kans.	22	13	16	25.5	14
Pottawatomie Creek: Garnett, Kans.	26	13	14	35.1	13
Big Bull Creek: Hillsdale, Kans.	20	13	13	20.85	13
Big Sugar Creek: Farlinville, Kans.	24	13	13	30.3	13
Marmaton: Fort Scott, Kans.	38	13	14	2/43.6	13
Little Osage: Fulton, Kans.	22	14	14	27.1	14
Blue: Kansas City, Mo. (Bannister Rd.)	21	13 24	14 24	2/44.5 25.8	13 24
Little Blue: Lake City, Mo.	18	13 24	15 25	27.9 23.6	14 25
Crooked: Richmond, Mo.	18	13	14	27.0	14
Wakenda Creek: Carrollton, Mo.	15	13 24	13 24	20.9 18.5	13 24
Thompson: Trenton, Mo.	20	13	13	21.1	13
Grand: Pattonsburg, Mo.	25	4 14	4 16	25.15 32.0	4 14
Gallatin, Mo.	21	4 13	4 16	22.6 29.6	4 16
Chillicothe, Mo.	24	13 24 30	17 24 Oct. 2	31.95 25.0 28.1	15 24 Oct. 1
Sumner, Mo.	26	4 13 24	5 20 27	27.25 35.3 30.1	5 17 25
Brunswick, Mo.	12	13 25	21 26	2/19.1 18.5 13.65	15 18 25
Chariton: Prairie Hill, Mo.	15	13 24	15 25	20.8 17.1	14 25
Blackwater: Blue Lick, Mo.	25	14 27	21 27	36.5 25.5	16 27
Lamine: Clifton City, Mo.	19	14	15	24.5	15
Petite Saline: Boonville, Mo.	16	14	14	22.2	14
South Grand: Brownington, Mo.	19	14	22	34.7	17
Marais des Cygnes: Quenemo, Kans.	28	13	15	37.0	13-14
Ottowa, Kans	21	13	16	30.5	14
Osawatomie, Kans.	28	13	18	41.8	14
LaCygne, Kans.	25	4 13	6 20	27.8 34.5	5 15
Trading Post, Kans.	24	14	21	31.7	16
Osage: Osceola, Mo.	22	20	25	24.8	22
Schell City, Mo.	25	6 14	9 Oct. 1	27.5 35.2	8 20
Missouri: St. Joseph, Mo.	17	13	13	17.6	13
Lexington, Mo.	22	13	15	25.4	14
Waverly, Mo.	18	13	16	23.4	14
Miami, Mo.	18	14	16	22.35	14
Glasgow, Mo.	25	14	17	28.5	14
Boonville, Mo.	21	14	19	26.3	16
Jefferson City, Mo.	23	15	19	25.7	16
Hermann, Mo.	21	14 25	21 27	26.1 22.3	17 26
St. Charles, Mo.	25	15	21	28.4	18
Arkansas Basin					
Little Arkansas: Sedgwick, Kans.	18	13	14	20.1	14
Walnut: Augusta, Kans.	23	14	14	26.1	14
Chikaskia: Blackwell, Okla.	26	13	13	26.1	13
Salt Fork: Tonkawa, Okla.	17	13	13	21.2	13
Cimarron: Guthrie, Okla.	10	13	14	11.6	14
Perkins, Okla.	12	14	14	13.45	14

FLOOD STAGE DATA

(All dates in September unless otherwise specified)

SEPTEMBER 1961

River and station	Flood stage	Above flood stages -dates		Crest *	
		From–	To–	Stage	Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM (Cont'd.)					
Arkansas Basin (Cont'd.)					
[illegible] (Cont'd.) Stanford, Okla.	18	14	15	19.5	14
Caney: Bartlesville, Okla.	13	13	13	14.3	13
Ramona, Okla.	27	13	18	29.3	15
Bird Creek: Avant, Okla.	16	13	13	27.7	13
Sperry, Okla.	21	13	16	29.1	15
Owasso, Okla.	24	13	17	33.4	16
Verdigris: Independence, Kans.	30	13	16	42.9	15
Lenapah, Okla.	30	15	18	36.0	17
Claremore, Okla.	38	17	19	38.6	18
Inola, Okla.	42	15	21	41.1	18
Cottonwood: Emporia, Kans.	20	16	17	20.05	17
Grand: Miami, Okla.	752	15	24	755.2	22
Commerce, Okla.	17	13	23	19.9	22
Neosho: Emporia, Kans.	22	14	14	23.0	14
Burlington, Kans.	27	13	16	31.6	14
Leroy, Kans.	23	13	16	28.65	13
Iola, Kans.	15	13	17	21.15	15
Chanute, Kans.	20	13	18	28.3	15
Parsons, Kans.	24	14	21	26.6	19
Oswego, Kans.	17	13	22	24.0	20
Arkansas: Ralston, Okla.	16	14	15	18.5	14
Webber Falls, Okla.	23	15	16	24.3	16
Van Buren, Ark.	22	16	17	23.0	16

River and station	Flood stage	Above flood stages -dates		Crest*	
		From–	To–	Stage	Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM (Cont'd.)					
Red Basin					
Washita: Carnegie, Okla.	18	13	13	18.9	13
Atchafalaya Basin					
Atchafalaya: Morgan City, La.	7	10	11	7.45	11
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	12	19	14.5	16
Old Town Bay, La.	4	11	14	#6.5	12
Lake Charles, La.	6	12	13	7.2	12
Sabine: Bon Wier, Tex.	17	14	19	20.2	16-17
Deweyville, Tex.	14	17	22	15.35	18
Orange, Tex.	4	11	14	6.6	12
Neches: Beaumont, Tex.	7	11	12	8.4	12
Trinity: Liberty, Tex.	24	12	18	#28.1	15
Little: Cameron, Tex.	30	13	14	#32.7	14
Brazos: Freeport, Tex.	9	10	15	12.4	11
San Bernard: New Gulf (Boling), Tex.	T36	13	13	36.85	13
Colorado: Columbus, Tex.	24	13	14	29.6	13
Wharton, Tex.	26	13	15	30.9	15
Lavaca: Edna, Tex.	21	12	16	27.1	14
Navidad: Ganado, Tex.	21	12	18	32.5	14

* Provisional
\# Highest Stage Observed
T Tentative
2/ Highest Stage of Record

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	ALBANY, N. Y. (1008 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ALBUQUERQUE, N. MEX. (839 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	86	15.4	94	262	1.0	30	1,619	12.8	63		0.0
1,000--	30	157	16.0	88	283	1.6	30	116				
950----	30	594	16.6	75	302	5.4	30	555				
900----	30	1,055	15.0	68	309	8.4	30	1,024				
850----	30	1,539	13.1	62	302	11.1	30	1,511				
800----	30	2,047	11.2	55	293	11.3	30	2,023	12.9	58	244	5.2
750----	30	2,582	8.5	53	289	11.7	30	2,559	10.0	58	255	10.1
700----	30	3,153	5.4	51	287	13.0	30	3,133	6.4	57	257	13.4
650----	30	3,753	2.0	47	278	13.8	30	3,732	2.3	53	260	15.5
600----	30	4,398	-1.1	36	273	14.8	30	4,379	-1.7	48	261	19.6
550----	30	5,081	-4.6		264	16.5	30	5,061	-5.4	41	261	21.6
500----	30	5,833	-9.0		267	17.1	30	5,809	-9.7		261	26.4
450----	30	6,638	-14.4		263	17.7	30	6,607	-15.3		260	26.8
400----	30	7,526	-20.5		266	19.8	30	7,495	-21.4		257	30.1
350----	30	8,501	-27.5		262	21.6	30	8,464	-28.4		260	32.3
300----	30	9,593	-35.5		265	22.7	29	9,552	-36.3		255	40.6
250----	30	10,839	-44.7		262	25.8	28	10,797	-44.8		256	52.1
200----	30	12,302	-53.9		262	29.7	28	12,261	-53.7		259	52.1
175----	30	13,152	-58.0		262	28.4	28	13,111	-58.3		257	50.1
150----	30	14,115	-62.0		260	24.9	28	14,071	-62.9		259	46.4
125----	30	15,235	-64.9		262	24.1	28	15,180	-67.9		258	31.7
100----	30	16,596	-64.3		263	19.0	28	16,517	-68.0		269	22.5
80-----	30	17,970	-61.2		266	10.3	28	17,870	-63.9		249	8.4
70-----	30	18,807	-59.4		277	4.9	28	18,694	-61.2		230	2.5
60-----	30	19,772	-57.3		271	2.5	28	19,654	-59.0		121	2.9
50-----	30	20,929	-55.4			.0	27	20,807	-56.3		101	6.4
40-----	30	22,358	-53.3		56	1.7	27	22,231	-54.3		87	10.1
30-----	29	24,227	-50.3		37	1.9	26	24,091	-50.9		90	13.6
25-----	28	25,423	-48.9		356	1.2	26	25,280	-49.9		91	14.2
20-----	23	26,883	-47.0		7	.8	25	26,742	-47.6		91	13.0
15-----	16	28,791	-44.8		279	2.1	22	28,657	-45.5		80	10.1

Standard pressure surface (mb.)	AMARILLO, TEXAS (892 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ANCHORAGE, ALASKA (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	1,095	13.7	76	201	3.3	30	30	8.2	83	175	2.5
1,000--	23	116					30	85			168	4.3
950----	28	554					30	504	7.4	70	182	8.4
900----	28	1,021					30	952	4.7	69	183	7.8
850----	28	1,504	15.0	59	242	11.9	30	1,415	1.4	72	192	7.8
800----	28	2,018	14.0	50	255	12.4	30	1,901	-1.7	75	199	8.9
750----	28	2,556	11.3	51	255	16.7	30	2,413	-4.7	74	208	11.1
700----	28	3,133	7.5	51	253	16.1	30	2,952	-7.9	73	217	13.0
650----	28	3,735	3.9	43	248	16.7	30	3,524	-11.0	71	223	15.0
600----	28	4,387	.3	38	242	19.2	30	4,136	-14.5	64	231	17.5
550----	28	5,071	-3.6		245	20.8	30	4,787	-18.6	56	235	19.8
500----	28	5,828	-8.3		250	23.7	30	5,495	-22.9	50	246	22.0
450----	28	6,631	-13.7		249	25.6	30	6,253	-27.8	46	242	25.8
400----	28	7,524	-20.1		248	30.1	30	7,097	-33.4	42	246	30.9
350----	28	8,501	-26.9		254	34.8	30	8,022	-39.6		248	37.3
300----	28	9,596	-34.8		254	39.2	30	9,061	-46.6		257	44.5
250----	28	10,845	-43.8		256	44.1	30	10,253	-52.1		252	48.0
200----	28	12,313	-53.6		260	48.2	30	11,696	-51.1		254	47.6
175----	28	13,163	-58.2		256	44.3	30	12,565	-50.7		251	39.2
150----	28	14,122	-63.4		260	43.5	30	13,569	-50.8		253	33.2
125----	28	15,229	-67.8		258	33.8	30	14,756	-50.7		251	28.8
100----	27	16,574	-68.1		255	20.6	30	16,212	-50.1		257	23.5
80-----	25	17,928	-63.8		232	10.1	30	17,667	-50.8		254	18.3
70-----	25	18,750	-61.3		160	3.3	30	18,538	-51.1		254	18.3
60-----	25	19,712	-58.2		111	6.8	29	19,540	-51.2		262	17.5
50-----	25	20,864	-56.4		96	8.5	29	20,724	-51.3		268	14.6
40-----	24	22,293	-53.9		90	10.5	28	22,185	-51.2		266	14.4
30-----	24	24,153	-50.7		92	12.2	25	24,039	-50.9		276	14.6
25-----	24	25,345	-49.0		83	12.2	23	25,242	-50.2		267	14.4
20-----	21	26,826	-46.5		82	13.6	21	26,723	-49.3		262	13.0
15-----	18	28,740	-44.6				12	28,714	-46.3		277	13.4

Standard pressure surface (mb.)	ANNETTE, ALASKA (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ATHENS, GA. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	37	9.3	86		0.0	30	246	18.2	95	3	3.3
1,000--	30	143	10.1	76	302	.8	30	169				
950----	30	570	9.1	68	245	3.1	30	609	20.2	76	45	3.7
900----	30	1,016	6.4	62	273	4.9	30	1,079	17.8	72	95	2.7
850----	30	1,483	3.4	63	278	7.8	30	1,566	14.8	72	100	2.1
800----	30	1,972	-.8	56	276	9.9	30	2,078	12.1	66	102	1.7
750----	30	2,487	-1.9	48	277	13.4	30	2,614	9.7	53	151	.6
700----	30	3,036	-4.5	40	280	15.7	30	3,187	6.9	45	238	2.1
650----	30	3,614	-7.6	35	282	19.8	30	3,787	3.5	42	262	2.7
600----	30	4,235	-11.2		288	22.5	30	4,439	-.3	40	250	3.3
550----	30	4,893	-14.9	36	296	25.1	30	5,122	-4.3	37	230	3.5
500----	30	5,614	-19.2	43	296	29.0	30	5,876	-9.0	34	239	4.5
450----	30	6,385	-24.0	44	292	37.9	30	6,675	-14.5	29	229	6.6
400----	30	7,242	-29.5	42	297	40.6	30	7,567	-20.4	32	224	8.4
350----	30	8,183	-35.9		296	46.2	30	8,543	-27.2		230	8.9
300----	30	9,236	-43.8		298	51.1	30	9,637	-35.1		251	10.5
250----	30	10,439	-51.3		298	48.2	30	10,885	-43.9		260	11.1
200----	30	11,871	-55.3		301	42.6	30	12,353	-53.4		254	10.5
175----	30	12,724	-54.7		305	38.7	30	13,204	-58.3		262	9.3
150----	29	13,746	-55.0		299	31.3	30	14,162	-63.6		251	9.1
125----	29	14,880	-55.1		296	28.2	30	15,235	-67.9		261	8.4
100----	29	16,305	-54.7		291	21.8	30	16,596	-64.3		263	19.0
80-----	29	17,734	-54.1		292	16.3	30	17,970	-61.2		266	10.3
70-----	29	18,593	-55.8		291	14.0	30	18,807	-59.4		277	4.9
60-----	28	19,580	-53.6		296	12.4	30	19,772	-57.3		271	2.5
50-----	29	20,752	-53.5		297	11.5	30	20,929	-55.4			.0
40-----	26	22,192	-52.7		302	8.4	30	22,358	-53.3		56	1.7
30-----	26	24,053	-51.8		301	9.9	29	24,227	-50.3		37	1.9
25-----	26	25,236	-51.6		304	10.5	28	25,423	-48.9		356	1.2
20-----	19	26,698	-49.8		305	11.1	23	26,883	-47.0		7	.8
15-----	9	28,605	-48.5				16	28,791	-44.8		279	2.1

Standard pressure surface (mb.)	BARROW, ALASKA (1008 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BARTER IS., ALASKA (1008 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	8	0.5	94	88	7.4	30	15	0.1	89	92	9.9
1,000--	30	73			84	8.0	30	78	-.3	88	91	9.9
950----	30	482	-1.1	86	98	8.0	30	490	.7	80	101	4.7
900----	30	915	-1.3	77	130	4.1	30	924	.8	69	132	1.7
850----	30	1,370	-3.1	72	165	2.7	30	1,382	-1.2	66	271	2.5
800----	30	1,848	-5.5	69	181	3.9	30	1,863	-3.9	64	273	3.7
750----	30	2,350	-8.3	67	188	4.3	30	2,366	-7.2	64	269	5.2
700----	30	2,885	-11.5	66	215	4.3	30	2,904	-10.6	64	265	5.6
650----	30	3,446	-15.0	62	189	4.1	30	3,467	-14.1	59	258	5.1
600----	30	4,052	-18.5	56	162	3.9	30	4,074	-17.9	53	256	4.9
550----	30	4,690	-22.6	54	175	4.3	30	4,713	-22.0	48	240	6.6
500----	30	5,391	-27.1	49	181	5.6	30	5,415	-26.8	47	246	7.8
450----	30	6,131	-32.4	45	192	6.4	30	6,159	-32.1	44	247	8.5
400----	30	6,964	-38.5		205	6.2	30	6,990	-37.9	47	245	9.9
350----	30	7,869	-44.9		205	5.8	30	7,898	-44.0		254	12.0
300----	30	8,885	-51.5		200	7.8	30	8,917	-50.6		257	16.3
250----	30	10,056	-55.3		215	5.8	30	10,090	-55.1		258	19.8
200----	30	11,497	-50.1		226	10.9	30	11,527	-50.9		261	19.2
175----	30	12,372	-49.2		231	9.9	30	12,399	-49.5		266	18.3
150----	30	13,384	-49.1		238	10.3	30	13,409	-49.1		268	16.3
125----	30	14,581	-48.7		251	11.7	30	14,606	-49.0		270	15.7
100----	29	16,044	-48.8		246	10.3	29	16,070	-49.1		274	14.8
80-----	29	17,508	-49.5		250	13.4	27	17,533	-49.4		272	16.3
70-----	29	18,376	-49.9		256	12.6	27	18,406	-49.8		271	15.0
60-----	29	19,389	-50.4		257	12.6	27	19,416	-50.2		271	14.8
50-----	29	20,577	-50.9		257	12.4	27	20,605	-50.7		270	14.0
40-----	28	22,033	-51.6		258	14.0	26	22,054	-51.4		272	14.4
30-----	29	23,899	-52.0		261	14.2	26	23,921	-52.0		270	15.5
25-----	28	25,080	-51.8		260	13.0	25	25,110	-51.7		269	15.0
20-----	24	26,510	-51.3		265	15.7	24	26,563	-50.9		269	18.5
15-----	9	28,462	-48.1				11	28,433	-49.3			

Standard pressure surface (mb.)	BETHEL, ALASKA (1002 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BISMARCK, N. DAK. (955 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	6.5	94	200	6.8	28	505	7.1	81	328	2.3
1,000--	30	57			185	9.3	28	121				
950----	30	480	4.7	87	192	14.0	28	545			335	2.1
900----	30	917	1.9	87	197	15.3	28	995	9.6	58	319	6.8
850----	30	1,376	-.8	83	202	15.9	28	1,468	7.1	56	307	5.8
800----	30	1,858	-3.2	81	203	15.7	28	1,964	4.7	57	288	7.8
750----	30	2,366	-5.9	77	210	17.1	28	2,483	2.4	54	279	10.9
700----	30	2,905	-9.1	74	213	15.9	28	3,045	-.4	53	272	13.6
650----	30	3,470	-12.5	67	216	16.9	28	3,628	-3.8	56	266	16.5
600----	30	4,082	-16.0	57	213	18.1	28	4,263	-7.6	54	261	21.2
550----	30	4,731	-19.8	54	211	19.2	28	4,926	-11.9	49	258	23.3
500----	30	5,434	-24.5	51	212	21.2	28	5,659	-16.3	39	257	25.1
450----	30	6,187	-29.7	50	219	23.5	28	6,435	-21.4		253	29.3
400----	30	7,023	-35.6	46	215	29.3	28	7,304	-27.6		250	34.4
350----	29	7,939	-41.4		211	37.5	28	8,251	-34.3		256	39.1
300----	29	8,972	-47.3		216	40.0	28	9,312	-42.1		246	46.6
250----	29	10,165	-51.1		225	42.9	28	10,525	-49.6		241	51.7
200----	28	11,620	-48.9		230	39.1	28	11,972	-52.9		245	60.8
175----	28	12,499	-48.2		233	34.4	28	12,831	-53.9		250	58.7
150----	28	13,512	-48.8		233	31.5	28	13,818	-55.3		250	51.7
125----	28	14,709	-49.0		245	25.1	27	14,973	-56.6		253	41.8
100----	28	16,173	-49.5		247	22.7	25	16,391	-56.5		259	26.6
80-----	28	17,634	-49.9		244	19.2	25	17,809	-56.1		255	17.9
70-----	25	18,505	-50.3		251	19.0	25	18,658	-55.0		256	14.8
60-----	23	19,503	-49.2		254	19.2	25	19,647	-54.4		255	11.5
50-----	22	20,689	-50.8		253	16.9	24	20,819	-53.6		254	8.7
40-----	21	22,140	-51.5		267	13.4	24	22,258	-52.2		255	7.2
30-----	18	24,007	-51.5		256	17.7	24	24,129	-50.4		269	7.0
25-----	13	25,196	-50.4				24	25,321	-49.2		281	8.2
20-----	10	26,631	-49.6				20	26,777	-48.6		271	8.2
15-----							15	28,676	-46.7			

Standard pressure surface (mb.)	BOISE, IDAHO (915 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BROWNSVILLE, TEXAS (1011 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	868	9.0	61	145	2.7	30	7	23.8	92		0.0
1,000--	30	126					30	104	24.5	86	131	4.1
950----	30	558					30	560	22.5	81	135	8.2
900----	30	1,008	11.8	50	186	1.0	30	1,024	19.7	76	137	8.9
850----	30	1,487	10.8	46	300	3.5	30	1,516	17.1	67	134	7.0
800----	30	1,990	7.8	46	301	5.2	30	2,032	14.8	58	126	6.6
750----	30	2,516	4.2	48	293	8.2	30	2,574	12.4	51	113	4.5
700----	30	3,077	.7	48	285	10.9	30	3,153	9.3	51	100	3.7
650----	30	3,667	-2.8	50	281	14.2	30	3,761	5.8	49	75	3.9
600----	30	4,299	-6.6	50	275	16.7	30	4,416	2.0	49	48	4.3
550----	30	4,970	-11.1	49	275	19.2	30	5,104	-2.2	44	71	3.9
500----	30	5,699	-15.8	45	274	21.8	29	5,866	-6.6	36	41	7.2
450----	30	6,477	-21.2	38	275	23.9	29	6,676	-11.7	33	39	7.4
400----	30	7,345	-27.5	37	279	26.6	29	7,577	-17.4		35	8.2
350----	30	8,293	-34.3		279	29.1	29	8,564	-24.2		17	11.3
300----	30	9,354	-41.9		277	31.5	29	9,671	-32.3		9	10.9
250----	30	10,572	-48.5		281	34.4	29	10,932	-42.1		3	15.9
200----	30	12,022	-53.6		277	35.2	29	12,405	-53.6		1	17.1
175----	30	12,879	-54.8		276	37.1	29	13,252	-59.9		2	17.3
150----	30	13,863	-56.1		276	32.4	29	14,200	-66.2		13	13.6
125----	30	15,016	-58.0		276	29.0	25	15,286	-72.2		25	9.7
100----	29	16,426	-58.5		271	20.4	22	16,594	-72.9		53	10.1
80-----	28	17,832	-57.4		271	15.5	21	17,916	-67.5		87	12.8
70-----	28	18,680	-56.5		268	12.2	20	18,727	-64.3		86	15.5
60-----	25	19,657	-55.7		280	8.0	18	19,674	-60.7		90	17.3
50-----	23	20,834	-54.4		283	6.4	18	20,817	-57.3		92	18.8
40-----	23	22,269	-52.7		266	5.1	16	22,237	-54.4		88	21.0
30-----	21	24,136	-51.0		318	2.7	11	24,087	-50.8			
25-----	20	25,320	-50.0		198	1.4	10	25,274	-47.7			
20-----	17	26,788	-48.7		271	2.5	9	26,752	-45.8			
15-----							5	28,660	-43.2			

Standard pressure surface (mb.)	BUFFALO, N. Y. (994 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BURRWOOD, LA. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	218	15.3	87	197	4.5	30	3	25.8	85	128	5.1
1,000--	30	162					30	134	25.1	82	118	6.0
950----	30	599	17.2	71	249	10.5	30	582	22.3	78	119	10.7
900----	30	1,061	15.2	68	258	13.4	30	1,053	19.2	76	132	11.5
850----	30	1,544	12.6	64	258	13.6	30	1,543	16.3	71	140	12.6
800----	30	2,052	10.1	58	251	15.5	30	2,057	14.0	61	137	11.9
750----	30	2,583	7.6	52	252	17.7	30	2,600	11.2	54	146	10.3
700----	30	3,153	4.6	45	253	16.7	30	3,173	7.9	51	139	8.4
650----	30	3,749	1.4	42	253	17.7	30	3,779	4.5	48	150	5.1
600----	30	4,395	-1.9	40	252	17.5	30	4,429	.8	49	152	4.5
550----	30	5,075	-5.5	34	249	20.2	30	5,116	-3.2	49	145	2.9
500----	30	5,831	-9.8		251	20.2	30	5,873	-7.8	43	152	1.7
450----	30	6,627	-15.3		254	22.5	30	6,680	-12.8	38	209	1.7
400----	30	7,517	-21.1	33	253	23.5	30	7,575	-18.8	39	174	2.3
350----	30	8,489	-28.1		254	23.9	30	8,557	-25.6	40	233	1.2
300----	30	9,579	-35.9		250	27.2	30	9,656	-33.6	36	267	2.7
250----	30	10,821	-45.2		250	28.0	30	10,910	-42.9		308	6.4
200----	30	12,281	-53.7		251	32.1	30	12,379	-53.9		296	9.1
175----	30	13,131	-57.8		254	31.3	30	13,225	-59.6		300	7.8
150----	30	14,094	-61.9		257	28.0	29	14,175	-65.0		294	8.0
125----	30	15,214	-64.6		252	23.9	29	15,273	-70.0		340	5.8
100----	29	16,577	-63.8		250	20.2	26	16,592	-70.8		76	6.4
80-----	29	17,954	-60.8		251	11.9	24	17,922	-66.7		91	11.7
70-----	29	18,788	-59.2		250	7.4	24	18,747	-63.4		89	13.4
60-----	28	19,754	-57.4		252	4.1	23	19,689	-59.9		88	17.1
50-----	28	20,911	-55.4		300	2.1	23	20,838	-56.6		88	19.8
40-----	28	22,340	-53.3		342	1.2	22	22,260	-53.7		87	19.4
30-----	28	24,203	-50.8		326	1.7	21	24,122	-50.0		87	22.3
25-----	27	25,396	-49.0		341	2.1	21	25,320	-47.9		87	22.5
20-----	27	26,867	-47.0		24	1.9	18	26,805	-45.4		87	23.7
15-----	20	28,753	-45.2		277	4.1	9	28,762	-41.4			

Standard pressure surface (mb.)	CAPE HATTERAS, N. C. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	4	22.6	88	23	4.1
1,000--	29	141	22.9	83	14	6.0
950----	29	585	20.3	81	17	7.6
900----	29	1,051	17.6	77	29	7.2
850----	29	1,541	15.0	70	31	5.6
800----	29	2,053	12.6	62	25	4.9
750----	29	2,593	10.3	53	7	5.1
700----	29	3,165	7.4	51	9	5.1
650----	29	3,769	4.1	49	355	5.8
600----	29	4,419	.7	39	345	5.8
550----	29	5,103	-3.1	37	322	4.3
500----	29	5,862	-7.5		318	5.2
450----	29	6,667	-12.6		293	4.1
400----	29	7,585	-18.8		279	5.4
350----	29	8,547	-25.5		288	5.2
300----	29	9,647	-33.7		279	5.1
250----	29	10,900	-43.2		239	6.8
200----	29	12,369	-53.7		240	8.9
175----	29	13,217	-58.8		240	7.4
150----	29	14,173	-63.6		239	5.2
125----	29	15,282	-67.1		205	2.5
100----	29	16,622	-68.2		155	3.1
80-----	29	17,971	-64.3		93	6.6
70-----	29	18,803	-61.5		89	8.4
60-----	29	19,755	-58.7		85	10.3
50-----	29	20,908	-55.9		82	12.8
40-----	28	22,349	-52.7		86	13.8
30-----	27	24,211	-48.9		95	15.0
25-----	26	25,412	-47.2		91	12.6
20-----	22	26,896	-45.7		81	13.4
15-----	12	28,857	-43.1			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1961

CARIBOU, ME.
(995 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	191	11.9	94	233	1.9
1,000	30	149				
950	30	576	12.8	80	252	6.4
900	30	1,035	11.3	72	265	11.1
850	30	1,512	10.2	63	269	16.3
800	30	2,015	8.4	56	271	19.2
750	30	2,546	5.9	52	270	21.6
700	30	3,110	3.5	49	270	23.3
650	30	3,704	.6	45	268	25.6
600	30	4,348	-2.9	44	266	27.8
550	30	5,029	-6.7	41	264	30.3
500	30	5,771	-11.2	38	266	32.3
450	30	6,567	-16.7		265	35.4
400	30	7,447	-22.7	37	267	36.9
350	30	8,414	-29.5		269	39.6
300	30	9,496	-37.3		268	44.1
250	30	10,732	-46.2		273	46.4
200	30	12,186	-54.6		277	51.7
175	30	13,034	-57.9		279	48.4
150	30	13,999	-60.7		272	46.0
125	30	15,129	-62.3		271	39.2
100	30	16,511	-61.0		278	27.6
80	30	17,906	-58.8		283	16.3
70	30	18,749	-57.1		281	11.9
60	30	19,727	-56.1		282	8.2
50	30	20,890	-54.7		296	6.0
40	29	22,325	-52.8		297	2.9
30	27	24,191	-50.4		331	3.5
25	26	25,387	-49.0		336	3.9
20	26	26,859	-47.1		347	3.5
15	16	28,750	-44.7		296	2.5
10						

CHARLESTON, S. C.
(1016 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	13	20.4	91	1	3.5
1,000	30	154	22.3	82	13	5.6
950	30	596	21.0	76	35	6.4
900	30	1,068	18.6	71	37	4.5
850	30	1,558	15.7	68	27	4.3
800	30	2,071	13.0	61	44	3.7
750	30	2,607	10.3	56	31	2.9
700	30	3,184	7.6	47	17	2.5
650	30	3,788	4.6	39	352	1.0
600	30	4,440	.7	39	349	1.9
550	30	5,122	-3.5	36	313	2.7
500	30	5,882	-7.8	34	286	2.7
450	30	6,688	-13.2	33	272	3.7
400	30	7,582	-19.1	29	241	4.1
350	30	8,562	-26.3		227	5.2
300	30	9,658	-34.7		229	8.5
250	30	10,907	-44.0		226	10.3
200	30	12,372	-54.4		229	7.0
175	30	13,219	-59.1		244	6.6
150	30	14,175	-64.0		241	2.7
125	30	15,281	-68.4		167	2.5
100	30	16,616	-68.7		112	6.0
80	30	17,963	-65.0		93	10.1
70	30	18,789	-62.1		88	12.0
60	30	19,742	-58.9		83	14.4
50	28	20,894	-56.4		87	15.9
40	28	22,323	-52.9		88	17.5
30	27	24,188	-50.2		92	17.9
25	22	25,387	-48.6		82	18.3
20	16	26,858	-45.5		91	18.7
15	7	28,729	-44.0			
10						

COLD BAY, ALASKA
(1009 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	27	8.3	87	219	7.6
1,000	30	100			236	7.6
950	30	522	5.7	84	244	11.5
900	30	962	3.0	83	242	13.6
850	30	1,423	.7	80	247	15.0
800	30	1,909	-1.4	70	244	15.0
750	30	2,424	-3.8	62	246	19.4
700	30	2,963	-6.7	53	246	21.0
650	30	3,537	-10.1	50	243	24.3
600	30	4,151	-13.5	45	245	26.6
550	30	4,804	-17.2	42	244	30.1
500	30	5,517	-21.6		246	33.8
450	30	6,280	-26.3		246	35.6
400	30	7,130	-31.7		246	41.4
350	30	8,063	-37.7		244	47.2
300	30	9,111	-44.3		242	55.4
250	30	10,317	-49.6		241	61.4
200	30	11,770	-51.0		243	54.0
175	30	12,639	-50.9		242	47.6
150	30	13,641	-51.4		243	41.6
125	30	14,823	-51.9		245	35.2
100	30	16,268	-51.7		244	33.4
80	29	17,713	-51.8		247	24.5
70	29	18,585	-51.7		246	22.5
60	29	19,578	-51.8		249	21.0
50	28	20,757	-51.9		253	17.7
40	26	22,206	-51.4		257	15.7
30	22	24,073	-50.5		262	11.5
25	21	25,263	-50.1		263	14.2
20	15	26,754	-48.5		273	15.9
15						
10						

COLUMBIA, MO.
(988 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	238	15.6	92	150	4.3
1,000	30	135				
950	30	573	17.7	72	199	12.2
900	30	1,035	15.5	72	224	19.4
850	30	1,519	13.1	66	236	19.0
800	30	2,028	11.5	53	231	17.5
750	30	2,561	8.8	50	228	17.7
700	30	3,134	5.8	50	228	18.7
650	30	3,731	2.2	46	233	20.4
600	30	4,379	-1.4	41	238	21.4
550	30	5,060	-5.4		235	24.1
500	30	5,810	-9.9		240	26.6
450	30	6,611	-15.0		244	28.0
400	30	7,497	-20.8		248	28.6
350	30	8,471	-27.4		256	32.1
300	30	9,564	-35.5		264	34.6
250	30	10,808	-44.5		263	39.2
200	30	12,271	-54.1		259	41.6
175	30	13,119	-58.4		258	39.6
150	30	14,079	-62.3		260	38.1
125	30	15,197	-65.4		253	30.1
100	30	16,553	-65.0		243	19.8
80	30	17,921	-62.3		230	8.2
70	30	18,752	-59.9		200	5.2
60	30	19,718	-57.4		134	3.7
50	29	20,877	-55.5		93	6.6
40	29	22,306	-53.3		94	9.5
30	25	24,177	-50.6		84	8.9
25	22	25,371	-49.3		75	9.5
20	19	26,834	-47.5		86	7.2
15	14	28,740	-45.2			
10						

DAYTON, OHIO
(985 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	297	15.8	92	153	0.6
1,000	30	164				
950	30	605	18.3	72	240	5.2
900	30	1,066	15.6	72	250	8.5
850	30	1,550	13.1	64	242	9.5
800	30	2,059	10.8	57	235	11.1
750	30	2,594	8.2	52	236	13.4
700	30	3,164	5.3	49	243	13.0
650	30	3,763	2.2	45	244	14.0
600	30	4,409	-1.3	36	241	15.9
550	30	5,094	-5.4	33	238	16.7
500	30	5,841	-9.9	30	238	17.7
450	29	6,642	-15.0		242	17.9
400	29	7,530	-21.0		242	18.3
350	29	8,502	-28.1		247	18.7
300	29	9,591	-36.1		250	19.2
250	29	10,834	-44.9		258	21.6
200	29	12,298	-53.5		258	24.5
175	29	13,150	-57.5		256	21.4
150	29	14,114	-61.6		247	20.2
125	28	15,233	-65.3		244	20.4
100	28	16,588	-65.4		245	14.2
80	27	17,958	-62.2		243	8.0
70	27	18,794	-60.1		215	3.5
60	27	19,754	-57.8		133	1.9
50	27	20,909	-55.6		95	3.5
40	27	22,338	-53.4		92	4.1
30	27	24,206	-50.0		66	4.1
25	26	25,397	-49.0		60	4.1
20	25	26,868	-47.3		72	1.7
15	19	28,773	-44.3		219	2.5
10	8	31,513	-41.8			

DENVER, COLO.
(838 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,611	7.7	74	210	1.0
1,000	30	129				
950	30	561				
900	30	1,017				
850	30	1,493				
800	30	1,997	9.7	58	276	2.5
750	30	2,531	7.9	52	276	4.5
700	30	3,098	4.6	54	272	9.5
650	30	3,695	1.1	53	271	12.6
600	30	4,338	-3.4	55	268	19.0
550	30	5,015	-8.2	57	266	23.9
500	30	5,755	-12.5	44	260	27.2
450	30	6,546	-17.7		258	30.9
400	30	7,424	-23.8		254	36.1
350	29	8,384	-31.1		253	41.0
300	29	9,460	-38.7		251	49.2
250	29	10,690	-46.9		251	54.8
200	29	12,147	-53.2		252	59.5
175	29	13,001	-56.4		253	53.6
150	29	13,972	-59.6		251	47.6
125	29	15,105	-62.2		253	36.7
100	29	16,480	-62.7		249	23.3
80	29	17,864	-59.8		247	12.2
70	29	18,706	-57.7		238	5.6
60	29	19,677	-55.9		239	1.7
50	29	20,840	-54.6		141	1.0
40	29	22,273	-53.1		82	4.3
30	26	24,142	-50.6		82	5.6
25	25	25,339	-49.2		70	5.8
20	24	26,805	-47.4		106	3.9
15	21	28,723	-45.7		73	4.3
10	10	31,406	-42.8			

DODGE CITY, KANS.
(924 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	28	792	12.7	81		0.0
1,000	28	119				
950	28	554				
900	28	1,013	13.2	72	198	6.0
850	28	1,495	13.9	63	228	12.0
800	28	2,006	13.2	53	230	15.5
750	28	2,543	10.8	47	236	15.7
700	28	3,119	7.1	45	231	15.7
650	28	3,721	3.2	47	226	17.7
600	28	4,369	-1.1	44	230	20.2
550	28	5,052	-5.4	39	236	23.1
500	28	5,800	-10.0		239	23.9
450	28	6,602	-15.2		241	29.0
400	28	7,486	-21.5		243	33.4
350	28	8,457	-28.4		243	36.5
300	28	9,546	-36.2		242	41.4
250	28	10,788	-45.3		248	44.5
200	28	12,250	-53.9		252	48.6
175	28	13,100	-58.0		251	44.9
150	28	14,060	-62.6		251	42.0
125	28	15,175	-66.0		248	34.8
100	25	16,535	-65.6		248	21.0
80	23	17,908	-62.0		230	12.2
70	23	18,743	-59.7		212	7.6
60	22	19,707	-57.6		177	5.6
50	22	20,864	-55.1		121	4.1
40	22	22,297	-53.0		99	8.9
30	22	24,163	-50.7		86	10.1
25	22	25,355	-49.2		79	8.0
20	22	26,825	-47.5		67	8.0
15	18	28.736	-45.2		76	7.8
10						

EL PASO, TEXAS
(882 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,197	18.9	61	309	1.7
1,000	30	103				
950	30	549				
900	30	1,023				
850	30	1,516	18.6	53	282	2.5
800	30	2,034	15.4	55	249	6.0
750	30	2,575	12.2	56	233	8.4
700	30	3,154	8.4	55	237	9.7
650	30	3,760	4.5	57	231	10.5
600	30	4,411	.2	56	235	10.5
550	30	5,096	-4.0	47	247	13.8
500	30	5,851	-8.2		256	17.9
450	30	6,661	-13.1		254	19.8
400	30	7,552	-19.4		252	22.9
350	30	8,531	-26.2		253	28.2
300	30	9,628	-34.2		252	33.2
250	30	10,881	-43.3		254	37.9
200	30	12,349	-53.7		261	44.1
175	30	13,197	-59.3		262	44.5
150	30	14,150	-65.0		262	41.8
125	30	15,248	-69.9		258	29.7
100	30	16,566	-71.9		254	16.3
80	30	17,896	-66.9		218	2.5
70	30	18,713	-63.2		121	3.9
60	29	19,662	-60.1		94	10.3
50	29	20,806	-57.8		93	13.0
40	29	22,221	-54.8		88	15.9
30	27	24,074	-51.8		92	18.1
25	26	25,258	-50.4		87	19.4
20	24	26,728	-47.7		90	20.0
15	22	28,644	-45.1		78	18.8
10	15	31,356	-41.9			

ELY, NEV.
(809 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,908	4.1	52	186	5.8
1,000	30	142				
950	30	572				
900	30	1,025				
850	30	1,502				
800	30	2,002	8.5	46	187	4.9
750	30	2,534	8.4	40	221	4.1
700	30	3,103	4.6	42	260	9.5
650	30	3,694	.8	43	257	13.2
600	30	4,340	-3.2	40	258	15.9
550	30	5,013	-7.8	38	267	18.1
500	30	5,758	-12.2	30	272	23.7
450	30	6,549	-17.5	28	272	24.7
400	30	7,427	-23.8		268	23.9
350	30	8,388	-31.0		266	25.1
300	30	9,463	-39.4		260	27.4
250	29	10,693	-47.8		265	34.8
200	28	12,146	-53.7		262	37.3
175	28	12,999	-56.2		267	41.2
150	28	13,972	-58.7		270	35.0
125	28	15,111	-60.7		269	25.6
100	28	16,495	-61.6		268	15.9
80	27	17,884	-59.6		255	8.2
70	27	18,736	-57.7		254	4.1
60	27	19,699	-56.1		201	1.4
50	27	20,862	-54.7		125	2.3
40	24	22,289	-52.7		81	2.3
30	24	24,155	-50.4		102	3.9
25	23	25,348	-49.0		109	3.1
20	20	26,819	-47.4		74	5.2
15	16	28,742	-46.0			
10						

FAIRBANKS, ALASKA
(993 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	135	4.7	90	311	0.8
1,000	30	77				
950	30	494	5.6	71	234	4.7
900	30	937	3.1	70	243	9.7
850	30	1,398	.1	71	244	11.9
800	30	1,882	-3.1	72	242	13.8
750	30	2,388	-6.2	67	241	14.4
700	30	2,927	-9.2	61	235	15.3
650	30	3,493	-12.6	61	235	16.7
600	30	4,104	-16.3	59	234	17.9
550	30	4,746	-20.5	59	236	20.4
500	30	5,452	-25.3	58	239	23.5
450	30	6,199	-30.4	54	238	23.9
400	30	7,037	-36.4	52	240	25.5
350	30	7,951	-42.7		240	27.0
300	30	8,976	-49.1		240	31.1
250	29	10,163	-52.5		246	34.2
200	29	11,612	-50.0		248	29.0
175	29	12,487	-49.3		255	25.8
150	29	13,499	-49.4		252	23.5
125	29	14,694	-49.3		254	20.0
100	29	16,157	-49.6		259	18.7
80	28	17,622	-49.6		253	16.1
70	28	18,490	-50.0		253	15.0
60	28	19,501	-50.5		258	15.3
50	27	20,688	-51.0		253	14.8
40	25	22,140	-51.2		260	14.2
30	22	23,994	-51.5		262	15.0
25	19	25,180	-51.4		264	15.0
20	12	26,663	-49.7			
15						
10						

FLINT, MICH.
(991 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	234	14.7	91	206	3.1
1,000	30	154				
950	30	594	16.6	75	239	9.7
900	30	1,053	14.4	75	251	11.7
850	30	1,535	12.0	68	247	15.2
800	30	2,042	9.9	58	244	15.7
750	30	2,576	7.1	56	245	17.5
700	30	3,142	4.3	49	244	20.0
650	30	3,740	1.1	52	247	21.6
600	30	4,382	-2.5	47	250	23.3
550	30	5,063	-6.3	43	250	25.5
500	29	5,811	-10.[illegible]	36	249	24.9
450	29	6,611	-15.9	35	248	26.0
400	29	7,493	-21.8		248	26.8
350	29	8,463	-28.8	35	245	30.5
300	29	9,549	-36.9		247	31.7
250	29	10,786	-45.9		252	34.0
200	29	12,245	-53.8		255	37.5
175	29	13,096	-57.4		258	35.9
150	29	14,063	-60.8		254	30.9
125	29	15,188	-63.8		246	27.4
100	29	16,556	-62.9		247	22.7
80	29	17,938	-60.4		246	12.0
70	29	18,782	-58.3		243	7.2
60	29	19,748	-56.9		248	3.7
50	29	20,907	-55.4		188	1.2
40	29	22,338	-52.8		302	1.7
30	29	24,206	-50.1		51	1.9
25	27	25,395	-49.0		360	1.9
20	27	26,867	-47.2		285	2.5
15	24	28,769	-45.1		307	5.4
10	5	31,585	-40.9			

FORT WORTH, TEXAS
(994 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	180	20.4	84	175	1.7
1,000	30	130				
950	30	574	19.7	78	169	8.7
900	30	1,040	18.0	75	180	11.3
850	30	1,529	16.3	67	191	9.5
800	30	2,044	14.5	61	207	5.4
750	30	2,585	11.2	62	208	4.3
700	30	3,160	7.8	58	230	4.1
650	30	3,767	4.1	50	242	4.1
600	30	4,416	.5	45	238	5.1
550	30	5,106	-3.4	41	257	6.2
500	30	5,858	-7.6	35	258	[illegible].2
450	30	6,670	-12.9		269	10.5
400	30	7,560	-18.7		273	12.8
350	30	8,542	-25.7		276	14.6
300	30	9,640	-34.0		277	18.8
250	30	10,893	-43.3		282	25.[illegible]
200	30	12,361	-53.6		279	30.5
175	30	13,209	-59.2		281	28.0
150	30	14,162	-64.7		278	24.7
125	30	15,261	-69.6		276	20.6
100	30	16,585	-70.5		265	9.3
80	29	17,924	-66.1		162	3.5
70	29	18,747	-62.5		113	5.6
60	29	19,700	-59.0		102	10.5
50	29	20,850	-56.3		98	13.4
40	28	22,276	-54.0		89	15.3
30	27	24,134	-50.6		91	17.1
25	26	25,327	-48.5		85	17.9
20	26	26,801	-46.6		84	17.9
15	14	28,728	-43.6			
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GLASGOW, MONT.
(933 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	696	6.5	77	41	2.9
1,000	30	124				
950	30	548				
900	30	997	8.5	64	315	3.1
850	30	1,469	6.8	61	305	8.0
800	30	1,965	3.7	62	304	10.5
750	30	2,485	.5	62	296	11.3
700	30	3,037	-2.6	61	289	14.0
650	30	3,617	-6.1	56	279	15.0
600	30	4,245	-9.7	51	276	17.1
550	30	4,904	-13.8	47	267	19.6
500	30	5,630	-18.4	44	270	22.9
450	30	6,398	-23.7	41	268	24.3
400	30	7,256	-29.9	40	269	24.1
350	30	8,197	-36.8		269	26.2
300	30	9,246	-44.7		264	31.3
250	30	10,449	-50.7		264	34.0
200	30	11,895	-52.3		261	34.0
175	30	12,760	-52.6		261	35.9
150	30	13,753	-53.7		259	34.0
125	30	14,923	-54.4		261	29.0
100	30	16,351	-54.9		261	25.5
80	30	17,779	-54.3		263	19.2
70	30	18,635	-54.2		264	16.3
60	29	19,619	-53.[illegible]		260	12.6
50	29	20,792	-53.5		262	11.3
40	29	22,230	-52.4		264	8.9
30	28	24,102	-50.4		262	10.1
25	28	25,293	-49.5		266	10.3
20	23	26,765	-48.0		274	9.9
15	10	28,737	-46.3			
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GRAND JUNCTION, COLO.
(852 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,474	11.2	65	114	5.8
1,000	30	116				
950	30	550				
900	30	1,011				
850	30	1,497			112	6.6
800	30	2,005	11.2	54	160	6.8
750	30	2,539	8.4	51	237	7.6
700	30	3,108	4.6	52	256	13.0
650	30	3,704	.4	56	258	17.1
600	30	4,346	-4.2	60	259	19.8
550	30	5,020	-8.7	52	255	23.3
500	30	5,759	-13.2	43	259	25.8
450	30	6,551	-18.0		263	29.7
400	30	7,426	-24.2		263	35.8
350	29	8,383	-31.3		265	40.4
300	28	9,456	-39.2		264	46.8
250	28	10,683	-47.4		263	46.2
200	28	12,137	-53.3		264	48.8
175	28	12,992	-55.9		262	48.4
150	28	13,966	-58.8		260	44.9
125	28	15,100	-62.1		260	35.2
100	28	16,475	-62.8		257	21.4
80	27	17,852	-60.6		257	13.6
70	26	18,686	-58.9		254	7.4
60	25	19,651	-57.0		237	3.3
50	24	20,810	-54.8		140	.8
40	24	22,241	-53.5		105	2.5
30	22	24,098	-51.3		101	5.8
25	22	25,285	-50.1		91	6.4
20	21	26,744	-48.2		87	6.4
15	15	28,627	-46.7		100	4.5
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GREAT FALLS, MONT.
(887 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,123	6.1	70	230	5.8
1,000	30	128				
950	30	557				
900	30	1,008				
850	30	1,478	7.0	55	250	10.7
800	30	1,973	4.0	57	288	10.3
750	30	2,492	.8	58	285	12.4
700	30	3,047	-2.5	58	291	12.2
650	30	3,624	-5.8	56	281	15.2
600	30	4,255	-9.5	52	277	18.1
550	30	4,914	-13.8	50	275	23.9
500	30	5,640	-18.2	46	278	22.0
450	30	6,414	-23.2	41	282	26.2
400	30	7,273	-29.3	37	280	27.6
350	30	8,212	-36.5		277	30.3
300	30	9,263	-44.0		272	33.6
250	30	10,470	-49.9		275	35.2
200	29	11,926	-53.0		277	33.8
175	29	12,787	-52.9		272	33.8
150	28	13,785	-53.5		269	31.1
125	28	14,954	-54.6		265	28.8
100	27	16,391	-55.2		267	23.1
80	25	17,812	-54.2		264	20.0
70	24	18,662	-54.2		268	16.1
60	24	19,651	-53.7		263	12.2
50	23	20,821	-53.1		264	10.9
40	23	22,261	-52.0		270	9.3
30	22	24,125	-50.7		272	8.9
25	20	25,317	-49.5		265	8.7
20	16	26,792	-48.0		256	8.5
15	5	28,653	-48.1			
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1961

Standard pressure surface (mb.)	GREEN BAY, WIS. (990 MB.)						GREENSBORO, N. C. (988 MB.)						HILO, HAWAII (1014 MB.)						INTERNAT. FALLS, MINN. (971 MB.)						JACKASS FLATS, NEV. (889 MB.)					
					Wind						Wind						Wind						Wind						Wind	
	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Direction	Speed
SURFACE	30	210	13.1	87	252	2.9	30	273	17.2	94	342	2.5	30	11	20.9	85	239	5.6	30	360	8.3	86	167	1.4	30	1,100	15.7	30	44	4.7
1,000--	30	128					30	168					30	132	22.8	77	234	5.2	30	110					30	88				
950----	30	564	14.4	69	247	11.1	30	612	19.2	77	3	6.0	30	585	20.1	80	127	3.3	30	536	10.1	80	194	4.9	30	527				
900----	30	1,017	12.5	65	246	12.0	30	1,073	17.1	74	17	5.6	30	1,044	16.9	84	101	6.8	30	987	9.3	74	244	9.3	30	999				
850----	30	1,496	10.6	56	247	16.9	30	1,560	14.6	72	16	2.7	30	1,531	13.9	85	90	8.0	30	1,459	7.0	70	244	10.9	30	1,488	18.5	27	132	2.5
800----	30	2,000	8.6	51	246	17.5	30	2,071	12.1	63	350	2.1	30	2,041	11.6	75	84	7.0	30	1,955	4.8	63	250	14.8	30	2,004	15.0	28	199	5.2
750----	30	2,531	6.2	47	249	20.4	30	2,609	9.6	54	322	2.1	30	2,586	10.0	53	89	7.0	30	2,483	2.4	56	245	17.7	30	2,541	10.8	33	219	7.4
700----	30	3,095	3.2	46	247	22.2	30	3,181	6.5	48	313	2.9	30	3,152	8.3	40	88	4.7	30	3,035	- .5	54	250	21.2	30	3,117	6.5	36	239	7.2
650----	30	3,689	- .4	48	246	23.7	30	3,786	3.4	41	299	3.5	30	3,764	5.6	30	68	2.7	30	3,621	- 3.4	52	249	24.5	30	3,714	2.8	32	242	9.9
600----	30	4,328	- 4.0	47	247	26.4	30	4,433	- .1	33	297	3.7	30	4,413	2.4		195	.6	30	4,254	- 6.9	52	246	28.0	30	4,364	- .5		254	12.0
550----	30	5,004	- 7.5	36	247	28.8	30	5,121	- 3.9		270	4.9	30	5,106	- 1.6		226	3.5	30	4,920	-10.9	49	246	29.3	30	5,045	- 4.6		266	15.5
500----	30	5,747	-11.5		248	32.8	30	5,872	- 8.2		256	5.2	30	5,865	- 6.3		239	6.6	30	5,655	-15.3	47	250	33.2	30	5,798	- 9.5		269	18.3
450----	30	6,542	-16.9		245	36.1	30	6,682	-13.6		249	5.8	30	6,677	-11.6		241	10.3	30	6,438	-20.1	41	247	38.7	30	6,593	-15.4		270	21.6
400----	30	7,419	-23.1		247	38.3	30	7,570	-20.0		248	7.8	30	7,576	-18.0		242	13.4	30	7,308	-26.6	36	247	40.8	30	7,481	-22.4		271	26.8
350----	30	8,384	-30.0		244	42.2	30	8,547	-26.9		246	9.9	30	8,560	-25.1		243	15.5	30	8,258	-33.6		247	47.2	30	8,447	-29.7		268	32.1
300----	30	9,464	-37.9		247	44.5	30	9,641	-34.9		233	9.7	30	9,662	-33.5		249	21.2	30	9,322	-41.4		247	54.2	30	9,528	-38.0		269	38.5
250----	30	10,696	-46.7		245	46.8	30	10,889	-44.0		231	11.7	30	10,916	-43.5		251	27.8	30	10,538	-48.4		245	60.6	30	10,760	-46.6		271	43.3
200----	30	12,151	-54.0		252	49.9	30	12,355	-53.9		229	14.0	30	12,381	-54.7		250	33.2	30	11,992	-52.7		244	66.8	30	12,216	-53.7		265	48.0
175----	30	13,001	-57.2		254	51.1	30	13,203	-58.7		237	10.3	30	13,223	-60.9		248	32.1	30	12,853	-53.6		246	60.6	30	13,067	-57.1		263	48.0
150----	30	13,969	-59.9		255	43.7	30	14,162	-63.2		240	9.1	30	14,167	-66.7		241	26.4	30	13,841	-55.1		248	49.4	30	14,035	-60.3		267	44.5
125----	30	15,100	-62.1		246	33.6	30	15,271	-67.6		233	6.8	30	15,256	-71.2		230	16.9	30	15,002	-55.8		247	36.7	30	15,162	-63.7		272	34.2
100----	30	16,480	-61.0		244	27.6	30	16,612	-67.8		196	2.5	30	16,569	-72.2		171	5.4	30	16,422	-55.7		246	27.2	30	16,523	-65.0		272	25.1
80-----	30	17,873	-58.7		251	15.7	30	17,963	-64.6		121	4.7	30	17,897	-68.0		101	12.2	30	17,847	-54.7		245	23.5	30	17,893	-62.1		273	12.2
70-----	30	18,717	-57.2		252	11.3	30	18,793	-62.2		96	6.8	29	18,704	-65.2		90	17.1	30	18,701	-54.1		249	19.2	30	18,730	-60.0		280	6.4
60-----	30	19,693	-56.0		252	6.8	30	19,741	-59.4		90	8.5	29	19,649	-62.3		91	17.5	30	19,693	-53.6		249	14.6	29	19,687	-57.8		299	2.5
50-----	30	20,858	-54.4		251	4.3	29	20,888	-56.3		84	11.5	28	20,785	-59.0		92	21.8	30	20,868	-53.0		256	9.7	29	20,843	-55.8		79	1.0
40-----	30	22,294	-52.7		270	2.5	28	22,316	-53.8		90	12.8	28	22,196	-55.9		90	20.6	30	22,312	-51.7		254	6.8	29	22,269	-53.8		81	5.6
30-----	30	24,161	-50.7		16	2.5	28	24,180	-50.1		93	11.5	28	24,041	-52.4		89	22.3	29	24,191	-50.1		259	8.0	26	24,123	-51.8		99	6.2
25-----	30	25,353	-49.2		5	3.7	26	25,370	-48.6		92	12.4	28	25,229	-49.4		87	23.9	29	25,383	-49.2		264	7.2	23	25,304	-50.2		88	7.0
20-----	26	26,813	-47.6		318	3.9	23	26,843	-46.0		88	13.8	27	26,699	-47.1		94	24.5	28	26,842	-48.2		272	7.6	20	26,761	-48.7		85	7.8
15-----	11	28,707	-45.7				16	28,751	-44.7		91	12.8	21	28,609	-44.6		93	25.3	23	28,748	-46.1		274	6.4	13	28,680	-47.3		88	13.0
10-----							6	31,477	-42.3										6	31,414	-44.4									

Standard pressure surface (mb.)	JACKSON, MISS. (1006 MB.)						JACKSONVILLE, FLA. (1017 MB.)						JOHNSTON IS., PACIFIC AREA (1013 MB.)						KING SALMON, ALASKA (1008 MB.)						KOTZEBUE, ALASKA (1005 MB.)					
SURFACE	30	101	19.3	92	108	1.7	30	6	21.5	95	342	2.9	30	3	26.5	81	85	12.0	30	15	7.5	90	194	4.5	30	5	5.2	92	107	3.5
1,000--	30	142	19.9	87	105	2.5	30	151	22.6	86	17	2.9	30	115	25.6	80	86	13.8	30	80			205	6.4	30	46			77	2.1
950----	30	585	20.6	74	143	9.3	30	595	21.3	80	64	4.0	30	563	22.2	80	89	16.3	30	496	5.5	81	216	13.4	30	461	3.4	83	134	8.7
900----	30	1,053	17.7	73	157	9.5	30	1,066	18.6	77	69	6.2	30	1,035	19.0	77	91	16.7	30	942	3.0	81	222	15.2	30	901	.8	81	150	7.4
850----	30	1,541	15.6	63	166	8.4	30	1,556	16.0	71	66	5.4	30	1,525	15.9	73	88	15.0	30	1,403	.6	77	236	14.0	30	1,358	- 1.8	77	153	6.6
800----	30	2,054	13.2	56	176	6.6	30	2,069	13.2	63	53	4.3	30	2,038	13.2	68	88	11.5	30	1,888	- 1.8	74	242	15.0	30	1,838	- 4.5	76	170	6.4
750----	30	2,596	10.5	54	196	5.6	30	2,605	10.4	60	47	3.7	30	2,571	10.7	55	91	9.3	30	2,398	- 4.3	67	239	15.9	30	2,344	- 7.2	72	183	8.0
700----	30	3,168	7.3	52	207	4.1	30	3,182	7.0	58	40	2.9	30	3,153	8.6	36	97	8.0	30	2,941	- 7.2	60	241	16.5	30	2,879	-10.5	69	186	8.4
650----	30	3,774	3.7	49	212	3.9	30	3,784	3.9	47	30	2.7	30	3,756	5.6		97	5.4	30	3,512	-10.8	56	239	17.9	30	3,444	-14.1	63	189	7.8
600----	29	4,418	- .1	47	214	4.3	30	4,435	.5	42	32	2.1	30	4,413	2.0		94	4.9	30	4,127	-14.2	59	238	19.2	30	4,048	-18.0	59	187	9.1
550----	29	5,109	- 3.9	39	228	3.9	30	5,121	- 3.4	38	356	.6	30	5,104	- 2.0		79	4.1	30	4,778	-17.9	60	236	22.0	30	4,690	-22.2	58	189	11.7
500----	29	5,857	- 8.5	37	248	4.3	30	5,876	- 8.0	36	350	1.0	30	5,861	- 6.4		93	2.1	30	5,490	-22.1	57	237	26.0	30	5,387	-26.9	55	195	12.4
450----	29	6,663	-13.6	35	267	5.2	30	6,684	-13.3	36	259	2.3	30	6,673	-11.6		121	1.0	30	6,253	-27.2	55	234	27.6	30	6,134	-32.4	54	201	12.4
400----	29	7,553	-19.7	34	272	6.8	30	7,575	-18.9	33	239	2.7	30	7,571	-17.7		275	2.5	30	7,096	-33.5	51	235	30.7	30	6,959	-38.1	51	206	13.2
350----	29	8,531	-26.4		280	8.9	30	8,555	-26.1		226	2.7	30	8,557	-24.7		267	6.4	30	8,022	-39.3		243	33.2	30	7,866	-44.1		209	17.1
300----	29	9,629	-34.2		288	12.0	30	9,652	-34.6		244	4.7	30	9,661	-33.3		265	13.6	30	9,064	-45.0		244	40.4	30	8,887	-49.8		212	19.0
250----	29	10,881	-43.4		290	16.1	30	10,901	-44.0		253	6.4	30	10,916	-43.5		263	21.2	30	10,270	-49.6		244	51.1	30	10,068	-52.5		217	22.0
200----	29	12,351	-53.5		292	18.1	30	12,365	-54.5		284	9.5	30	12,381	-54.9		257	26.8	30	11,724	-50.4		246	50.7	30	11,523	-48.3		234	19.4
175----	29	13,200	-58.9		299	16.7	30	13,209	-59.8		291	9.5	30	13,223	-61.1		254	27.8	30	12,596	-49.9		247	42.6	30	12,403	-48.0		232	19.0
150----	29	14,156	-64.3		298	14.4	30	14,160	-65.0		309	3.3	29	14,165	-67.4		253	25.3	30	13,602	-50.5		247	37.7	30	13,419	-48.0		242	17.1
125----	29	15,258	-68.9		298	7.6	30	15,260	-68.7		103	2.1	29	15,251	-72.1		255	17.1	30	14,791	-50.8		250	31.1	30	14,620	-48.1		239	15.9
100----	28	16,586	-59.8		302	1.7	29	16,588	-69.8		82	7.0	28	16,562	-73.1		207	1.9	28	16,241	-50.5		250	25.8	28	16,085	-48.4		239	16.1
80-----	28	17,925	-66.0		98	5.4	29	17,927	-66.2		89	11.1	26	17,880	-69.3		87	13.0	26	17,697	-50.7		253	22.7	27	17,549	-49.2		242	16.1
70-----	28	18,754	-63.1		94	8.5	29	18,749	-63.3		87	15.0	26	18,683	-65.7		91	16.5	26	18,572	-50.9		254	20.0	26	18,430	-49.6		248	14.8
60-----	28	19,694	-60.1		96	10.5	29	19,698	-59.4		86	18.5	26	19,626	-62.9		91	19.2	25	19,568	-51.0		253	17.1	26	19,436	-50.1		253	14.0
50-----	28	20,839	-57.3		93	14.6	29	20,848	-56.3		91	20.4	25	20,761	-58.9		91	19.0	24	20,755	-50.9		251	16.3	26	20,626	-50.7		244	14.6
40-----	28	22,259	-54.1		91	16.9	29	22,274	-53.4		89	20.2	24	22,172	-56.3		88	16.9	24	22,208	-51.1		257	15.9	25	22,078	-51.2		252	15.7
30-----	28	24,118	-50.7		89	19.0	28	24,136	-50.7		90	22.0	24	24,015	-52.5		91	19.4	23	24,077	-50.7		262	16.3	22	23,934	-51.6		257	16.9
25-----	27	25,307	-49.0		88	19.6	26	25,326	-48.4		86	22.3	22	25,202	-49.6		90	19.4	22	25,263	-50.3		264	17.1	20	25,118	-51.2		257	15.0
20-----	23	26,789	-46.7		85	20.4	24	26,805	-46.1		87	24.5	19	26,666	-47.7		82	22.7	15	26,734	-49.4		250	15.5	15	26,593	-49.7		260	18.8
15-----	14	28,705	-44.7				19	28,728	-42.6				6	28,543	-45.3				9	28,638	-47.6				10	28,514	-47.5			

Standard pressure surface (mb.)	LAKE CHARLES, LA. (1015 MB.)						LANDER, WYO. (829 MB.)						LAS VEGAS, NEV. (935 MB.)						LIHUE, HAWAII (1011 MB.)						LITTLE ROCK, ARK. (1008 MB.)					
SURFACE	29	5	21.3	89	74	4.7	29	1,696	5.8	74	236	1.9	30	660	18.4	34	211	4.9	30	36	24.0	80	40	4.7	30	79	18.8	89	356	0.6
1,000--	29	131	22.4	82	96	6.2	29	127					30	80					30	135	23.6	80	51	7.6	30	147	19.2	83	218	.6
950----	29	579	21.0	74	134	9.5	29	554					30	523					30	583	20.0	83	76	12.2	30	588	19.2	74	188	7.6
900----	29	1,046	18.5	72	154	9.3	29	1,004					30	994	22.0	25	225	3.7	30	1,047	16.5	85	81	12.0	30	1,054	16.8	72	196	10.3
850----	29	1,536	16.1	67	158	9.1	29	1,486					30	1,487	19.0	26	237	3.7	30	1,532	13.6	81	84	11.3	30	1,541	14.5	64	203	11.9
800----	29	2,051	13.5	59	153	7.2	29	1,987	7.1	55	275	1.7	30	2,004	15.4	28	228	4.5	30	2,042	11.2	72	86	10.3	30	2,052	12.3	57	208	10.7
750----	29	2,593	11.1	48	150	5.2	29	2,510	4.7	54	279	4.7	30	2,540	11.1	31	211	4.7	30	2,579	8.9	49	86	8.2	30	2,587	9.9	51	215	10.5
700----	29	3,167	8.1	46	119	3.3	29	3,076	1.7	52	270	11.5	30	3,118	6.8	31	219	5.8	30	3,149	7.1	38	77	4.5	30	3,163	6.8	50	226	9.1
650----	29	3,776	4.6	43	110	2.5	29	3,662	- 2.2	51	273	17.3	30	3,716	3.2	28	233	8.2	30	3,753	4.2	29	87	2.7	30	3,761	3.5	46	227	9.9
600----	29	4,424	.8	44	133	1.9	29	4,301	- 6.4	51	274	21.2	30	4,367	- .8		245	12.6	30	4,403	.6	28	251	2.5	30	4,414	- .2	40	224	8.7
550----	29	5,118	- 3.1	43	84	1.7	29	4,966	-10.8	48	270	25.5	30	5,047	- 4.6		258	17.3	30	5,089	- 3.7		251	6.0	30	5,095	- 4.0	34	239	7.4
500----	29	5,869	- 7.6	42	101	1.6	29	5,703	-15.6	44	268	28.0	30	5,801	- 9.4		260	19.2	30	5,843	- 8.2		259	7.4	30	5,852	- 8.5	33	254	8.0
450----	29	6,683	-12.7		27	1.0	29	6,485	-20.9	40	266	31.5	30	6,597	-15.2		267	24.9	30	6,651	-13.0		254	12.4	30	6,653	-13.7		260	9.5
400----	29	7,573	-18.7	39		.0	29	7,351	-27.3	37	266	36.5	30	7,487	-21.7		266	28.0	30	7,542	-19.4		255	17.3	30	7,548	-19.7		268	13.4
350----	29	8,556	-25.3		309	4.5	29	8,299	-34.2		260	39.4	30	8,456	-29.3		260	32.4	30	8,520	-26.8		257	22.0	30	8,525	-26.7		271	16.5
300----	29	9,657	-33.3		302	6.0	29	9,361	-41.9		259	45.5	30	9,538	-37.9		260	36.9	30	9,615	-34.9		255	25.5	30	9,621	-34.9		274	18.3
250----	29	10,914	-42.5		313	8.9	29	10,576	-49.0		257	50.3	30	10,770	-46.8		260	44.5	30	10,862	-44.5		256	30.3	30	10,871	-43.8		272	24.3
200----	29	12,387	-53.1		318	12.0	28	12,028	-52.8		255	54.2	30	12,226	-53.9		255	53.8	30	12,321	-55.0		254	38.3	29	12,334	-53.7		277	29.5
175----	29	13,236	-58.9		318	12.4	28	12,888	-53.8		254	52.3	30	13,075	-57.8		259	51.9	29	13,164	-60.1		253	38.1	29	13,183	-58.8		276	29.3
150----	29	14,189	-64.9		312	11.5	28	13,875	-55.9		255	43.9	30	14,040	-61.6		259	46.8	29	14,115	-64.8		248	29.7	29	14,140	-63.5		282	24.9
125----	29	15,287	-70.0		326	8.2	28	15,029	-57.9		256	32.1	30	15,160	-65.1		264	36.9	29	15,217	-68.6		241	20.8	29	15,248	-67.8		294	14.8
100----	28	16,605	-71.3		52	3.3	28	16,429	-59.6		252	21.8	30	16,514	-65.5		267	21.6	29	16,550	-69.4		236	6.4	29	16,585	-68.9		272	6.0
80-----	26	17,931	-67.1		87	8.0	27	17,827	-57.7		256	13.8	30	17,880	-61.5		266	9.7	28	17,889	-67.3		96	10.1	29	17,929	-65.4		190	3.1
70-----	26	18,758	-63.8		95	11.3	27	18,674	-56.4		255	11.7	30	18,712	-60.0		258	4.1	28	18,697	-65.1		93	15.7	28	18,748	-61.9		119	3.3
60-----	26	19,697	-60.1		99	14.8	27	19,651	-55.9		248	8.4	30	19,676	-57.7		177	.8	28	19,644	-61.3		90	19.0	28	19,707	-59.0		99	6.4
50-----	26	20,841	-57.5		91	16.3	27	20,816	-54.1		262	4.5	30	20,829	-55.9		84	3.9	28	20,783	-58.8		90	21.6	28	20,8[illegible]	-56.6		87	8.9
40-----	26	22,260	-54.3		89	20.2	26	22,258	-52.6		267	2.1	29	22,254	-53.6		87	9.3	28	22,195	-55.8		91	24.1	28	22,277	-53.9		85	9.3
30-----	26	24,117	-51.0		88	23.7	23	24,125	-51.1		111	.8	28	24,116	-51.2		91	10.5	27	24,038	-52.5		90	23.9	25	24,139	-50.6		85	12.8
25-----	24	25,315	-48.4		88	24.5	22	25,314	-50.2		64	2.5	25	25,299	-49.6		95	10.9	27	25,224	-49.9		95	25.6	25	25,333	-48.8		79	13.2
20-----	21	26,788	-46.0		87	26.2	19	26,769	-48.9		76	.8	13	26,758	-46.7				25	26,696	-47.4		88	24.7	24	26,802	-46.6		83	12.2
15-----	13	28,719	-43.6				6	28,615	-47.2										22	28,608	-45.1		92	27.8	22	28,721	-45.0		83	10.3
10-----																									8	31,411	-42.9			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1961

McGRATH, ALASKA (997 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	[illegible]	103	[illegible]	86	184	1.9
1,000	29	81				
950	29	502	[illegible]	76	204	8.0
900	[illegible]	941	2.4	75	[illegible]	[illegible]
850	[illegible]	1,400	[illegible]	75	213	[illegible]
800	[illegible]	1,883	- 3.[illegible]	75	208	15.6
750	29	2,392	- 6.6	76	211	15.0
700	29	2,927	- 9.8	71	214	14.0
650	29	3,497	-13.1	64	224	15.9
600	29	4,101	-16.8	60	229	18.1
550	[illegible]	4,750	-20.[illegible]	[illegible]	226	18.5
500	[illegible]	5,450	[illegible]	[illegible]	231	20.8
450	[illegible]	6,206	-29.[illegible]	[illegible]	232	24.1
400	[illegible]	7,043	-35.4	47	235	28.4
350	29	7,957	-41.[illegible]		237	32.8
300	[illegible]	8,988	-48.2		239	38.9
250	[illegible]	10,176	-52.[illegible]		238	40.6
200	[illegible]	11,622	-50.[illegible]		244	[illegible]
175	[illegible]	12,497	-49.[illegible]		247	32.6
150	[illegible]	13,509	-49.[illegible]		247	30.7
125	[illegible]	14,703	-49.6		248	26.0
100	[illegible]	16,164	-49.7		247	21.2
80	29	17,[illegible]	-50.0		[illegible]	21.4
70	29	18,504	-50.4		[illegible]	19.2
60	[illegible]	19,501	-50.5		255	17.9
50	29	20,689	-51.5		254	15.7
40	[illegible]	[illegible]	-51.7		255	16.3
30	[illegible]	24,006	-51.4		261	15.7
25	22	25,199	-51.1		271	16.7
20	[illegible]	26,639	-50.[illegible]		273	20.0
15						
10						

MEDFORD, OREG. (970 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	401	8.4	81	325	0.6
1,000	30	150				
950	30	578	11.9	[illegible]	301	2.3
900	30	1,031	11.4	62	312	2.1
850	30	1,508	9.6	58	354	1.2
800	30	2,009	7.8	44	37	2.5
750	30	2,537	5.7	39	347	6.6
700	30	3,102	3.3	37	335	9.7
650	30	3,696	.2	33	327	12.6
600	30	4,337	- 3.5	31	310	15.0
550	30	5,013	- 7.3		319	19.2
500	30	5,756	-12.1		319	22.5
450	30	6,544	-17.9		316	24.3
400	30	7,424	-24.5		311	24.5
350	30	8,383	-31.9		308	23.1
300	30	9,454	-40.4		311	27.0
250	30	10,674	-49.3		309	30.7
200	30	12,118	-54.9		307	31.7
175	30	12,969	-56.4		297	32.3
150	30	13,945	-58.3		293	31.7
125	30	15,087	-60.7		288	27.2
100	30	16,480	-60.0		287	20.4
80	30	17,876	-58.5		291	14.0
70	30	18,720	-57.4		292	10.9
60	30	19,694	-56.1		291	8.2
50	30	20,856	-54.4		279	6.8
40	29	22,[illegible]	-52.9		276	3.5
30	29	24,1[illegible]	-50.4		274	1.1
25	27	25,346	-49.0		262	2.5
20	26	26,807	-47.9		284	3.9
15	6	28,715	-46.2			
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MIAMI, FLA. (1015 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	24.5	87	4	2.5
1,000	30	131	25.0	80	40	4.3
950	30	581	22.3	78	82	7.4
900	30	1,051	19.3	74	90	6.8
850	30	1,541	16.5	69	99	4.9
800	30	2,056	13.8	62	86	2.7
750	30	2,596	10.8	58	77	2.9
700	30	3,171	7.7	55	82	3.7
650	30	3,778	4.7	48	67	3.5
600	30	4,428	1.0	45	60	2.5
550	30	5,117	- 3.1	40	64	2.1
500	30	5,872	- 7.9	37	61	3.9
450	30	6,678	-13.1	31	63	4.1
400	30	7,573	-19.1		59	4.1
350	30	8,553	-26.0		30	4.5
300	30	9,651	-34.2		349	6.6
250	30	10,901	-43.9		341	7.6
200	30	12,363	-54.8		344	8.0
175	30	13,206	-60.7		1	9.1
150	30	14,153	-66.1		17	8.7
125	30	15,244	-70.8		51	8.5
100	30	16,563	-71.3		86	13.0
80	30	17,894	-67.1		87	16.1
70	30	18,710	-64.3		82	18.5
60	30	19,654	-61.3		87	22.0
50	30	20,793	-58.0		90	24.7
40	29	22,211	-54.3		92	27.0
30	27	24,073	-50.6		91	23.3
25	24	25,261	-48.0		87	21.4
20	12	26,717	-46.2			
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MIDLAND, TEXAS (916 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	871	17.7	79	110	3.3
1,000	30	112				
950	30	555				
900	30	1,022	17.9	74	135	7.2
850	30	1,512	17.4	67	191	11.5
800	30	2,030	15.9	58	220	8.[illegible]
750	30	2,575	12.7	57	235	6.6
700	30	3,152	9.1	53	254	5.2
650	30	3,760	4.8	55	260	5.2
600	30	4,411	.5	50	253	6.4
550	30	5,100	- 3.1	41	248	8.9
500	30	5,855	- 7.5	33	251	10.9
450	30	6,663	-12.6	34	258	13.2
400	30	7,558	-18.7	35	264	17.9
350	30	8,540	-25.4	36	265	22.7
300	30	9,641	-33.3		266	28.0
250	30	10,896	-42.8		266	33.0
200	30	12,365	-53.7		272	36.1
175	30	13,213	-59.2		273	37.5
150	29	14,165	-64.7		271	33.8
125	29	15,263	-70.0		266	25.6
100	29	16,582	-71.8		268	12.2
80	28	17,912	-67.2		158	2.3
70	28	18,735	-63.7		108	6.2
60	28	19,677	-60.4		100	10.5
50	26	20,826	-57.7		95	13.0
40	25	22,245	-54.6		92	16.3
30	22	24,093	-51.0		92	19.0
25	22	25,282	-49.7		89	17.3
20	19	26,754	-47.2		87	18.3
15	14	28,668	-44.7		90	15.7
10	6	31,456	-39.6			

MONTGOMERY, ALA. (1011 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	61	19.7	95	88	1.9
1,000	30	154	20.7	89	89	4.5
950	30	598	20.8	75	124	7.2
900	30	1,067	18.4	72	150	5.8
850	30	1,556	15.7	67	173	4.9
800	30	2,070	13.0	63	185	5.2
750	30	2,607	10.1	54	186	4.1
700	30	3,182	7.2	50	187	3.3
650	30	3,784	3.8	49	220	2.7
600	30	4,435	.0	42	221	4.1
550	30	5,123	- 3.9	36	237	3.1
500	30	5,874	- 8.4	35	262	5.8
450	30	6,681	-13.6	33	259	11.1
400	30	7,571	-19.6		260	8.9
350	30	8,550	-26.4		271	10.7
300	30	9,647	-34.1		279	11.5
250	30	10,900	-43.0		297	15.7
200	30	12,370	-53.2		296	17.9
175	30	13,221	-58.4		298	14.[illegible]
150	30	14,177	-63.8		295	10.5
125	30	15,282	-68.4		291	4.9
100	30	16,613	-69.6		66	1.9
80	30	17,955	-65.5		105	7.4
70	30	18,781	-62.7		96	9.3
60	30	19,729	-59.7		91	13.0
50	30	20,877	-56.3		96	14.8
40	30	22,304	-53.2		89	15.5
30	27	24,168	-50.6		92	19.2
25	27	25,362	-48.2		89	18.8
20	27	26,840	-45.9		91	21.2
15	20	28,761	-43.7		91	18.8
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NANTUCKET, MASS. (1016 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	14	17.[illegible]	93	357	2.1
1,000	30	[illegible]	18.4	85	329	3.9
950	30	587	18.1	76	310	5.4
900	30	1,053	15.9	67	291	6.0
850	30	1,538	13.9	58	288	7.8
800	30	2,048	12.0	51	281	7.0
750	30	2,581	9.5	47	287	8.0
700	30	3,157	6.5	43	284	8.0
650	30	3,766	3.6	31	286	8.0
600	30	4,408	.3	31	279	10.7
550	30	5,096	- 3.4		279	11.1
500	30	5,850	- 7.8		270	12.2
450	30	6,614	-13.2		266	14.6
400	30	7,518	-19.6		267	17.5
350	30	8,528	-26.1		263	17.7
300	30	9,626	-34.4		255	18.3
250	30	10,877	-44.1		261	19.8
200	30	12,342	-54.2		266	23.7
175	30	13,189	-58.9		272	23.1
150	30	14,147	-63.1		272	19.6
125	30	15,261	-65.9		274	17.7
100	30	16,616	-65.4		277	11.7
80	30	17,985	-61.6		271	5.8
70	30	18,823	-59.5		295	1.9
60	30	19,785	-57.5		351	1.4
50	30	20,941	-55.7		44	2.1
40	29	22,368	-52.9		41	2.9
30	28	24,238	-49.7		35	3.3
25	27	25,[illegible]	-47.7		23	3.3
20	22	26,912	-45.8		45	2.3
15	11	28,817	-43.3			

NASHVILLE, TENN. (998 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	177	17.4	90	187	1.7
1,000	30	160				
950	30	595	19.1	73	212	10.3
900	30	1,063	16.5	72	215	6.8
850	30	1,551	13.7	70	231	6.4
800	30	2,060	11.2	64	228	6.4
750	30	2,595	8.8	57	231	6.6
700	30	3,167	6.0	50	231	8.4
650	30	3,767	2.7	49	228	8.4
600	30	4,414	- 1.2	48	222	8.5
550	30	5,096	- 5.0	41	232	9.7
500	30	5,848	- 9.3	33	236	11.3
450	30	6,651	-14.5		239	11.5
400	30	7,538	-20.4		263	14.6
350	30	8,513	-27.3		250	12.2
300	30	9,605	-35.2		269	12.2
250	30	10,852	-44.1		275	15.5
200	30	12,319	-53.4		273	17.5
175	20	13,169	-58.4		274	15.3
150	30	14,127	-63.2		269	13.2
125	30	15,236	-67.3		259	13.2
100	30	16,578	-68.1		245	6.4
80	30	17,930	-64.1		152	2.7
70	30	18,760	-61.3		107	3.9
60	30	19,715	-58.8		95	6.4
50	30	20,866	-56.1		92	8.[illegible]
40	30	22,290	-53.9		86	10.7
30	29	24,149	-50.6		89	10.5
25	27	25,337	-48.7		86	10.1
20	18	26,806	-46.7		89	12.6
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N. Y. INT. AP. IDLEWILD (1018 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	19.6	83	344	5.6
1,000	30	157	19.6	75	339	5.6
950	30	602	18.5	67	358	8.4
900	30	1,061	16.0	68	351	8.0
850	30	1,546	13.7	63	332	6.2
800	30	2,055	11.5	57	307	6.4
750	30	2,592	9.1	45	307	8.0
700	30	3,161	6.0	44	300	8.9
650	30	3,761	2.9	40	295	9.9
600	30	4,408	- .6		286	11.7
550	30	5,094	- 4.3		279	11.5
500	30	5,845	- 8.5		275	12.4
450	30	6,647	-13.8		273	12.8
400	30	7,538	-20.1		273	13.6
350	30	8,514	-27.1		270	14.0
300	30	9,608	-35.1		263	13.4
250	30	10,855	-44.1		254	18.5
200	29	12,331	-53.4		263	20.0
175	29	13,181	-58.3		269	19.2
150	29	14,141	-62.8		263	17.5
125	28	15,254	-66.1		261	16.9
100	28	16,606	-65.7		266	11.3
80	28	17,972	-62.3		274	5.2
70	28	18,813	-60.3		288	1.2
60	27	19,760	-58.1		75	1.4
50	26	20,914	-56.0		62	3.1
40	25	22,341	-53.4		82	4.1
30	22	24,205	-50.1		63	4.5
25	22	25,400	-48.5		87	2.7
20	19	26,871	-46.4		358	2.3
15	10	28,786	-44.9			

NOME, ALASKA (1004 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	7	6.1	84	135	1.0
1,000	30	39			113	2.3
950	30	458	4.2	80	165	4.1
900	30	897	1.4	80	192	6.0
850	30	1,355	- 1.3	80	194	6.6
800	30	1,836	- 3.9	76	198	7.6
750	30	2,341	- 6.6	72	200	8.2
700	30	2,880	- 9.7	69	211	8.9
650	30	3,445	-13.2	68	210	8.7
600	30	4,054	-17.0	64	218	8.9
550	30	4,697	-21.1	58	224	10.1
500	30	5,399	-25.9	52	227	10.3
450	30	6,143	-31.5	51	231	10.7
400	30	6,976	-37.6	49	233	13.0
350	30	7,884	-44.0		224	16.5
300	30	8,904	-49.5		219	22.5
250	30	10,091	-50.9		228	22.2
200	30	11,552	-47.7		240	21.6
175	30	12,433	-47.3		246	19.6
150	30	13,451	-47.8		241	20.0
125	30	14,653	-48.1		241	17.5
100	30	16,123	-48.5		241	16.9
80	30	17,589	-49.2		247	16.5
70	28	18,460	-49.4		247	16.5
60	28	19,470	-50.1		249	15.9
50	27	20,665	-50.7		251	15.7
40	27	22,118	-51.0		253	15.7
30	24	23,989	-51.2		253	16.5
25	22	25,169	-51.1		255	17.5
20	8	26,663	-49.8			
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NORFOLK, VA. (1018 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	9	21.2	88	5	3.1
1,000	30	162	21.6	82	1	4.5
950	30	605	19.9	76	11	8.5
900	30	1,073	17.5	71	27	5.8
850	30	1,560	14.6	70	19	5.4
800	30	2,071	11.9	60	3	4.3
750	30	2,610	9.8	48	353	4.5
700	30	3,181	6.8	45	342	3.9
650	30	3,781	3.4	40	330	4.5
600	30	4,431	- .1	35	309	3.9
550	30	5,119	- 3.7		289	4.1
500	30	5,871	- 8.2		287	3.9
450	30	6,676	-13.6		278	5.1
400	30	7,566	-19.8		268	8.0
350	30	8,545	-26.4		267	9.7
300	30	9,640	-34.8		265	8.2
250	30	10,889	-43.8		244	12.2
200	30	12,355	-54.1		232	11.9
175	30	13,202	-59.1		248	11.1
150	30	14,157	-63.9		242	9.7
125	30	15,265	-67.1		240	7.0
100	30	16,605	-67.1		200	1.9
80	30	17,966	-63.4		111	2.5
70	30	18,795	-61.0		83	4.7
60	30	19,754	-58.5		82	8.4
50	30	20,906	-55.9		81	10.5
40	29	22,340	-52.5		84	10.9
30	29	24,214	-49.0		81	9.3
25	29	25,417	-46.9		81	10.1
20	26	26,896	-45.0		90	9.9
15	20	28,833	-43.0		103	7.8

NORTH PLATTE, NEBR. (917 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	848	9.4	85	24	1.0
1,000	30	119				
950	30	548				
900	30	1,001	10.[illegible]	78	270	2.5
850	30	1,478	10.8	63	258	6.8
800	30	1,983	9.2	58	262	9.9
750	30	2,513	6.5	54	250	11.7
700	30	3,080	3.5	57	249	14.4
650	30	3,675	.1	56	247	17.1
600	30	4,316	- 3.7	54	245	21.6
550	30	4,994	- 8.1	50	241	26.2
500	30	5,734	-12.7	42	244	29.1
450	30	6,522	-18.1	40	243	31.5
400	30	7,402	-24.1	38	240	36.3
350	30	8,363	-30.7		24[illegible]	42.2
300	30	9,440	-38.2		243	48.2
250	30	10,671	-46.8		243	48.0
200	30	12,127	-53.6		248	52.1
175	30	12,979	-56.5		254	53.6
150	30	13,951	-59.4		247	44.[illegible]
125	30	15,083	-62.3		248	32.8
100	30	16,459	-61.9		246	22.0
80	30	17,850	-59.[illegible]		247	9.9
70	30	18,695	-57.6		247	7.2
60	30	19,665	-56.2		237	5.8
50	30	20,827	-54.8		235	1.2
40	29	22,258	-52.9		214	1.2
30	28	24,120	-50.8		281	.6
25	28	25,310	-49.5		78	2.5
20	26	26,779	-47.8		57	2.7
15	17	28,700	-45.9		27	4.3
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OAKLAND, CALIF. (1012 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	6	14.2	78	313	1.4
1,000	30	108	14.9	73	274	1.9
950	30	542	16.4	56	279	2.5
900	30	1,003	16.9	35	322	5.1
850	30	1,489	15.5	28	335	4.1
800	30	2,001	12.7	25	334	3.1
750	30	2,535	9.9	22	320	3.7
700	30	3,109	7.0		308	5.2
650	30	3,707	3.5		304	8.0
600	30	4,360	- .5		306	12.2
550	30	5,041	- 4.9		300	15.3
500	30	5,793	-10.2		303	17.5
450	30	6,584	-16.0		295	18.5
400	30	7,473	-22.5		297	23.3
350	30	8,410	-29.9		296	24.9
300	30	9,520	-38.4		295	28.6
250	30	10,751	-47.1		288	35.0
200	29	12,202	-54.3		282	37.9
175	29	13,053	-57.1		279	38.9
150	29	14,022	-60.3		273	36.3
125	29	15,151	-63.0		279	31.9
100	28	16,520	-63.6		281	20.0
80	28	17,896	-61.2		275	11.5
70	28	18,734	-59.1		287	7.6
60	28	19,699	-57.2		302	3.7
50	28	20,857	-55.5		15	.8
40	28	22,286	-53.4		80	3.1
30	27	24,150	-50.7		89	7.6
25	25	25,344	-49.3		93	7.4
20	15	26,813	-48.1			
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OKLAHOMA CITY, OKLA. (970 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	392	17.5	83	137	5.4
1,000	30	129				
950	30	570	18.2	73	157	10.1
900	30	1,033	17.2	66	202	13.8
850	30	1,521	15.8	63	220	16.5
800	30	2,035	13.4	60	235	16.1
750	30	2,572	10.6	59	232	17.5
700	30	3,149	7.3	59	231	16.7
650	30	3,754	4.1	47	231	17.3
600	30	4,403	.3	41	234	16.7
550	30	5,090	- 3.7	37	237	15.9
500	30	5,843	- 8.2		247	16.9
450	30	6,651	-13.3		254	20.2
400	30	7,540	-19.1		257	22.7
350	30	8,519	-26.4		258	27.0
300	30	9,615	-34.6		263	29.7
250	29	10,866	-43.8		267	34.8
200	28	12,329	-53.9		262	39.1
175	28	13,178	-58.6		262	37.1
150	28	14,135	-63.7		262	35.6
125	27	15,243	-67.9		258	29.7
100	25	16,588	-68.7		252	16.7
80	25	17,940	-63.8		206	8.5
70	25	18,769	-61.4		150	4.1
60	25	19,725	-58.8		104	8.0
50	24	20,878	-56.3		108	9.9
40	24	22,301	-53.9		88	10.7
30	24	24,166	-50.3		86	13.8
25	24	25,357	-49.0		84	13.6
20	18	26,820	-47.1		76	10.5
15	7	28,742	-45.3			
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OMAHA, NEBR. (968 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	403	12.2	85	168	1.6
1,000	30	128				
950	30	563	13.0	74	204	4.7
900	30	1,015	12.6	64	230	10.1
850	30	1,495	11.2	60	238	9.9
800	30	2,000	9.3	59	240	13.6
750	30	2,530	6.7	52	240	14.2
700	30	3,097	4.0	50	241	17.3
650	30	3,695	.8	50	239	18.8
600	30	4,335	- 3.3	50	245	24.7
550	30	5,016	- 6.9	44	246	27.4
500	30	5,758	-11.0		245	31.1
450	30	6,555	-16.1		244	32.4
400	30	7,438	-22.4		244	35.6
350	30	8,406	-29.1		242	37.3
300	30	9,490	-37.2		244	43.1
250	30	10,727	-46.2		244	49.0
200	30	12,184	-53.8		248	52.3
175	30	13,034	-57.7		248	50.1
150	30	13,999	-61.0		247	46.8
125	30	15,125	-63.0		256	33.4
100	30	16,497	-63.0		247	23.7
80	30	17,881	-59.8		244	15.5
70	30	18,724	-58.4		244	11.5
60	30	19,691	-56.5		236	6.4
50	30	20,850	-55.2		221	2.7
40	29	22,276	-53.4			.0
30	29	24,136	-51.1		192	1.2
25	27	25,316	-49.8		205	1.9
20	27	26,780	-48.1			.0
15	20	28,690	-46.2		310	1.4
10	5	31,386	-44.3			

PEORIA, ILL. (994 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	201	15.0	89	197	1.9
1,000	30	145				
950	30	583	17.2	70	227	12.2
900	30	1,045	15.1	69	238	15.5
850	30	1,528	12.6	66	243	16.3
800	30	2,036	10.4	58	243	15.5
750	30	2,570	8.1	53	235	18.1
700	30	3,139	4.0	51	234	20.4
650	30	3,738	1.5	46	232	20.6
600	30	4,381	- 2.1	42	235	21.6
550	30	5,061	- 6.0		238	22.9
500	30	5,809	-10.2		240	25.1
450	30	6,608	-15.3		243	25.1
400	30	7,494	-21.4		245	25.1
350	30	8,466	-28.2		248	27.8
300	30	9,553	-36.1		251	29.3
250	30	10,794	-45.1		257	30.5
200	30	12,255	-53.4		257	33.8
175	30	13,105	-57.5		256	35.0
150	30	14,069	-61.3		255	32.8
125	30	15,191	-64.1		251	27.8
100	30	16,555	-64.0		245	20.0
80	30	17,931	-61.2		228	10.5
70	30	18,771	-59.2		221	5.6
60	30	19,737	-56.8		215	3.1
50	30	20,898	-55.0		152	1.7
40	30	22,331	-53.0		88	3.5
30	30	24,197	-50.7		71	3.3
25	29	25,387	-49.2		65	4.3
20	28	26,856	-47.7		83	2.9
15	20	28,763	-45.4		222	.8
10						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1961

Standard pressure surface (mb.)	PITTSBURGH, PA. (979 MB.)						POINT ARGUELLO, CALIF. (999 MB.)						PORTLAND, ME. (1016 MB.)						RAPID CITY, S. DAK. (904 MB.)						ST. CLOUD, MINN. (977 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	353	14.5	89	159	1.0	30	113	12.0	92	54	0.8	30	20	14.5	91	341	2.7	30	966	8.3	72	[illegible]	[illegible]	30	316	11.1	[illegible]	[illegible]	1.1
1,000	30	174					30	109			20	1.0	30	154	16.2	78	333	4.1	30	116					[illegible]	120				
950	30	612	17.8	77	237	5.1	30	548	16.5	63	6	4.7	30	594	16.6	69	332	3.9	30	542					30	[illegible]	[illegible]	79	208	7.2
900	30	1,073	15.5	76	258	8.7	30	1,005	18.2	45	30	2.9	30	1,052	14.9	63	312	5.2	30	999			332	1.9	30	1,003	10.6	71	247	11.1
850	30	1,557	12.9	69	264	10.5	30	1,492	15.8	36	18	1.7	30	1,534	13.0	58	295	7.4	30	1,473	9.1	58	312	[illegible]	30	1,478	9.1	64	[illegible]	[illegible]
800	30	2,065	10.2	65	264	8.9	30	2,005	13.7	31	270	1.7	30	2,042	11.0	49	289	9.9	30	1,974	7.1	52	[illegible]	9.7	30	1,979	6.7	61	[illegible]	[illegible]
750	30	2,596	7.6	55	264	10.7	30	2,544	11.0	24	257	4.7	30	2,578	8.5	44	282	10.7	30	2,500	4.5	49	276	[illegible]	30	2,512	[illegible]	[illegible]	[illegible]	[illegible]
700	30	3,167	4.9	50	257	13.6	30	3,119	8.5		271	6.0	30	3,146	5.7	42	290	12.6	30	3,061	1.2	53	[illegible]	11.1	30	3,068	[illegible]	[illegible]	242	[illegible]
650	30	3,765	1.7	47	252	14.2	30	3,728	5.3		284	8.4	30	3,746	2.5	37	286	13.8	30	3,650	- 2.8	58	265	13.6	30	3,653	[illegible]	[illegible]	[illegible]	[illegible]
600	30	4,410	- 1.5	37	258	14.4	30	4,377	1.3		285	10.9	30	4,392	- .7	32	281	15.2	30	4,283	- 7.0	59	255	17.7	30	4,295	[illegible]	[illegible]	[illegible]	[illegible]
550	30	5,091	- 5.1		255	15.7	30	5,067	- 3.2		279	12.0	30	5,076	- 4.6		283	15.5	30	4,950	-11.0	52	253	23.1	30	4,962	[illegible]	[illegible]	[illegible]	[illegible]
500	30	5,843	- 9.0		250	16.5	30	5,819	- 8.5		278	14.0	30	5,826	- 9.2		277	18.1	30	5,684	-15.4	42	251	27.0	30	5,704	-14.2	46	[illegible]	[illegible]
450	30	6,644	-14.8		253	15.3	30	6,621	-14.7		275	16.9	30	6,628	-14.7		276	20.2	30	6,468	-20.8	42	249	29.9	30	6,487	-19.1		245	[illegible]
400	30	7,531	-21.6		252	15.5	30	7,508	-21.5		275	20.0	30	7,515	-20.7		274	21.6	30	7,333	-26.7	38	248	34.8	30	7,363	[illegible]		247	[illegible]
350	30	8,501	-28.3		258	14.2	30	8,477	-29.2		272	22.5	30	8,490	-27.5		269	24.7	30	8,283	-33.7		247	40.8	30	8,321	-31.8		[illegible]	[illegible]
300	30	9,589	-36.4		254	14.4	30	9,559	-37.9		272	25.1	30	9,583	-35.3		263	26.6	30	9,347	-41.2		245	47.6	30	9,394	[illegible]		[illegible]	[illegible]
250	30	10,831	-45.1		249	15.9	30	10,793	-46.5		268	30.9	30	10,829	-44.7		266	30.7	30	10,566	-48.2		244	54.6	30	10,621	-47.2		244	[illegible]
200	29	12,301	-53.5		253	21.0	30	12,247	-54.5		263	39.2	30	12,292	-54.1		271	32.6	30	12,019	-52.7		245	56.7	30	12,076	-53.5		[illegible]	[illegible]
175	29	13,151	-58.1		255	23.5	30	13,095	-58.5		261	40.0	30	13,141	-58.4		270	32.4	30	12,878	-54.1		247	54.8	30	12,930	-56.0		246	[illegible]
150	29	14,112	-62.5		252	19.8	30	14,054	-62.6		263	36.5	30	14,102	-62.3		270	29.3	30	13,862	-56.0		249	45.5	30	[illegible]	-58.3		[illegible]	[illegible]
125	29	15,227	-65.8		253	17.3	30	15,170	-65.7		266	28.2	30	15,221	-64.9		265	23.9	30	15,015	-57.9		249	37.1	30	15,050	-59.2		[illegible]	[illegible]
100	29	16,579	-65.9		246	12.2	30	16,521	-66.3		271	16.5	30	16,584	-63.7		270	19.0	30	16,421	-58.0		251	26.2	30	16,450	-58.9		248	[illegible]
80	29	17,943	-62.8		242	6.2	30	17,884	-62.9		286	6.6	30	17,962	-61.1		283	8.2	30	17,827	-57.3		251	16.7	30	17,854	-57.6		[illegible]	[illegible]
70	29	18,777	-60.8		209	1.7	30	18,717	-60.6		328	3.1	30	18,798	-59.1		298	5.6	30	18,676	-56.0		252	13.2	30	18,704	-55.9		242	[illegible]
60	29	19,737	-58.4		76	2.1	30	19,677	-58.2		60	3.7	30	19,766	-57.2		297	3.5	30	19,655	-55.0		247	9.5	30	19,683	-55.0		249	[illegible]
50	29	20,890	-56.1		88	3.7	30	20,830	-56.2		80	6.2	29	20,922	-55.3		307	2.5	29	20,819	-54.2		241	6.2	30	20,851	-54.1		250	[illegible]
40	29	22,318	-53.3		80	4.7	30	22,256	-53.5		88	10.9	28	22,354	-53.0		330	2.7	29	22,255	-52.4		246	4.3	30	22,286	-52.5		262	[illegible]
30	26	24,183	-50.7		62	6.8	28	24,117	-50.5		92	16.1	23	24,222	-50.1		338	1.9	28	24,121	-50.4			.0	29	24,155	-50.7		[illegible]	1.4
25	23	25,388	-48.5		72	7.2	27	25,311	-48.5		93	16.3	21	25,418	-48.2		303	2.5	25	25,312	-49.4		15	1.4	29	25,346	-49.6		269	[illegible]
20	20	26,869	-46.2		89	3.5	27	26,786	-46.6		91	13.8	18	26,894	-46.3		346	1.2	23	26,781	-48.2		336	2.3	26	26,801	-48.2		269	6.2
15	13	28,755	-44.8		259	5.4	27	28,704	-44.5		90	12.6	9	28,839	-43.8				19	28,682	-46.4		312	4.7	15	28,688	-47.3		289	[illegible]
10							22	31,430	-40.2		104	8.9							5	31,406	-44.0									
7							9	33,792	-39.9																					

Standard pressure surface (mb.)	ST. PAUL IS., ALASKA (1006 MB.)						SALEM, OREG. (1011 MB.)						SALT LAKE CITY, UTAH (871 MB.)						SAN ANTONIO, TEXAS (986 MB.)						SAN DIEGO, CALIF. (997 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	10	6.9	93	228	9.7	30	61	8.5	90	211	1.0	30	1,288	11.2	66	166	6.6	30	243	22.3	83	41	1.9	30	124	16.0	87	315	[illegible]
1,000	30	61			232	12.2	30	148	10.[illegible]	81	321	1.2	30	120					30	116					30	101				
950	30	482	4.4	88	248	14.8	30	576	11.3	69	1	6.8	30	555					30	561	20.8	80	131	4.5	30	538	17.8	59	295	[illegible]
900	30	919	1.8	86	249	15.7	30	1,028	9.4	67	355	5.6	30	1,014					30	1,031	18.2	77	156	8.9	30	1,001	18.4	44	151	.8
850	30	1,379	- .4	81	258	18.7	30	1,501	7.[illegible]	56	336	5.2	30	1,495	13.2	50	163	9.1	30	1,520	16.2	68	146	7.6	30	1,490	16.7	38	199	1.2
800	30	1,863	- 2.2	70	254	16.1	30	1,998	5.6	49	322	8.0	30	2,004	10.9	46	192	8.4	30	2,035	13.9	62	134	5.6	30	2,004	14.8	25	206	4.1
750	30	2,369	- 5.0	67	254	18.[illegible]	30	2,521	3.2	43	316	10.7	30	2,538	7.1	47	234	10.1	30	2,572	11.4	56	115	3.1	30	2,540	12.3		208	5.6
700	30	2,913	- 8.0	63	255	20.0	30	3,081	.9	39	317	13.8	30	3,104	2.9	52	256	13.4	30	3,153	8.2	57	99	3.7	30	3,123	9.0		228	7.0
650	30	3,483	-11.5	59	252	22.0	30	3,669	- 1.[illegible]	36	316	15.5	30	3,698	- 1.4	54	260	16.1	30	3,759	4.9	51	82	3.1	30	3,724	5.5		238	7.8
600	30	4,095	-15.1	49	254	21.8	30	4,304	- 5.6	35	319	17.5	30	4,334	- 5.4	50	264	19.6	30	4,412	1.4	46	18	3.5	30	4,383	1.6		238	9.9
550	30	4,744	-18.9	43	254	23.5	30	4,975	- 9.[illegible]	34	317	21.6	30	5,010	- 9.5	54	266	24.7	30	5,101	- 2.7	41	11	2.9	30	5,068	- 2.7		249	12.0
500	30	5,451	-23.5	42	261	26.0	30	5,712	-14.1		318	24.3	30	5,744	-14.5	50	265	28.0	30	5,860	- 6.9	36	356	2.9	30	5,828	- 7.6		254	13.4
450	30	6,204	-28.7	40	255	28.2	30	6,494	-19.5		313	27.0	30	6,533	-19.4	37	269	31.3	30	6,670	-12.0	33	350	5.1	30	6,630	[illegible]		[illegible]	[illegible]
400	30	7,047	-34.5	39	253	31.9	30	7,368	-25.6		316	29.5	30	7,404	-25.4	35	273	29.0	30	7,568	-18.1		334	6.6	30	7,526	-20.6		253	18.5
350	30	7,968	-40.6		255	31.5	30	8,323	-32.8		315	30.1	30	8,359	-32.3		268	35.0	29	8,552	-25.0		320	10.5	30	8,500	-28.1		[illegible]	[illegible]
300	30	9,003	-46.7		254	35.8	30	9,390	-41.1		314	27.6	30	9,427	-40.5		264	37.7	29	9,655	-33.1		318	14.6	30	9,589	-36.2		251	32.4
250	30	10,201	-50.0		250	37.5	30	10,605	-50.0		316	31.1	30	10,648	-48.4		260	38.1	29	10,911	-42.6		309	19.4	30	10,833	-44.7		252	42.4
200	30	11,664	-48.4		250	35.4	30	12,045	-55.2		311	30.9	30	12,096	-53.6		262	42.4	29	12,382	-53.8		309	20.0	29	12,298	-53.8		250	49.2
175	30	12,544	-48.2		251	32.1	30	12,896	-56.3		304	32.1	30	12,953	-54.6		262	42.4	29	13,228	-59.8		305	18.1	29	13,148	-58.8		248	[illegible]
150	30	13,558	-48.9		257	27.2	30	13,872	-57.6		300	30.5	30	13,934	-56.9		260	37.1	29	14,178	-65.9		309	18.3	29	14,104	-64.0		249	41.4
125	30	14,753	-49.4		257	24.3	30	15,020	-58.9		290	26.6	30	15,081	-59.3		260	29.7	29	15,269	-71.7		310	11.3	29	15,211	-67.8		254	32.4
100	30	16,213	-49.[illegible]		253	23.3	30	16,421	-58.6		291	20.6	29	16,472	-60.4		259	22.5	28	16,576	-73.0		342	2.5	29	16,549	-68.5		260	18.7
80	30	17,673	-50.0		253	20.0	30	17,828	-57.5		288	14.6	27	17,871	-58.8		258	14.4	28	17,896	-68.5		62	7.0	29	17,897	-64.9		262	5.6
70	30	18,544	-50.4		254	19.4	30	18,678	-56.4		283	11.5	25	18,720	-57.1		257	9.1	28	18,711	-65.0		81	10.7	29	18,724	-61.4		218	1.4
60	30	19,552	-50.8		253	19.[illegible]	30	19,653	-55.3		288	9.5	25	19,695	-55.5		251	5.4	28	19,648	-61.5		94	14.0	29	19,678	-59.1		88	.1
50	28	20,746	-50.[illegible]		246	16.3	30	20,818	-54.4		284	7.4	25	20,860	-54.4		244	3.3	28	20,787	-57.8		94	16.7	29	20,828	-56.3		81	8.9
40	26	22,198	-50.7		255	14.0	30	22,254	-52.6		279	6.6	25	22,293	-52.9		109	2.7	28	22,205	-54.7		86	21.8	29	22,251	-51.1		86	12.2
30	25	24,077	-49.7		254	11.7	28	24,129	-50.4		284	6.0	23	24,159	-50.6		76	3.9	26	24,057	-51.3		90	23.7	27	24,108	[illegible]		90	14.8
25	19	25,276	-49.1		257	13.4	27	25,323	-49.4		269	4.9	23	25,349	-49.4		84	2.1	24	25,243	-49.2		81	22.0	26	25,297	-49.3		91	[illegible]
20	10	26,751	-48.5				25	26,780	-48.1		272	8.2	20	26,817	-47.9		86	.6	24	26,713	-47.3		82	24.1	19	26,778	-47.5		93	17.1
15							16	28,656	-46.6		261	13.6	12	28,731	-45.9				20	28,623	-44.3		86	21.8	5	28,677	-45.2			
10																			8	31,325	-43.4									

Standard pressure surface (mb.)	SAN JUAN, P. R. (1014 MB.)						SANTA MONICA, CALIF. (1008 MB.)						SAULT STE. MARIE, MICH. (990 MB.)						SEATTLE, WASH. (1003 MB.)						SHEMYA, ALASKA (1006 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	6	24.9	85	134	1.4	30	38	16.4	82	26	1.7	30	221	12.4	89	87	1.9	30	125	10.8	84	148	3.1	28	37	8.4	[illegible]	236	6.6
1,000	30	127	24.6	81	100	7.8	30	107	16.4	80	76	1.6	30	133					30	146			117	2.9	28	89			235	7.0
950	30	578	22.2	78	97	10.7	30	546	18.0	61	91	3.3	30	563	12.7	80	238	6.6	30	574	10.6	73	176	2.1	28	509	5.8	83	[illegible]	14.6
900	30	1,045	19.4	77	99	11.1	30	1,008	18.1	43	96	2.7	30	1,019	11.1	72	256	10.1	30	1,021	8.6	68	339	1.9	28	953	3.6	75	257	16.3
850	30	1,536	16.6	72	100	11.3	30	1,496	16.2	33	178	1.2	30	1,496	9.3	63	256	14.4	30	1,496	6.1	68	325	4.5	28	1,415	1.5	70	[illegible]	15.5
800	30	2,050	13.9	62	102	9.5	30	2,009	13.8	30	216	3.7	30	1,997	7.3	60	250	21.0	30	1,990	3.5	64	315	6.8	28	1,902	- .4	[illegible]	267	16.9
750	30	2,589	11.0	53	95	8.9	30	2,547	11.4	24	223	5.[illegible]	30	2,526	5.4	53	249	22.5	30	2,510	1.3	54	315	10.5	28	2,415	- 2.7	[illegible]	[illegible]	19.4
700	30	3,166	8.0	45	91	8.0	30	3,123	8.2	23	239	7.0	30	3,089	2.9	51	252	24.7	30	3,066	- .8	39	306	13.8	28	2,963	- 5.7	[illegible]	[illegible]	21.2
650	30	3,768	4.6	39	92	7.2	30	3,727	5.0		248	9.7	30	3,682	- .3	52	250	26.2	30	3,651	- 3.8	38	306	15.7	28	3,536	- 8.9	[illegible]	273	24.7
600	30	4,423	1.2	35	93	7.[illegible]	30	4,380	1.2		257	12.4	30	4,323	- 4.0	52	250	28.4	30	4,283	- 7.3	34	310	19.4	28	4,156	-12.5	48	276	26.2
550	30	5,107	- 2.6	29	82	5.6	30	5,067	- 3.1		261	14.2	30	5,002	- 8.0	47	250	30.3	30	4,951	-11.2		312	23.3	28	[illegible]	-16.4	45	[illegible]	30.1
500	30	5,870	- 7.0		66	4.3	30	5,822	- 8.3		264	15.9	30	5,741	-12.3	39	250	34.0	30	5,683	-16.1		312	25.8	28	5,527	[illegible]	44	280	32.6
450	30	6,681	-12.0		7	1.7	30	6,626	-14.3		263	18.1	30	6,535	-17.5	38	249	36.3	30	6,460	-21.4		312	30.7	28	6,296	[illegible]		287	35.2
400	30	7,577	-17.9		318	1.9	30	7,513	-20.9		263	20.2	30	7,412	-23.4	36	250	39.2	30	7,327	-27.5		313	34.8	28	7,144	-31.3		284	41.0
350	30	8,560	-25.1		325	2.9	30	8,485	-28.5		266	23.3	30	8,377	-30.3	39	251	43.5	30	8,275	-34.3		315	39.1	28	8,078	[illegible]		[illegible]	46.8
300	30	9,662	-33.1		284	3.9	30	9,570	-36.9		265	27.0	30	9,456	-38.3		251	47.0	30	9,335	-42.1		317	43.7	28	9,126	-44.4		279	51.5
250	30	10,918	-42.8		307	4.5	30	10,808	-45.2		259	36.1	30	10,689	-46.6		251	53.[illegible]	30	10,546	-50.2		319	44.1	28	10,334	-49.3		278	50.1
200	30	12,384	-54.5		272	5.8	30	12,269	-53.8		255	45.7	30	12,144	-54.0		253	56.2	30	11,985	-54.9		317	41.4	28	[illegible]	-49.6		282	50.7
175	30	13,227	-60.5		281	6.0	30	13,117	-58.4		256	43.1	30	12,996	-56.8		256	57.7	30	12,837	-55.4		311	37.7	26	[illegible]	-50.0		281	47.6
150	30	14,173	-66.5		325	3.3	30	14,076	-62.[illegible]		254	38.9	30	13,969	-58.7		256	47.8	30	13,819	-56.3		305	32.6	25	[illegible]	[illegible]		278	45.1
125	30	15,262	-71.3		52	3.3	29	15,189	-66.5		255	31.9	30	15,108	-60.9		251	40.6	29	14,979	-56.9		300	29.7	25	14,845	-52.0		281	37.7
100	29	16,572	-73.0		82	9.7	28	16,531	-67.[illegible]		265	20.4	30	16,497	-60.0		249	32.6	29	16,392	-56.5		299	23.7	25	[illegible]	-51.8		280	29.3
80	28	17,902	-67.0		80	15.3	28	17,884	-64.1		262	7.4	30	17,898	-57.4		251	21.2	29	17,811	-55.5		295	[illegible]	25	17,731	-52.3		278	22.2
70	28	18,716	-63.9		86	18.3	28	18,712	-61.2		298	1.9	30	18,747	-56.8		252	14.6	29	18,667	-55.3		295	13.6	25	18,604	-52.2		281	19.6
60	27	19,671	-60.5		87	19.8	28	19,668	-59.1		57	2.5	29	19,721	-55.7		249	9.5	28	19,653	-54.4		292	[illegible]	25	19,596	[illegible]		278	18.8
50	27	20,817	-57.2		87	21.6	28	20,817	-56.7		77	6.4	27	20,885	-54.4		259	6.4	28	20,824	-53.4		286	8.9	25	[illegible]	-51.7		273	13.2
40	24	22,243	-53.6		92	20.2	28	22,238	-54.4		81	10.5	27	22,319	-53.1		263	6.4	28	22,263	-52.0		288	8.0	25	22,226	[illegible]		272	11.5
30	24	24,113	-50.[illegible]		89	22.7	27	24,091	-51.4		88	12.2	26	24,177	-50.8		300	2.9	26	24,130	-50.5		275	6.4	23	24,112	-49.6		266	10.7
25	21	25,320	-47.4		93	20.[illegible]	26	25,276	-50.0		85	13.[illegible]	24	25,370	-49.3		308	3.3	22	25,338	-49.2		271	5.1	23	25,307	-48.9		262	11.5
20	17	26,804	-44.5		98	21.6	24	26,743	-48.0		89	13.0	22	26,838	-47.7		300	6.0	10	26,777	-48.1				21	26,783	-47.7		263	12.2
15							22	28,646	-45.8		98	8.[illegible]	17	28,758	-45.7		277	6.4							13	28,702	-46.4			
10							6	31,406	-42.6				5	31,500	-42.2															

See reference note at end of table

RAWINSONDE DATA

Average monthly values

SEPTEMBER 1961

Standard pressure surface (mb.)	SHREVEPORT, LA. (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SPOKANE, WASH. (931 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	76	20.4	9.	98	2.9	30	722	7.9	61	174	2.7
1,000--	30	142	20.6	85	113	3.5	30	128				
950----	30	585	19.8	75	159	10.1	30	555				
900----	30	1 052	17.6	71	170	12.6	30	1,007	10.7	50	220	3.3
850----	30	1,540	15.6	60	181	10 7	30	1,482	8.4	52	273	3.3
800----	30	2.054	13.5	50	185	8.4	30	1,980	5.2	54	287	5.2
750----	30	2.592	10.7	48	189	6.8	30	2 500	1.7	57	279	7.2
700----	30	3.168	7.4	47	190	5.4	30	3.057	- 1.7	59	282	8.5
650----	30	3.773	4.0	41	182	6.2	30	3,637	- 5.0	53	288	12 6
600----	30	4.422	.4	40	192	4 5	30	4,268	- 8.8	55	295	15.0
550----	30	5.113	- 3 4	37	206	5.6	30	4.934	-12.5	47	293	20.2
500----	30	5,866	- 7.8		236	4.5	30	5 659	-17.2	42	296	21.6
450----	30	6,672	-13.2		251	5.2	30	6,433	-22.6	35	298	24.1
400----	30	7.565	-19 1		267	6.2	30	7.294	-28.7	33	292	27.8
350----	30	8,546	-26.1		276	9.1	30	8 236	-35.7		294	29.1
300----	30	9,644	-34.0		292	12.4	30	9.291	-42.8		299	33.4
250----	30	10,896	-43.3		290	15.9	30	10,500	-49.9		298	33.0
200----	30	12.365	-53.7		289	21.0	30	11,946	-53.1		296	36.5
175---	30	13,214	-59.1		285	20.6	30	12.805	-53.9		294	35.2
150---	29	14,169	-64.6		291	18.1	30	13,793	-54.5		287	31.3
125----	29	15,270	-69.4		288	12.0	30	14,958	-55.3		286	25.6
100----	29	16,598	-70.3		255	4.3	30	16,380	-55.5		285	21.4
80-----	29	17,932	-66.8		149	3.9	30	17,806	-54.7		278	15.5
70-----	29	18,732	-63.4		110	8.4	29	18,667	-53.9		279	13.2
60-----	29	19,700	-60.0		102	10.7	29	19,650	-53.6		278	10.5
50-----	29	20,846	-57.0		97	13.0	29	20.824	-52.8		272	8.5
40-----	28	22,265	-54.2		89	15.3	28	22.274	-51.6		277	6.8
30-----	28	24,123	-51.1		87	16.5	25	24,158	-50.0		273	7.6
25-----	28	25,314	-49.1		82	16.1	20	25.381	-48.3		252	3.7
20-----	26	26,782	-47.2		84	17.9	15	26,873	-46.7		290	3.9
15-----	17	28,687	-45 1		90	19.2	5	28,790	-46.6			

Standard pressure surface (mb.)	SWAN ISLAND, W. I. (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TAMPA, FLA. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	10	26.9	83	112	6.6	30	8	23.0	91	54	5.2
1,000--	30	99	26.3	83	104	8.5	30	144	23.6	87	68	7.0
950----	30	553	23.3	83	115	9.9	30	593	22.2	78	93	8.0
900----	30	1.022	20.4	79	124	11.5	30	1,063	19.3	76	87	7.2
850----	30	1.515	17.6	74	121	11.7	30	1,554	16.6	70	83	6.8
800----	30	2,032	14.9	69	120	11.3	30	2,069	14.0	64	78	6.4
750----	30	2,575	11.9	64	118	11.9	30	2,607	11.1	58	80	6.4
700----	30	3.152	8.7	57	119	11.5	30	3,185	7.8	56	68	7.0
650----	30	3,757	5.3	53	123	10.1	30	3,791	4.6	54	57	5.1
600----	30	4.413	1.4	53	127	9.7	30	4,442	1.0	48	71	3.3
550----	30	5.101	- 2.4	49	120	9.3	30	5.127	- 3 0	40	77	2.3
500----	30	5,862	- 6.8	45	117	9.3	30	5.886	- 7.5	35	46	2.3
450----	30	6,674	-11.7	46	112	6.4	30	6,696	-12.5	33	79	2.1
400----	30	7,573	-17.3	46	105	4.7	30	7,591	-18.6	31	56	2.7
350----	30	8,560	-24.1	43	126	2.3	30	8,573	-25.6		29	2.9
300----	30	9,667	-32.3	38	113	.6	29	9,673	-33.7		1	3.7
250----	30	10,926	-42.4		8	1.6	29	10,927	-43.3		347	7.4
200----	30	12 395	-54.4		358	5.1	29	12,395	-54.0		335	6.0
175---	29	13.238	-61.1		7	8.4	29	13,242	-59.5		330	5.8
150---	28	14.179	-67.7		39	10.7	29	14,194	-65.4		321	1.7
125----	26	15,258	-73.2		53	12.2	29	15,292	-69.8		64	4.1
100----	26	16.557	-74.4		78	14.6	29	16,618	-69.8		80	10.9
80-----	26	17.875	-68.7		90	15.5	29	17,955	-67.0		87	13.6
70-----	26	18,685	-65.5		83	15.0	29	18,772	-63.9		88	15.7
60-----	26	19,624	-62.6		77	16.9	29	19,721	-60.2		92	18.7
50-----	26	20.759	-58.8		85	18.5	28	20,867	-57.0		90	20.4
40-----	25	22,172	-55.6		93	19.4	27	22,293	-53.9		89	22.9
30-----	22	24,020	-51.7		96	17.1	27	24,156	-50.5		92	21.8
25-----	21	25,209	-49.7		102	15.3	26	25,348	-48.5		85	23.9
20-----	20	26,678	-47.1		90	17.3	20	26,815	-46.6		79	25.1
15-----	13	28.584	-44 6				9	28,742	-43.1			

Standard pressure surface (mb.)	TATOOSH IS., WASH. (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	31	10.9	91	135	2.7
1,000--	30	145	11.0	83	161	2.3
950----	30	570	11.0	67	261	1.9
900----	30	1,024	9.1	64	292	3.9
850----	30	1,496	6.8	57	303	7.0
800----	30	1,991	4.3	49	305	9.1
750----	30	2,511	2.0	43	309	12.4
700----	30	3,069	- .3	38	312	15.9
650----	30	3,652	- 3.9	36	311	19.2
600----	30	4,286	- 6.9	30	309	21.2
550----	30	4,950	-11.0		311	23.3
500----	30	5,686	-15.7	30	312	28.4
450----	30	6,459	-20.9	30	305	29.7
400----	30	7,333	-27.0	33	297	29.9
350----	30	8,282	-33.8		301	34.0
300----	30	9,344	-41.8		304	33.8
250----	30	10,555	-50.4		301	35.2
200----	30	11,987	-56.2		301	28.8
175---	30	12,835	-56.2		296	29.5
150---	30	13,812	-56.6		308	25.3
125----	30	14,965	-57.3		297	24.7
100----	29	16,372	-57.3		295	19.4
80-----	29	17,785	-56.2		289	17.7
70-----	29	18,635	-55.3		291	15.2
60-----	29	19,620	-54.8		294	10.7
50-----	28	20,794	-53.7		293	9.9
40-----	27	22,240	-52.4		305	8.2
30-----	24	24,108	-50.5		283	5.8
25-----	17	25,302	-49.7		282	8.5

Standard pressure surface (mb.)	TOPEKA, KANS. (984 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TUCSON, ARIZ. (923 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	269	14.1	94	113	1.7	30	781	19.8	60	134	6.8
1,000--	30	130					30	86				
950----	30	568	15.6	77	193	6 6	30	528				
900----	30	1,026	14.6	67	213	12.2	30	1,004	22.7	50	141	5.4
850----	30	1,509	13.1	64	228	14.0	30	1,501	20.2	50	174	3.3
800----	30	2,017	10.8	59	238	15.0	30	2,021	16.4	55	195	6.6
750----	30	2.549	7.8	60	244	15.3	30	2,561	12.7	52	208	9.5
700----	30	3,120	5.1	55	245	17.7	30	3,143	9.0	52	218	12.0
650----	30	3.717	1 8	50	243	18.5	30	3,748	5.3	45	227	13.4
600----	30	4,364	- 2.1	47	240	21.2	30	4,403	1.4	41	236	13.4
550----	30	5,045	- 5.8	42	215	22.5	30	5,092	- 2.7	36	247	16.1
500----	30	5,793	-10 0		243	25.8	30	5,849	- 7.4	32	252	19.0
450----	30	6,594	-15.3		244	28.8	30	6.657	-12.5		255	21.0
400----	30	7,479	-21.3		245	31.1	30	7,552	-19.0		257	25.1
350----	30	8,451	-28 1		249	33.2	30	8,531	-26.3		255	28.8
300----	30	9,541	-36 0		250	38.1	30	9,627	-34.3		251	34.0
250----	30	10,781	-45.5		254	42 9	30	10,878	-43.2		252	43.5
200----	30	12,242	-54.3		256	43.5	30	12,348	-53.3		253	50.9
175----	30	13,090	-58.5		257	40 8	30	13,196	-58.8		250	49.4
150----	30	14,050	-62.5		258	40 8	30	14,150	-64.5		254	42 7
125----	30	15,168	-65.4		254	29.5	30	15,249	-69.2		255	33.8
100----	29	16,527	-63 8		248	20.2	30	16,578	-69.7		263	17.7
80-----	29	17,905	-60.9		233	10.3	30	17,921	-65.5		192	1.7
70-----	29	18,744	-59 3		218	5.4	30	18,747	-62.2		100	4.1
60-----	29	19,711	-56.8		156	2.7	30	19.700	-59.0		86	8.9
50-----	29	20 872	-54 9		112	4.7	30	20,852	-56.1		91	12.8
40-----	27	22 304	-53 0		90	5.6	29	22.277	-54.0		89	14.8
30-----	27	24 169	-50 5		89	6.6	29	24.136	-51.0		87	18.1
25-----	26	25,367	-48.8		86	5.8	29	25.328	-49.1		87	19.6
20-----	21	26,849	-46 8		89	6 0	23	26.796	-47.1		90	20.4
15-----	14	28 755	-45 3				16	28.723	-44.2			
10-----												
7------												

Standard pressure surface (mb.)	WASHINGTON, D. C. (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	WINNEMUCCA, NEV. (869 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	84	16.0	93	360	2.7	29	1,310	6.6	53	197	0.8
1,000--	30	168	18.4	83	355	4.1	29	139				
950----	30	614	18.8	71	340	6.4	29	568				
900----	30	1,074	16.3	71	338	5.8	29	1,023				
850----	30	1,559	13.9	67	311	5.4	29	1,496	11.6	40	275	1.6
800----	30	2,069	11.5	59	283	5.2	29	2,002	9.6	40	312	5.2
750----	30	2,605	8.8	53	279	5.8	29	2,531	6.1	43	287	7.4
700----	30	3,175	6.0	47	276	6.4	29	3,096	2.5	45	285	9.7
650----	30	3,778	2.9	43	276	8.2	29	3,689	- .0	42	278	13.8
600----	30	4,423	- .4	38	281	9.7	29	4,326	- 5.0	44	274	15.2
550----	30	5,109	- 4.3		272	9.7	29	4,997	- 9.3	46	279	18.1
500----	30	5,860	- 8.7		260	9.5	29	5,735	-14.0	37	286	21.4
450----	30	6,664	-14.0		256	10.1	29	6,519	-19.4	33	289	22.3
400----	30	7,553	-20.3		250	9.5	29	7,392	-25.7		291	25.1
350----	30	8,528	-27.3		249	10.9	29	8,345	-33.1		288	28.8
300----	30	9,620	-35.2		243	13.4	29	9,410	-41.3		282	25.8
250----	30	10,868	-43.7		244	16.1	29	10,627	-49.0		271	29.3
200----	30	12,337	-53.2		248	19.8	29	12,074	-53.6		275	32.3
175----	29	13,187	-58.1		254	18.8	29	12,928	-55.8		272	34.8
150----	29	14,147	-62.7		253	16.3	29	13,906	-57.7		270	32.6
125----	28	15,260	-66.3		249	13.6	29	15,048	-60.0		269	28.6
100----	27	16,608	-66.4		246	8.7	29	16,439	-60.3		269	19.2
80-----	26	17,970	-63.2		244	1.9	29	17,833	-58.9		269	10.3
70-----	26	18,805	-61.1		53	1.4	29	18,674	-57.5		260	5.1
60-----	26	19,757	-58.5		74	3.7	29	19,649	-56.1		293	3.5
50-----	26	20,909	-56.1		82	5.6	29	20,812	-54.8		289	1.7
40-----	26	22,335	-53.4		77	6.2	28	22,245	-52.8		300	1.0
30-----	25	24,202	-50.1		82	5 4	26	24,118	-50.5		130	1.0
25-----	25	25,397	-48.4		73	5.6	25	25,303	-49.3		143	1.7
20-----	24	26,874	-46.4		76	6.4	22	26.758	-47.8		98	.8
15-----	19	28,790	-44.0		119	2.3						
10-----	12	31,516	-41.7									
7------	5	33,858	-41.2									

Standard pressure surface (mb.)	YAKUTAT, ALASKA (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	12	6.9	96	91	3.1
1,000--	30	117	8.8	87	116	4.1
950----	30	541	7.2	79	142	6.4
900----	30	984	4.5	78	163	6.2
850----	30	1,448	2.0	74	179	6.8
800----	30	1,935	- 1.0	72	207	8.2
750----	29	2,447	- 3.8	70	238	9.1
700----	29	2,990	- 6.8	66	252	12.2
650----	29	3,561	-10.1	57	254	15.0
600----	29	4,178	-13.5	49	256	17.3
550----	29	4,830	-17.5	46	261	20.0
500----	29	5,542	-21.9	47	271	23.9
450----	29	6,307	-26.9	46	271	26.2
400----	29	7,150	-32.5	42	273	31.5
350----	29	8,078	-39.0		277	38.3
300----	29	9,121	-45.4		278	45.7
250----	29	10,321	-51.0		277	51.7
200----	29	11,767	-52.1		277	51.7
175----	28	12,638	-51.7		276	46.2
150----	28	13,637	-51.7		272	39.2
125----	28	14,819	-51.8		276	33.0
100----	27	16,262	-51.5		277	24.3
80-----	27	17,710	-51.3		276	24.3
70-----	27	18,581	-51.3		279	15.2
60-----	26	19,588	-51.3		280	15.5
50-----	26	20,772	-51.4		274	12.0
40-----	24	22,224	-51.2		276	11.5
30-----	21	24,109	-50.7		282	12.2
25-----	16	25,309	-50.0		293	11.9
20-----	13	26,774	-49.4			
15-----						
10-----						
7------						

Note. All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots. The resultant wind speed is biased toward a lower value as the number of observations on which the resultant is based lessens. The amount of bias increases with the number of observations that are terminated due to low angle limitations

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun

SEPTEMBER 1961

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance: A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
Air mass	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Sep.									
1------	0.96	1.05	1.14	1.27	1.38	----	----	----	----
2------	.90	1.01	1.13	1.26	1.37	(1.21)	----	----	----
4------	1.01	1.09	1.20	1.31	1.45	1.31	1.18	1.09	0.98
5------	1.02	1.12	1.21	1.33	1.44	1.31	1.15	1.06	.94
6------	----	----	----	----	----	----	1.13	1.01	.87
7------	.97	1.05	1.16	1.27	1.39	1.17	.99	.90	.77
8------	.82	----	----	1.19	----	----	----	----	----
12-----	----	----	----	----	1.41	1.32	1.17	1.06	.97
13-----	.90	.99	1.09	1.24	1.33	----	----	----	----
14-----	----	----	(.87)	----	----	----	----	----	----
15-----	----	----	----	----	1.28	1.19	1.01	.89	.79
16-----	.95	1.05	1.16	1.29	1.43	1.33	1.15	1.03	.93
17-----	.88	----	1.09	----	1.35	1.26	1.13	.97	.81
18-----	.66	.71	.81	----	1.21	----	----	----	----
20-----	.95	1.07	1.17	1.30	1.45	1.33	1.21	(1.06)	(.99)
21-----	.94	1.04	1.16	1.27	----	----	----	----	----
22-----	.93	1.02	1.13	1.23	1.41	----	1.13	.99	.88
23-----	.94	1.04	1.15	1.29	1.43	1.26	1.13	1.02	.92
24-----	.98	1.07	1.18	1.29	1.39	1.25	1.12	.98	.86
25-----	----	----	(1.09)	(1.26)	(1.05)	(.80)	(.91)	(.93)	(.84)
26-----	.96	1.04	1.17	1.29	1.42	1.29	1.12	1.01	.91
27-----	1.04	1.13	1.22	1.35	----	1.30	----	----	----
28-----	----	----	----	(1.01)	(1.15)	(1.07)	(.85)	(.66)	(.55)
29-----	.88	.96	1.11	1.27	(1.40)	----	----	----	----
30-----	.96	1.05	1.19	1.33	1.42	1.28	1.13	1.03	.91
Averages	0.93	1.03	1.14	1.28	1.39	1.28	1.12	1.00	0.89

MADISON, WIS.

Date	A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
Air mass	4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Sep.									
6------	----	----	----	----	----	S 1.20	S 1.02	S 0.88	S 0.75
9------	----	----	I 0.43	I 0.70	----	----	----	----	----
16-----S	0.72	S 0.83	S .96	S 1.19	----	----	S .98	S .84	S .72
17-----S	.78	S .85	S 1.01	S 1.16	S 1.56	S 1.15	S .94	S .80	S .70
20-----	----	----	----	M .99	----	----	----	----	----
28-----S	1.04	S 1.15	S 1.26	S 1.40	1.47	----	----	----	----
Averages	0.85	0.94	0.92	1.09	1.52	1.18	0.98	0.84	0.72

OMAHA, NEBR.

Date	A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
Air mass	4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Sep.									
2------	----	----	----	0.89	1.08	----	----	----	----
6------	----	----	----	.86	1.12	S 0.82	----	----	----
9------	----	I 0.13	M 0.28	M 0.57	----	----	----	----	----
15-----	----	----	----	----	S 1.18	S .89	S 0.67	S 0.56	S 0.43
16-----	----	----	----	S .92	S 1.12	S .82	S .59	S .45	S .30
17-----S	0.40	S .50	S .65	S .82	S .98	S .82	S .64	S .62	S .39
18-----S	.36	S .50	S .67	S .84	S 1.00	S .82	S .65	S .49	S .37
25-----S	.62	S .73	S .89	S 1.06	S 1.14	S .96	S .83	S .69	S .56
26-----M	.52	M .65	M .80	M .97	----	----	----	----	----
27-----	----	----	----	----	----	S 1.07	S .95	S .71	S .71
28-----	----	----	S .88	S 1.06	1.21	----	----	----	----
Averages	0.48	0.50	0.70	0.89	1.10	0.89	0.72	0.57	0.46

GUAM, M. I.

Date	A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
Air mass	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92

Recorder inoperative

BLUE HILL OBS., MASS.

Date	A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
Air mass	4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Sep.									
1------	0.47	0.57	0.66	0.88	----	----	----	----	----
3------	----	----	----	----	----	----	0.45	0.35	0.24
4------	----	----	----	----	----	0.69	.44	.31	.24
5------	.37	.48	.60	.77	----	----	----	----	----
6------	.62	.72	.82	1.06	1.33	1.11	.91	.76	.65
9------	----	----	----	----	----	----	.78	.65	.55
10-----	.60	.67	.84	1.03	1.25	1.04	.87	.70	.58
11-----	.60	.70	.82	1.04	1.18	.87	.62	.43	.33
16-----	.91	.99	1.13	1.25	1.36	1.17	.91	.72	.65
17-----	.84	.95	1.08	1.27	1.44	1.32	1.17	1.05	.94
18-----	.93	1.04	1.12	1.24	1.40	----	----	----	----
26-----	----	----	----	----	----	----	.94	.84	.75
27-----	.87	.96	1.10	1.23	1.37	1.25	1.06	.98	.86
28-----	.83	.94	1.01	1.16	1.27	.96	.71	.53	.41
29-----	.95	1.04	1.16	1.29	1.39	1.25	1.08	.91	.84
30-----	.91	1.04	1.11	1.25	1.35	1.17	1.03	.89	.79
Averages	0.74	0.84	0.95	1.12	1.33	1.08	0.84	0.70	0.60

MAUNA LOA OBS., HAWAII

Date	A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
Air mass	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Sep.									
1------	----	----	1.30	1.40	----	1.40	1.31	1.22	1.16
2------	1.21	1.28	1.36	1.49	1.61	1.47	1.36	1.27	1.20
3------	1.16	1.25	1.31	1.45	1.58	1.47	1.36	1.27	1.19
4------	1.19	1.27	1.32	1.47	1.58	----	----	1.25	1.17
5------	1.21	1.29	1.38	1.49	----	----	1.34	1.28	1.19
6------	----	----	1.38	1.49	1.58	----	----	----	----
7------	1.21	1.30	1.38	1.49	----	----	----	----	----
8------	1.22	1.30	1.38	1.49	----	----	----	----	----
9------	1.25	1.33	1.41	1.51	----	----	----	----	----
10-----	----	----	1.36	1.48	----	----	----	----	----
11-----	1.21	1.29	1.38	1.48	1.60	1.44	1.35	1.28	1.18
12-----	1.19	1.26	1.35	----	----	1.44	----	----	----
13-----	1.18	1.25	1.34	1.45	1.55	----	1.29	1.21	1.14
14-----	1.18	1.26	1.34	1.45	1.57	1.42	1.29	1.20	1.12
15-----	1.19	1.26	1.35	1.45	1.58	1.43	1.33	1.24	1.15
16-----	1.21	1.27	1.35	1.47	1.61	1.48	1.36	1.27	1.18
17-----	1.24	1.32	1.40	1.51	1.59	----	1.36	1.29	1.20
18-----	1.25	1.33	1.41	1.51	1.62	1.52	1.41	1.33	1.25
19-----	1.23	1.32	1.42	1.53	1.61	1.47	1.39	1.34	1.26
20-----	1.26	1.33	1.41	1.52	----	----	----	----	----
21-----	1.25	1.33	1.42	----	----	----	----	----	----
22-----H	1.16	H 1.23	H 1.32	H 1.43	----	----	----	----	----
23-----H	1.13	H 1.22	H 1.31	----	----	----	----	----	----
24-----	1.16	1.25	1.34	1.45	----	----	----	----	----
25-----	1.16	1.25	1.35	1.47	----	----	----	----	----
27-----	1.15	1.22	1.32	1.43	----	----	----	----	----
29-----	----	----	----	1.47	----	----	1.31	1.19	----
Averages	1.20	1.28	1.36	1.47	1.59	1.45	1.34	1.26	1.18

MAUNA LOA OBS., HILO AP, HAWAII

Date	A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
Air mass					*				
Sep.									
11-----	----	----	----	----	1.37	1.17	1.02	0.90	----
13-----	0.83	0.93	1.03	----	----	----	----	----	----
16-----	----	----	----	1.19	1.37	1.14	1.02	.90	.78
19-----	----	----	----	----	----	1.06	----	----	----
20-----	.85	.92	1.03	----	1.36	1.15	----	----	----
21-----	----	.92	1.03	1.15	----	----	----	----	----
Averages	0.84	0.92	1.03	1.17	1.37	1.13	1.02	0.90	0.78

H Haze
S Slight haze - indeterminable
M Moderate haze - indeterminable
I Intense haze - indeterminable
( ) Clouds present
* Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface tabulated in langleys.

1961	Albuquerque, N. Mex.	Ames, Iowa	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill Obs., Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Corvallis, Oreg.	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	El Paso, Tex.	Fly, Nev.	Fairbanks, Alaska	Flaming Geyser, Utah	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.
Sep. 3-----	---	130	283	626	380	568	276	142	592	371	588	330	536	554	---	571	393	87	557	585	202	416	147	670	129	519	476	510	571	543	---	491	516	660
Sep. 4-----	679	138	35	579	552	552	230	96	570	339	587	374	561	650	222	608	417	389	470	544	645	320	674	---	340	622	518	507	573	536	---	468	462	616
Sep. 5-----	---	471	254	443	534	452	129	65	64	403	522	405	331	602	278	394	299	279	314	526	643	241	537	650	242	624	509	(494)	485	487	---	509	543	304
Sep. 6-----	357	517	553	429	539	437	212	122	452	538	554	547	506	610	577	510	328	599	551	651	551	283	315	616	153	599	521	501	552	522	---	519	495	515
Sep. 7-----	668	459	65	568	549	463	161	276	444	484	458	483	477	571	483	465	543	---	492	556	360	549	627	607	156	441	563	527	600	323	---	403	425	512
Sep. 8-----	509	475	460	595	513	484	142	205	491	283	363	282	180	644	507	373	485	467	545	573	549	530	473	598	221	181	521	482	575	494	---	501	392	540
Sep. 9-----	388	490	502	---	242	428	133	131	410	483	192	495	175	595	432	450	489	520	526	571	574	491	618	625	254	422	549	477	418	782	---	320	548	595
Average-------	520	383	307	540	473	484	183	148	432	415	466	417	395	604	416	482	422	390	493	572	503	404	527	628	214	487	522	(500)	539	527	---	459	487	526
Sep. 10-----	422	490	506	458	474	366	69	270	61	515	444	514	114	666	355	428	419	499	474	572	573	442	626	543	138	450	514	479	573	229	---	160	498	399
Sep. 11-----	419	91	510	384	480	421	109	297	---	491	518	494	105	660	326	480	427	531	502	574	141	447	563	606	161	409	131	483	483	104	---	---	511	478
Sep. 12-----	609	79	498	120	530	442	60	230	82	425	553	438	477	668	287	451	328	175	512	564	271	95	498	611	131	598	52	481	278	260	---	---	534	497
Sep. 13-----	595	61	478	435	502	491	72	198	124	291	538	292	427	590	165	486	428	38	466	561	615	386	512	604	152	582	463	473	570	426	---	506	525	575
Sep. 14-----	508	228	477	319	144	165	81	239	512	411	464	423	93	541	71	510	146	512	206	560	239	180	567	552	242	552	575	476	427	500	---	503	612	---
Sep. 15-----	609	536	218	367	210	540	139	187	518	67	506	60	---	678	137	495	210	565	156	565	540	470	471	590	85	477	555	464	326	493	---	465	508	639
Sep. 16-----	---	526	108	575	402	575	144	170	488	518	228	522	214	687	494	571	---	562	160	245	576	499	620	482	171	312	572	304	358	448	---	337	602	652
Average-------	527	287	400	379	392	429	96	227	297	388	464	392	238	641	262	489	326	412	354	520	422	360	551	570	154	483	409	451	431	352	---	394	541	540
Sep. 17-----	619	501	251	592	368	469	112	78	256	521	313	549	---	681	520	539	490	564	453	437	---	497	578	575	266	182	578	468	386	454	---	447	451	629
Sep. 18-----	503	487	173	461	323	452	117	205	331	488	209	514	487	576	511	77	---	554	168	581	---	523	549	260	44	274	577	464	579	58	---	58	126	496
Sep. 19-----	547	492	362	457	179	188	78	110	37	352	512	363	---	636	492	253	171	495	459	555	---	496	554	352	142	157	559	455	325	162	---	484	105	198
Sep. 20-----	631	240	419	573	287	434	189	116	463	308	328	317	---	662	491	272	---	335	297	532	---	288	634	510	82	318	296	450	464	433	---	225	235	428
Sep. 21-----	547	346	301	578	467	499	107	262	115	30	423	18	556	647	187	551	---	428	428	411	---	436	626	317	---	101	400	404	589	147	97	219	550	611
Sep. 22-----	608	104	345	565	398	448	79	74	322	128	504	129	538	657	177	545	416	362	451	505	503	432	614	356	143	253	413	337	571	336	97	316	520	553
Sep. 23-----	611	88	79	530	461	483	36	187	115	221	391	180	593	639	312	525	368	276	453	502	126	67	612	576	82	306	415	427	565	315	293	223	514	557
Average-------	581	323	276	537	354	425	102	147	234	293	383	296	543	643	384	395	361	431	387	503	---	391	595	421	126	227	462	429	497	272	---	282	357	496
Sep. 24-----	---	103	363	539	455	423	58	196	482	203	490	170	502	670	232	524	370	40	468	538	326	288	599	573	118	532	531	420	546	457	601	446	492	---
Sep. 25-----	496	481	391	532	333	453	74	94	454	69	465	28	392	638	109	478	238	512	422	518	568	49	574	564	---	560	511	421	545	278	613	380	493	530
Sep. 26-----	605	448	313	180	383	453	106	95	274	413	473	429	340	674	81	406	389	510	450	510	541	500	562	544	66	507	527	424	411	216	590	130	464	490
Sep. 27-----	583	341	386	---	396	491	78	69	228	449	475	455	495	681	177	420	450	446	411	378	344	441	540	527	41	526	522	343	459	389	---	413	293	575
Sep. 28-----	561	470	369	509	323	480	74	87	408	420	342	431	523	638	285	510	418	525	312	443	478	478	542	282	174	427	286	424	302	160	393	257	518	583
Sep. 29-----	509	67	48	524	385	477	109	77	394	465	446	476	542	610	230	428	417	271	381	491	463	479	478	547	---	380	476	448	493	---	422	196	505	568
Sep. 30-----	608	84	208	539	134	319	58	286	355	443	417	439	455	686	412	471	---	86	390	495	546	344	578	509	82	373	171	425	520	205	515	235	502	390
Average-------	560	285	297	470	344	442	80	129	371	351	444	347	464	657	218	462	380	342	405	482	467	368	553	506	96	472	432	415	468	284	522	294	467	523

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

SEPTEMBER 1961

1961	Cape Hatteras, N. C.	Hilo, Hawaii	Indianapolis, Ind.	Inyokern China Lake, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Laramie, Wyo.	Las Vegas, Nev.	Lemont, Ill.	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif.	Los Angeles, Calif. (Urban)	Madison, Wis.	Manhattan, Kans.	Matanuska, Alaska	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	North Omaha, Nebr.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Page, Ariz.	Phoenix, Ariz.	Portland, Me.	Prosser, Wash.	Pullman, Wash.	Rapid City, S. Dak.	Riverside, Calif.	St. Cloud, Minn.	Salt Lake City, Utah
Sep. 3-----	515	514	452	753	276	573	618	282	694	149	613	435	592	594	421	106	381	592	588	309	297	313	157	509	341	637	643	224	579	585	537	489	484	657
Sep. 4-----	589	660	434	755	490	423	593	144	667	309	---	497	641	641	287	130	348	488	560	410	437	248	128	417	187	630	626	467	553	538	191	618	328	627
Sep. 5-----	609	640	481	742	487	466	587	382	643	383	---	400	619	602	192	552	171	541	596	460	463	464	460	349	632	(622)	602	477	463	457	181	598	85	623
Sep. 6-----	622	400	325	725	490	566	298	522	652	493	---	490	574	574	578	536	53	549	587	534	493	523	556	447	544	606	587	570	585	570	557	580	486	627
Sep. 7-----	606	422	508	737	281	452	567	552	641	490	475	496	524	559	544	177	97	560	471	561	---	509	338	501	392	---	539	531	---	543	525	583	521	586
Sep. 8-----	330	626	452	740	211	468	383	502	660	438	521	496	469	505	534	459	370	556	291	533	494	406	518	463	531	153	358	342	655	551	528	564	243	297
Sep. 9-----	648	299	361	338	502	352	373	436	637	416	505	445	595	604	506	379	96	553	559	467	405	472	522	450	535	593	455	451	652	529	368	573	492	327
Average-------	560	509	430	684	391	471	488	403	656	383	528	466	573	583	437	334	217	549	522	467	431	419	383	448	452	(540)	544	437	581	539	412	572	377	535
Sep. 10-----	630	542	410	272	287	176	408	388	637	333	406	566	618	606	512	472	29	560	568	638	491	510	494	455	563	575	351	523	537	499	452	581	244	591
Sep. 11-----	577	629	400	711	463	155	379	523	632	365	545	380	596	583	365	281	128	559	529	494	451	493	91	418	507	595	539	502	542	549	146	557	136	369
Sep. 12-----	625	488	424	708	278	205	202	450	629	168	526	158	519	562	36	51	272	530	521	363	419	440	82	448	53	599	550	445	545	547	143	547	46	603
Sep. 13-----	483	525	461	709	465	132	73	245	597	93	615	166	499	494	56	325	354	430	520	589	464	304	172	---	515	504	---	113	560	552	308	518	157	567
Sep. 14-----	216	424	148	685	496	518	571	510	509	142	120	554	315	400	230	429	224	483	582	500	89	278	377	162	419	440	556	416	374	450	540	518	371	562
Sep. 15-----	169	338	541	643	239	380	293	437	502	452	575	595	277	319	558	534	69	327	384	469	535	92	---	495	584	531	548	90	457	494	535	474	517	515
Sep. 16-----	629	579	529	658	451	569	474	431	535	472	582	587	138	151	541	506	251	140	511	555	553	522	517	522	570	472	550	---	280	478	493	434	510	379
Average-------	476	504	416	627	383	305	343	426	577	289	481	429	423	445	328	371	190	433	517	515	429	377	289	417	459	531	516	348	471	510	374	518	283	512
Sep. 17-----	329	374	498	---	531	569	350	397	572	468	622	589	429	402	535	496	243	50	449	513	540	513	494	480	564	381	362	---	471	405	380	426	477	307
Sep. 18-----	72	383	484	---	522	556	345	169	616	453	623	518	560	515	524	492	109	362	438	554	525	480	498	485	563	524	561	548	379	323	315	544	419	206
Sep. 19-----	163	456	440	---	372	---	261	269	593	450	562	548	463	396	503	420	85	504	496	531	354	426	427	201	435	348	554	488	500	488	151	496	439	344
Sep. 20-----	369	(584)	352	---	226	495	253	303	589	393	363	488	268	200	431	81	135	432	481	559	500	212	48	402	233	541	549	408	383	345	419	317	63	341
Sep. 21-----	613	(431)	385	---	362	502	301	68	448	319	534	411	180	115	262	422	262	481	590	554	438	---	489	456	537	341	536	43	455	319	365	182	283	151
Sep. 22-----	584	434	396	---	447	490	453	316	480	310	523	432	378	125	118	166	39	491	599	524	389	170	209	418	352	278	494	339	479	336	338	130	173	454
Sep. 23-----	569	256	415	---	429	511	356	304	562	12	481	505	544	550	117	54	74	473	599	533	368	304	73	450	449	512	536	276	508	477	218	514	222	344
Average-------	386	(417)	424	---	413	520	331	261	551	344	530	499	403	329	356	304	135	399	522	538	445	351	320	413	448	418	513	350	454	385	312	373	296	307
Sep. 24-----	573	271	339	---	395	471	529	271	586	86	506	490	535	(532)	87	112	190	498	503	525	443	258	247	437	416	559	551	415	494	435	491	509	432	524
Sep. 25-----	469	274	20	---	390	467	495	482	575	56	358	450	472	545	333	494	---	451	534	380	375	75	494	365	553	544	516	68	455	436	485	522	482	529
Sep. 26-----	563	354	---	652	222	404	483	355	564	445	573	548	465	523	494	456	243	466	512	528	476	436	448	451	486	541	538	424	(466)	478	284	512	331	520
Sep. 27-----	487	295	---	591	439	488	465	476	459	363	577	302	466	438	454	281	192	456	555	488	390	471	432	437	355	498	526	484	480	455	481	453	355	514
Sep. 28-----	212	507	---	594	334	476	421	461	526	454	518	234	500	473	516	477	83	472	510	393	442	432	471	442	171	511	527	435	(422)	243	409	477	442	216
Sep. 29-----	543	534	---	626	476	492	212	273	538	394	549	478	506	504	226	215	39	451	403	478	435	467	77	431	483	518	449	482	459	201	254	504	54	455
Sep. 30-----	561	349	---	625	435	438	478	269	553	132	530	381	464	497	88	383	114	454	388	453	379	444	127	428	440	523	524	476	327	218	366	477	62	437
Average-------	487	369	---	618	384	462	441	370	543	276	516	412	487	(502)	314	345	144	464	486	464	420	369	328	427	415	528	518	398	(443)	352	396	493	308	456

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

SEPTEMBER 196.

1961	San Antonio, Tex.	Santa Maria Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Seattle, Wash.	Seattle-Tacoma, Wash.	Shreveport, La.	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Swan Island W. I.	Tampa, Fla.	Tucson, Ariz.	Washington D. C. (Obs. & Test Div. Ctr)
Sep. 3-----	506	588	169	272	142	136	473	556	305	247	353	448	672	348
Sep. 4-----	545	632	524	431	445	506	480	553	503	199	196	528	675	384
Sep. 5-----	576	618	524	464	---	376	433	443	376	367	320	537	658	500
Sep. 6-----	531	580	180	446	511	523	487	567	439	538	51	502	626	478
Sep. 7-----	499	527	451	392	277	298	455	509	212	595	281	548	---	236
Sep. 8-----	375	593	429	302	501	527	473	551	376	543	300	461	---	141
Sep. 9-----	526	534	292	383	505	517	403	541	360	534	340	434	479	432
Average-------	508	582	367	384	397	412	458	531	367	432	263	494	622	360
Sep. 10-----	450	608	342	413	---	413	346	433	485	491	438	526	470	438
Sep. 11-----	159	545	307	420	490	474	136	542	502	441	447	480	489	514
Sep. 12-----	118	515	309	371	497	528	75	533	477	72	593	478	---	476
Sep. 13-----	337	494	68	383	516	533	220	538	488	428	553	607	529	---
Sep. 14-----	534	582	145	355	253	295	295	379	513	387	559	376	602	372
Sep. 15-----	432	548	419	109	---	273	536	470	276	558	414	178	575	333
Sep. 16-----	461	106	506	498	---	273	565	450	405	539	395	501	359	486
Average-------	356	486	299	364	439	398	310	478	449	417	486	449	504	437
Sep. 17-----	479	475	469	---	---	291	542	481	567	514	443	237	545	---
Sep. 18-----	568	557	472	343	---	204	524	315	502	488	271	468	587	402
Sep. 19-----	570	512	467	193	374	379	530	464	177	408	550	498	597	131
Sep. 20-----	459	226	394	106	251	202	422	316	90	158	549	551	578	---
Sep. 21-----	472	282	263	72	---	370	361	328	400	521	388	393	609	467
Sep. 22-----	514	478	245	420	---	427	396	223	410	344	447	498	(607)	485
Sep. 23-----	457	548	307	388	415	410	451	477	471	449	462	574	(610)	462
Average-------	503	440	374	254	---	326	461	372	374	412	444	460	(590)	389
Sep. 24-----	448	530	67	348	---	407	430	391	476	200	482	467	599	442
Sep. 25-----	219	503	186	64	---	266	284	346	424	527	407	473	---	---
Sep. 26-----	523	540	459	370	355	396	452	463	141	407	521	539	---	532
Sep. 27-----	472	512	253	389	288	297	409	318	493	77	438	419	590	410
Sep. 28-----	454	460	41	334	389	424	440	249	410	218	215	545	(576)	---
Sep. 29-----	444	464	392	406	301	362	469	203	500	456	336	494	---	531
Sep. 30-----	395	523	40	384	90	107	440	274	465	---	399	493	(579)	484
Average-------	422	505	206	328	285	323	418	321	416	314	400	490	(586)	480

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

TOTAL OZONE DATA

Total amount of ozone in the atmosphere, expressed in terms of integrated depth, in units of 10^{-3} centimeter. These data are given as daily averages obtained from measurements with a Dobson Ozone Spectrophotometer using the sun or zenith cloud (see explanation below) as a light source.

SEPTEMBER 1961

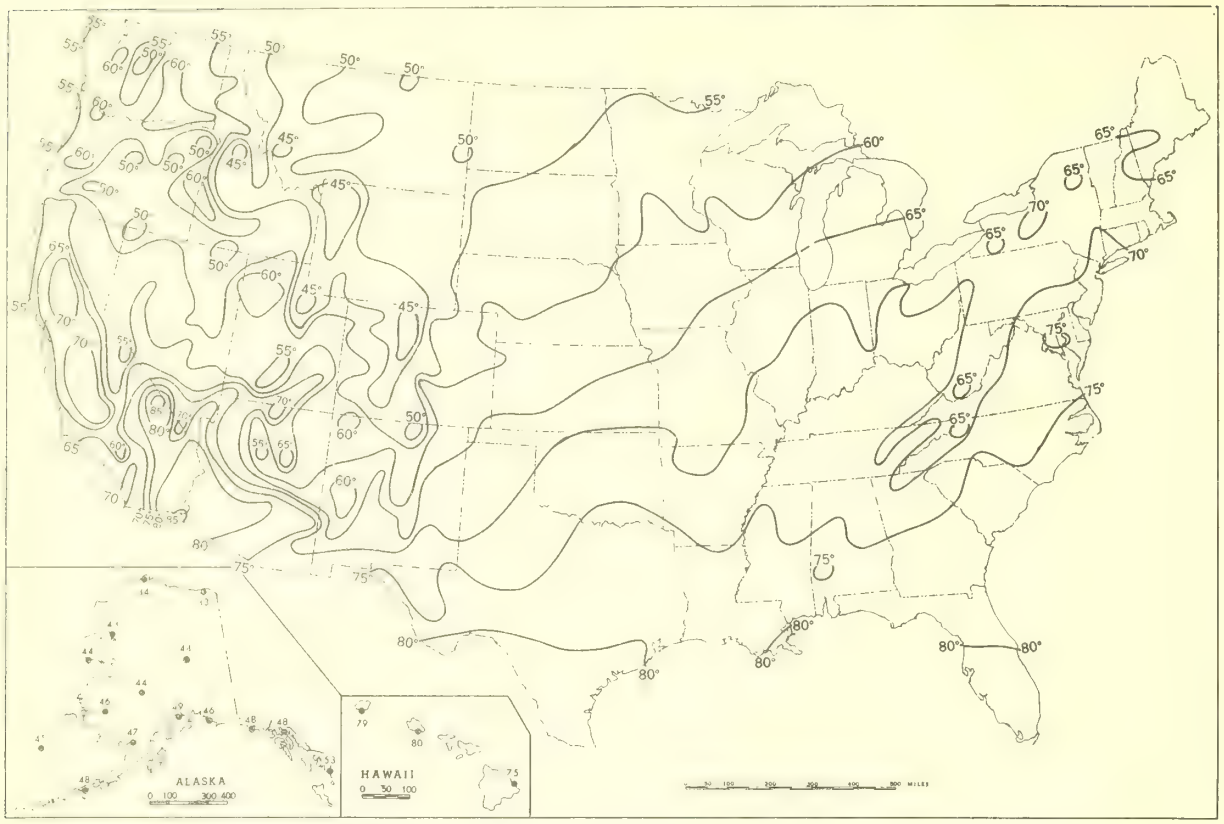
Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Bismarck, N. Dak.	301	---	325	292	---	291	286	276	278	---	---	---	---	336	301	277	284	277	---	301	---	329	---	316	289	269	348	---	312	364	
Caribou, Maine	---	---	---	---	---	271	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	280	
Fort Worth, Texas	212	186	---	---	217	231	232	266	250	227	---	---	246	†201																	
Green Bay, Wis.	---	275	267	248	260	272	211	248	256	253	---	---	---	248	306	287	271	284	293	263	265	---	246	---	321	265	---	309	283	---	
Mauna Loa, Hawaii	281	282	284	281	284	283	281	282	286	288	289	282	279	281	283	284	282	280	283	288	285	276	269	271	278	---	278	---	279	---	
Midland, Texas																					‡191	191	195	196	---	199	206	---	203	198	
Nashville, Tenn.																										286	289	292	277	271	
Sterling, Va.	*286	299	291	---	*229	289	---	---	---	269	283	295	293	278	309	314	---	---	*302	---	---	---	---	---	---	303	*291	301	304	---	

† Observations discontinued September 14, 1961.
‡ Observations began September 21, 1961.

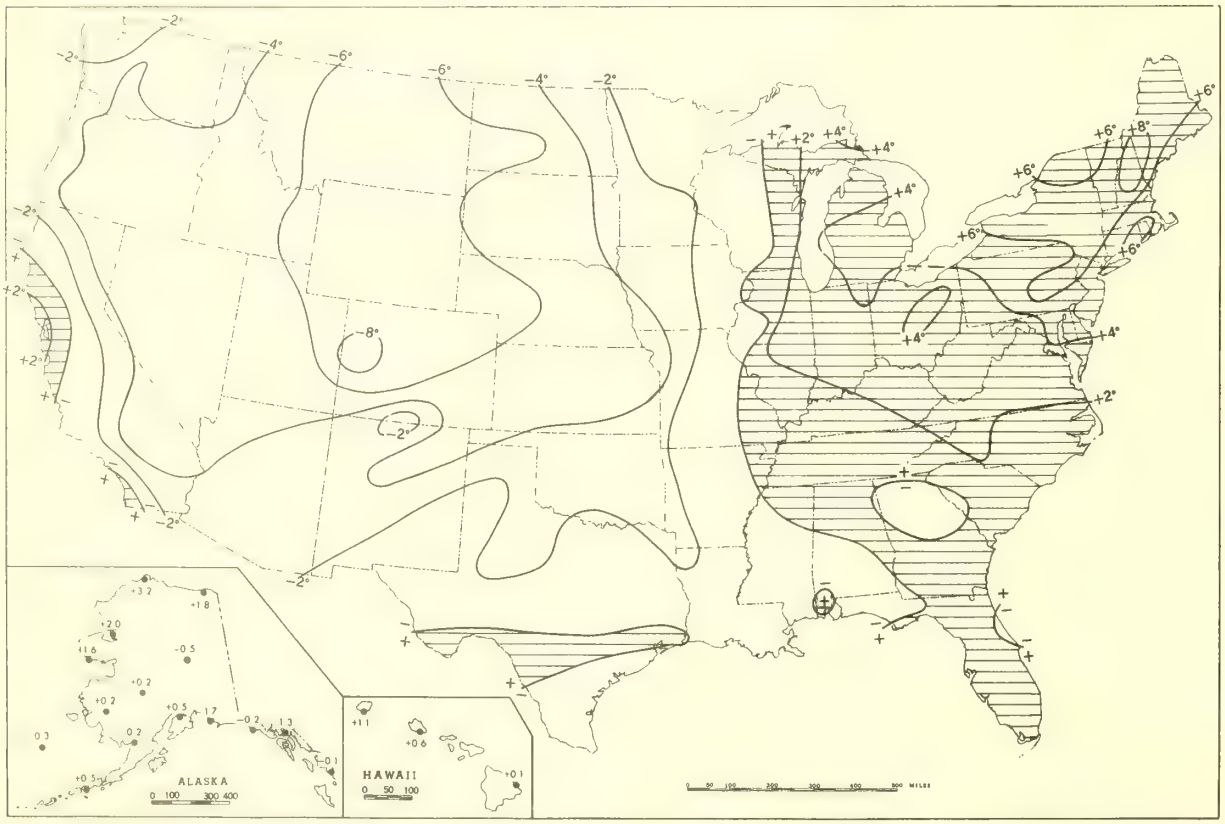
The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from the ground to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column of air is expressed in terms of thickness it would occupy if it were compressed to standard pressure and temperature.

The standard method of observation is that using A (3055 A and 3254 A) and D (3176 A and 3398 A) wave length pairs. On cloudy days when no observations can be obtained directly upon the sun, observations are taken by using light from the zenith cloud. These observations are not quite as reliable as the sunlight observations, therefore, average values based upon zenith cloud observations are denoted with an asterisk. A detailed description of the spectrophotometer and observation procedures may be found in the "Observer's Handbook of the Ozone Spectrophotometer," Annals of the International Geophysical Year, Volume V, Pergamon Press, 1957.

Chart I. A. Average Temperature (°F.) at Surface, September 1961.



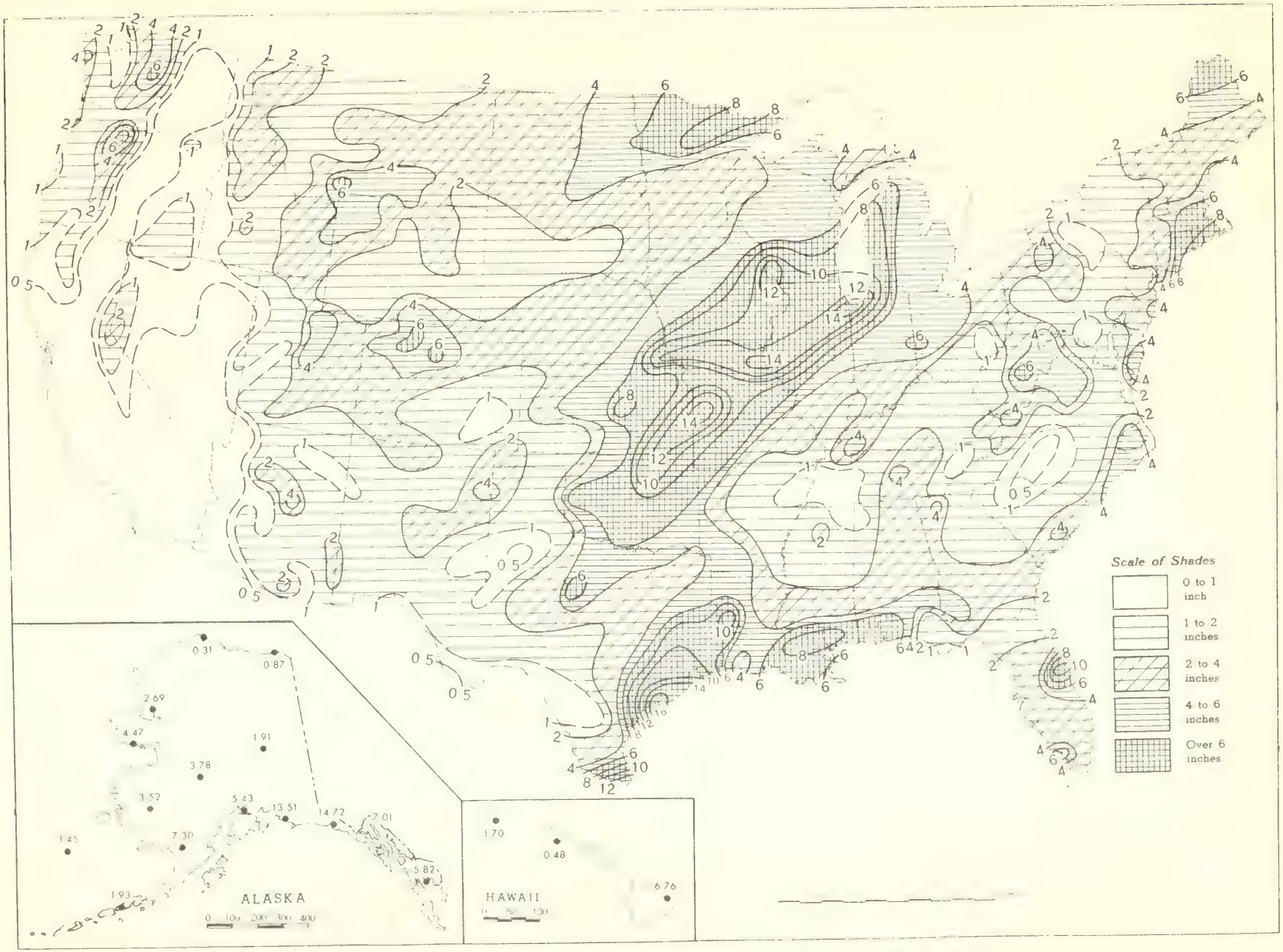
B. Departure of Average Temperature from Normal (°F.), September 1961.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

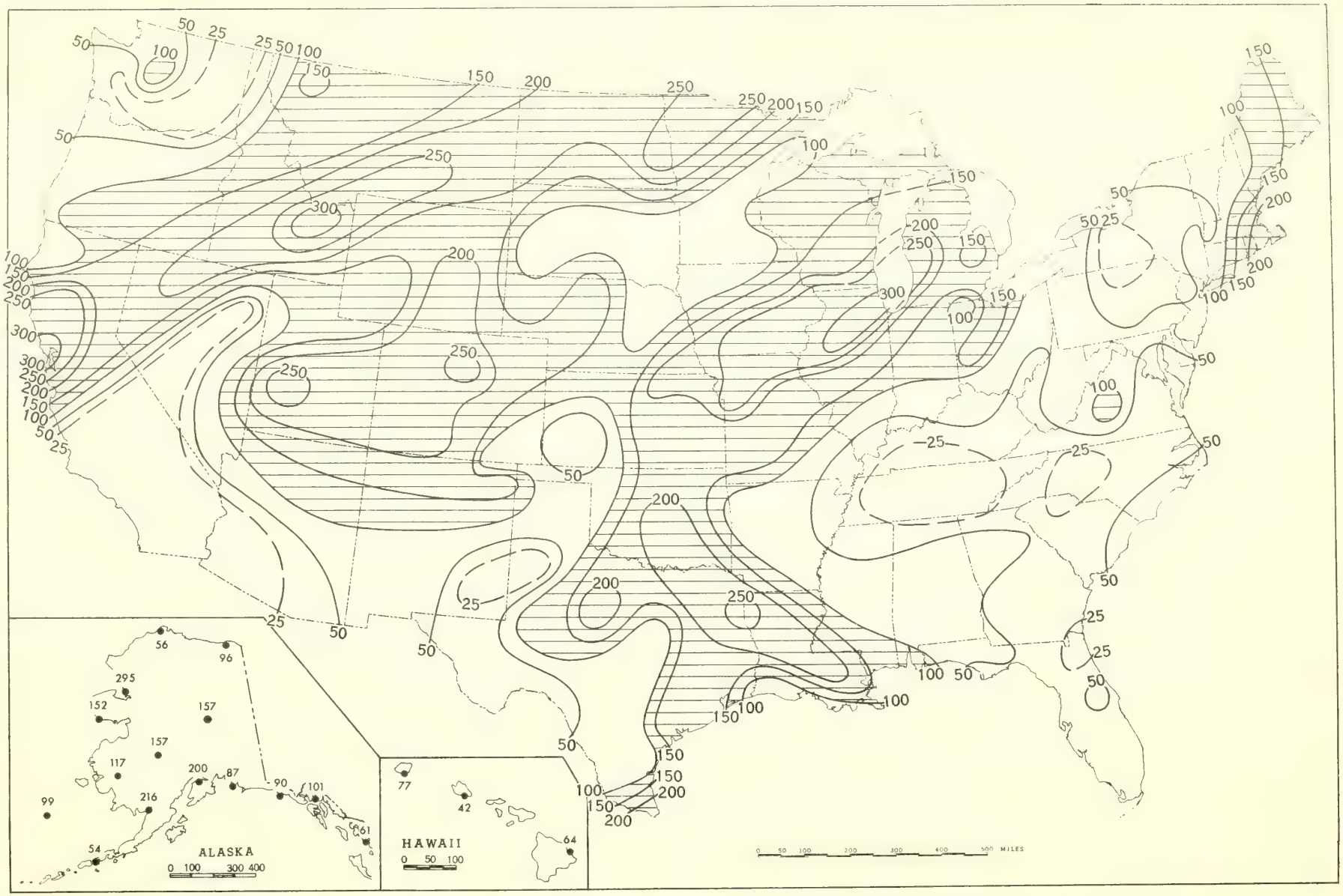
B. Departures from normal are based on the 30-yr. normals (1921-50) for first-order Weather Bureau stations.

Chart II Total Precipitation (Inches) September 1961.



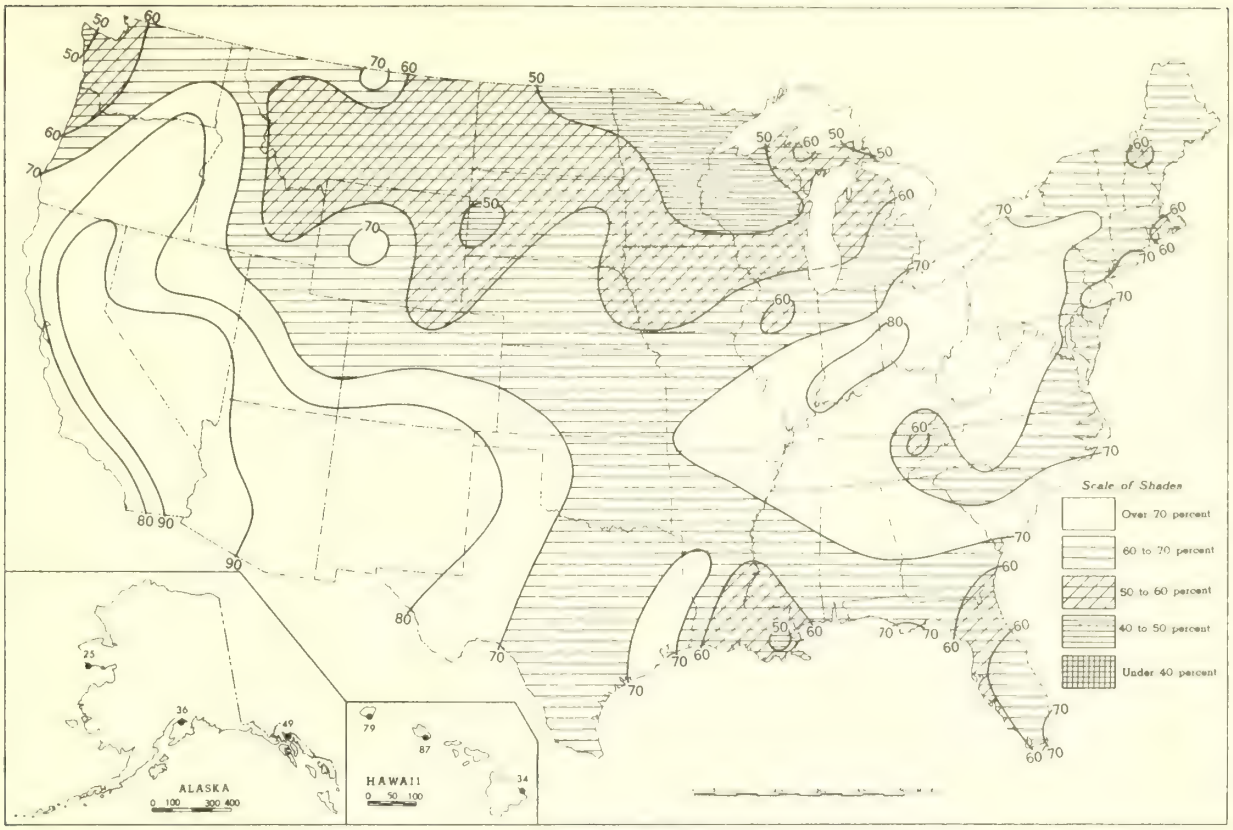
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, September 1961.

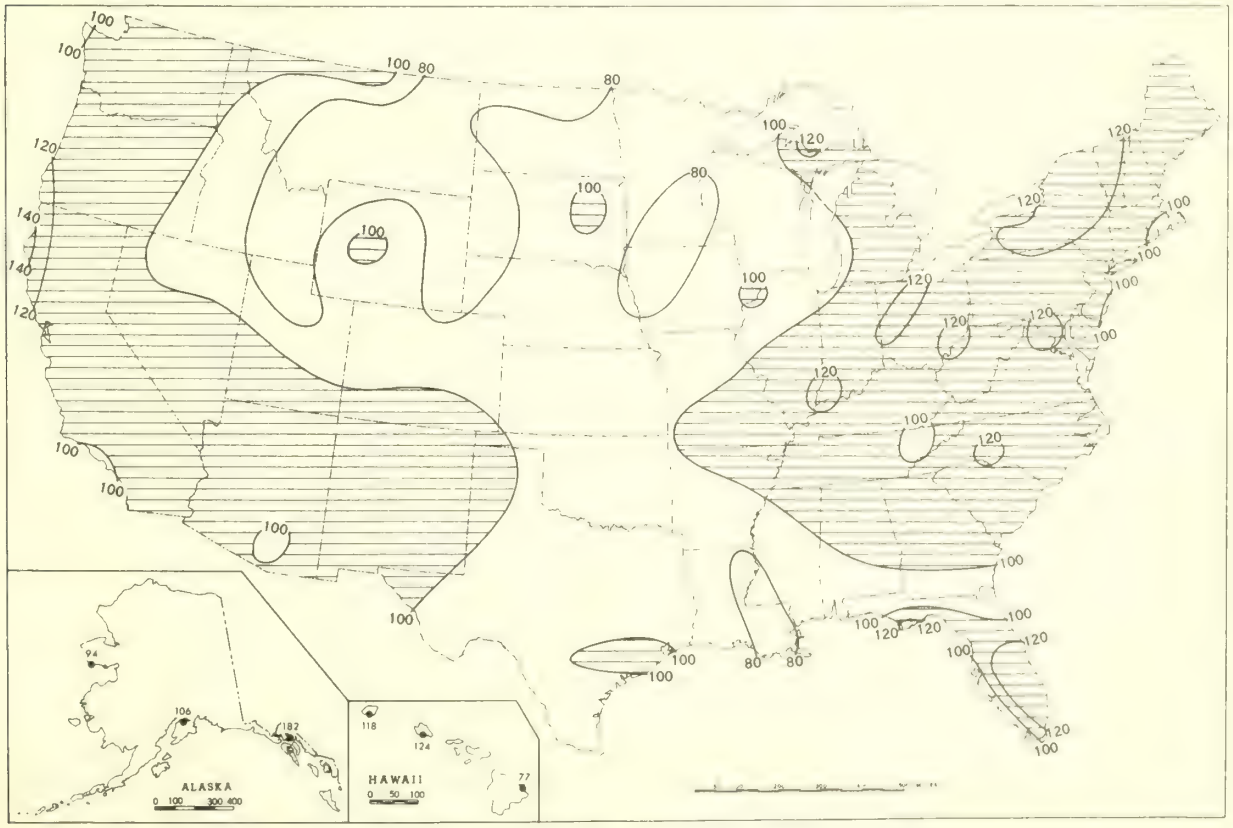


Normal monthly precipitation amounts are computed from the records for 1921-50 for first-order Weather Bureau stations.

Chart VI. A. Percentage of Possible Sunshine, September 1961.

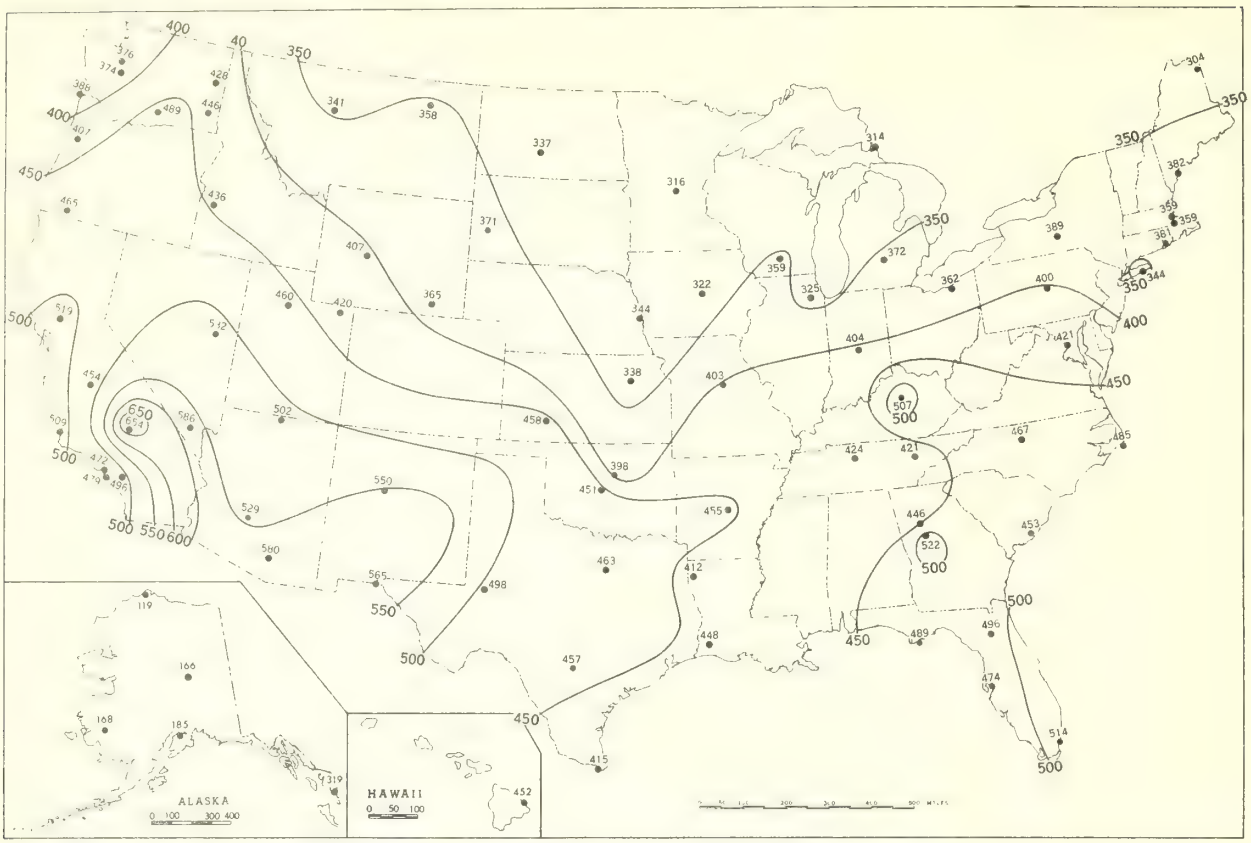


B. Percentage of Mean Monthly Sunshine, September 1961.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, September 1961.

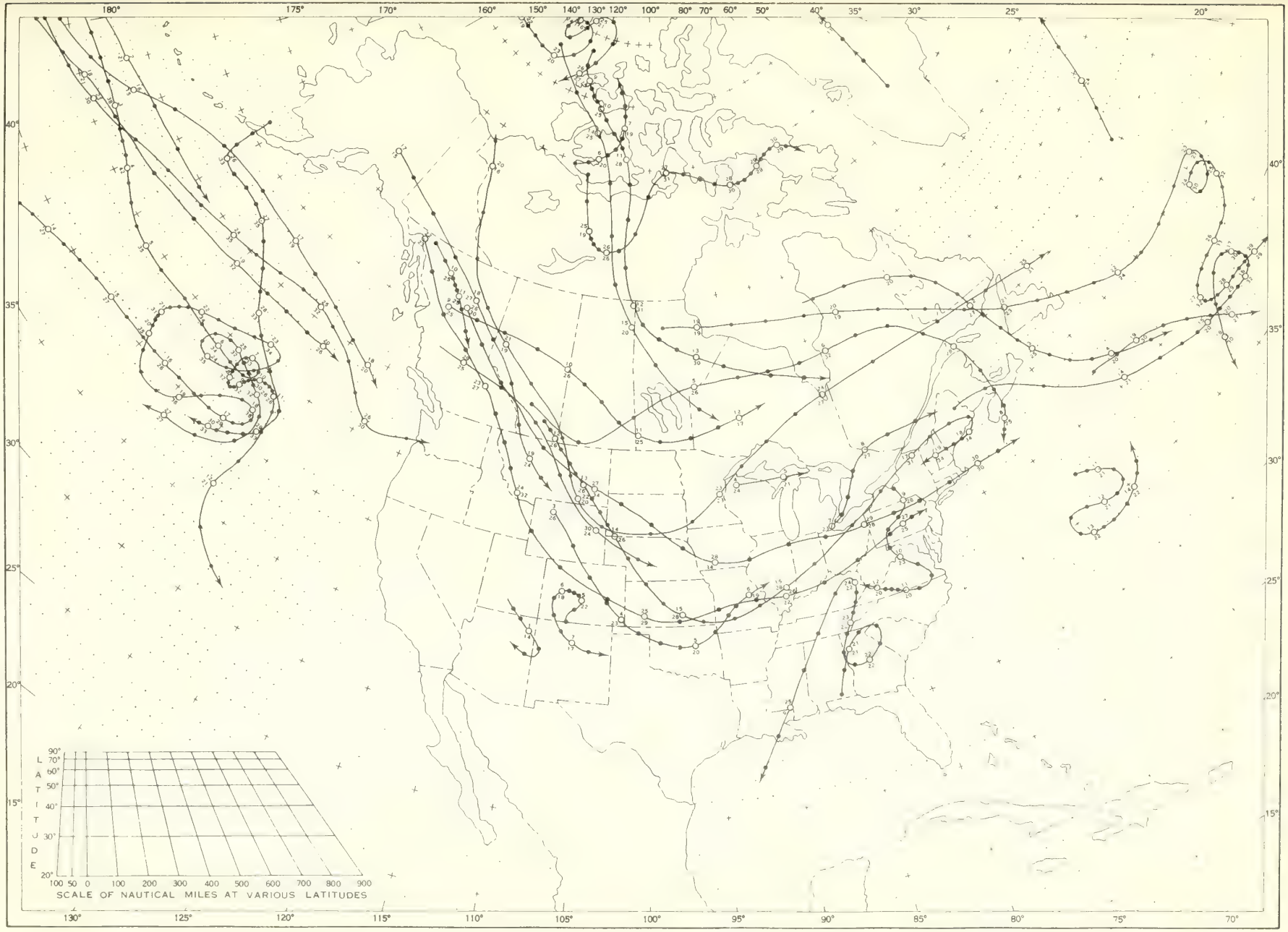


B. Percentage of Mean Daily Solar Radiation, September 1961.

A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956.

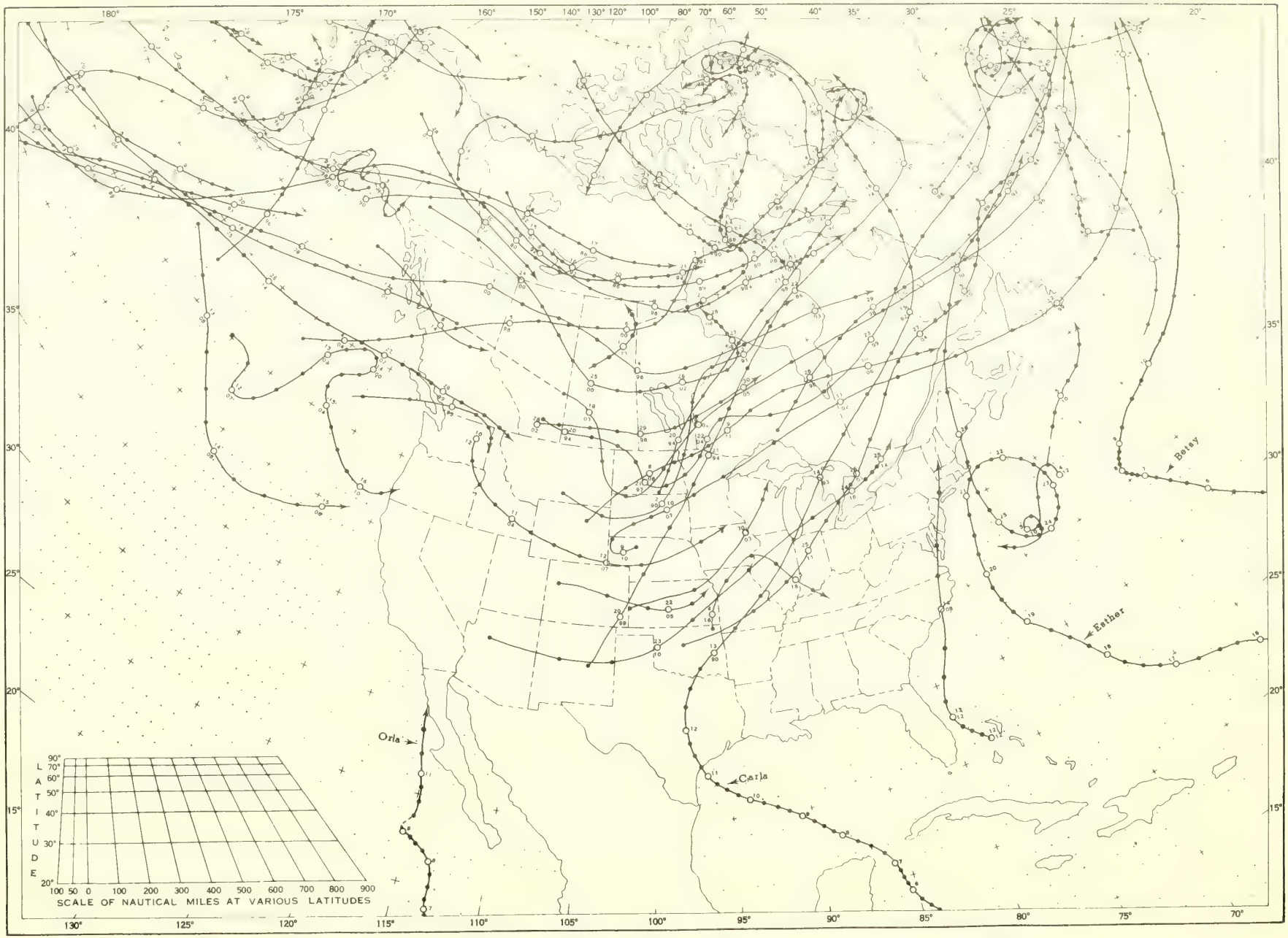
B. Percentage of the mean based on the period 1953-57, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, September 1961.



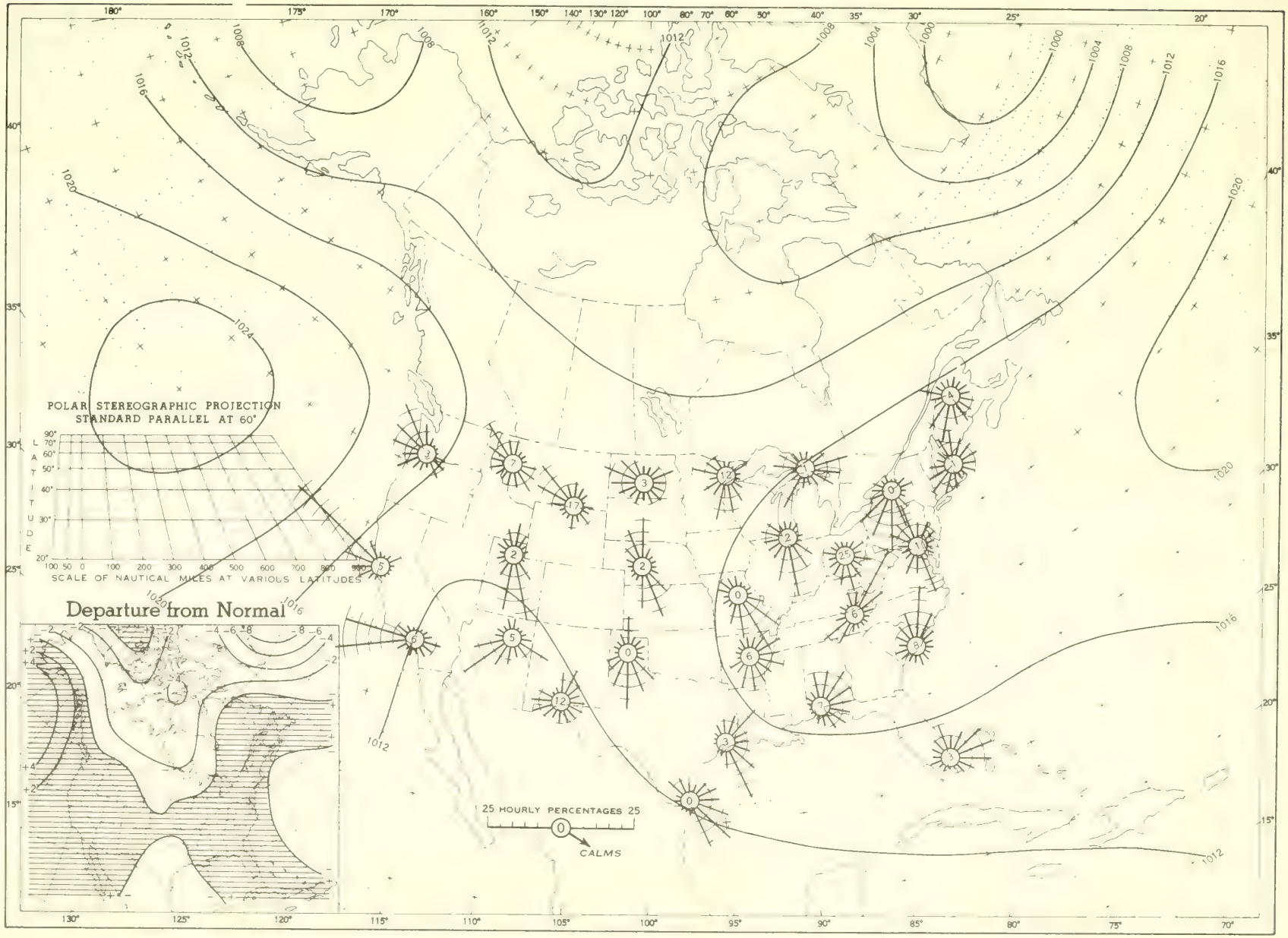
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, September 1961



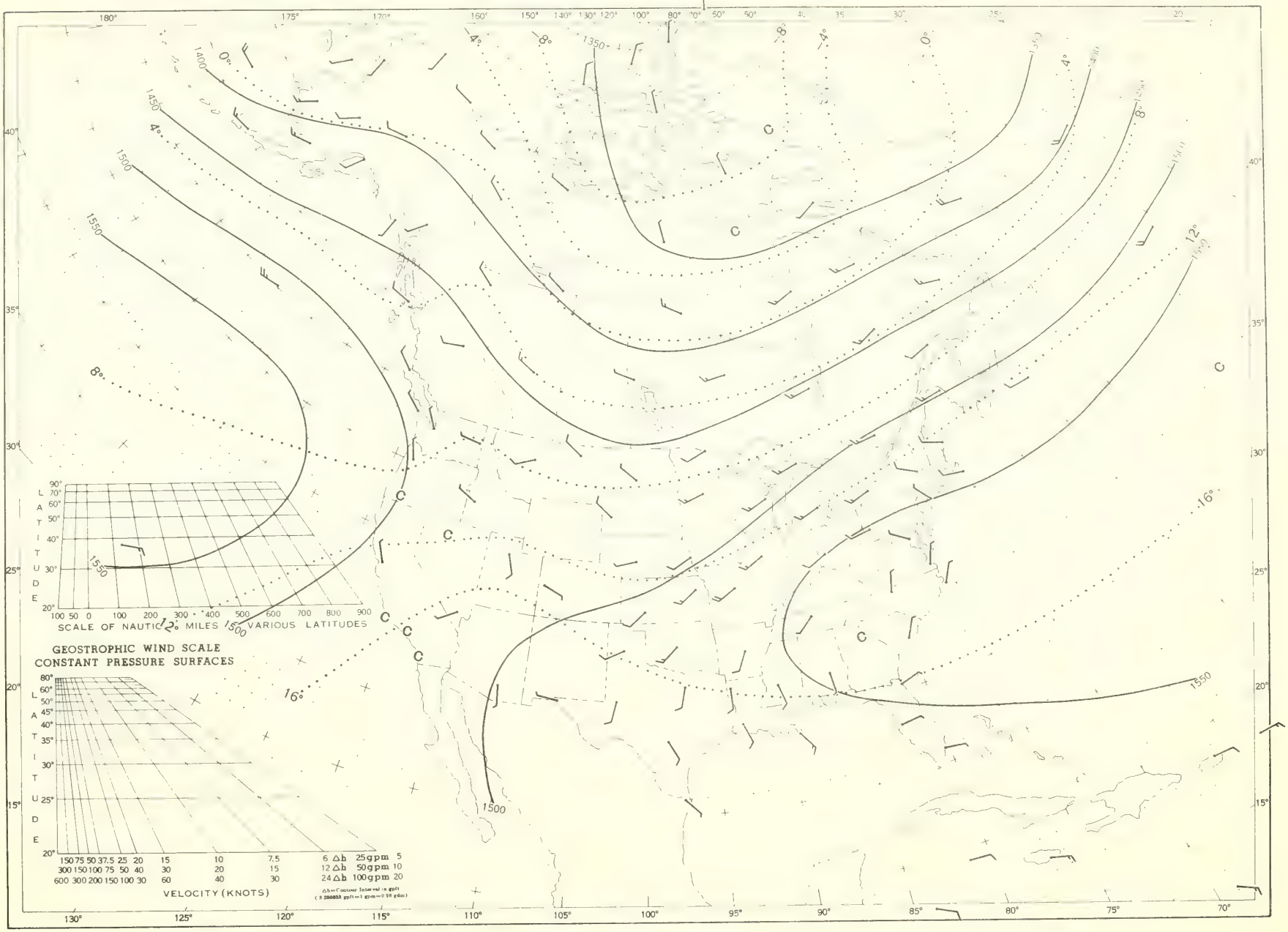
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, September 1961. Inset: Departure of Average Pressure (mb.) from Normal, September 1961.



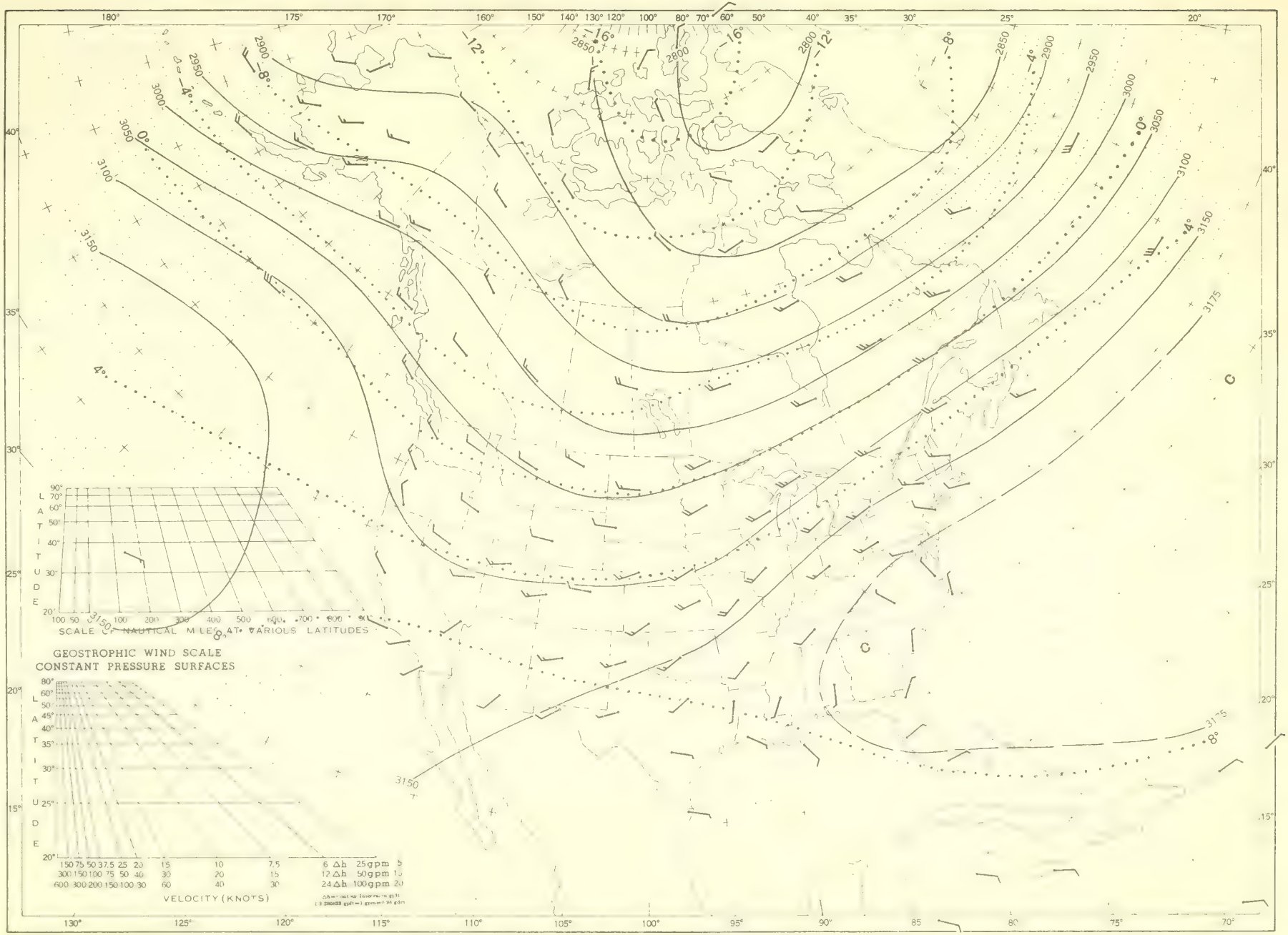
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, September 1961. Average Height and Temperature, and Resultant Winds.



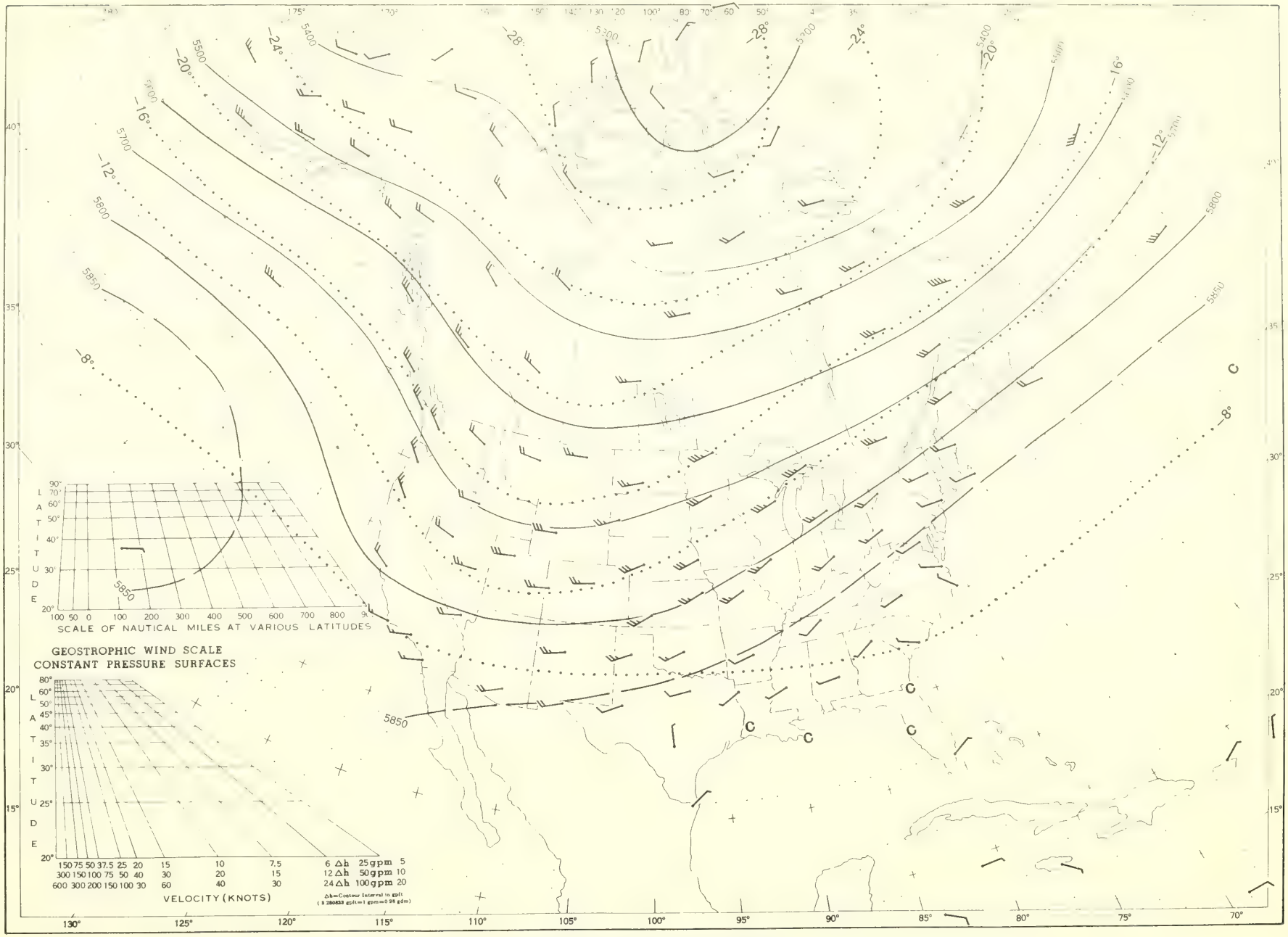
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, September 1961. Average Height and Temperature, and Resultant Winds.



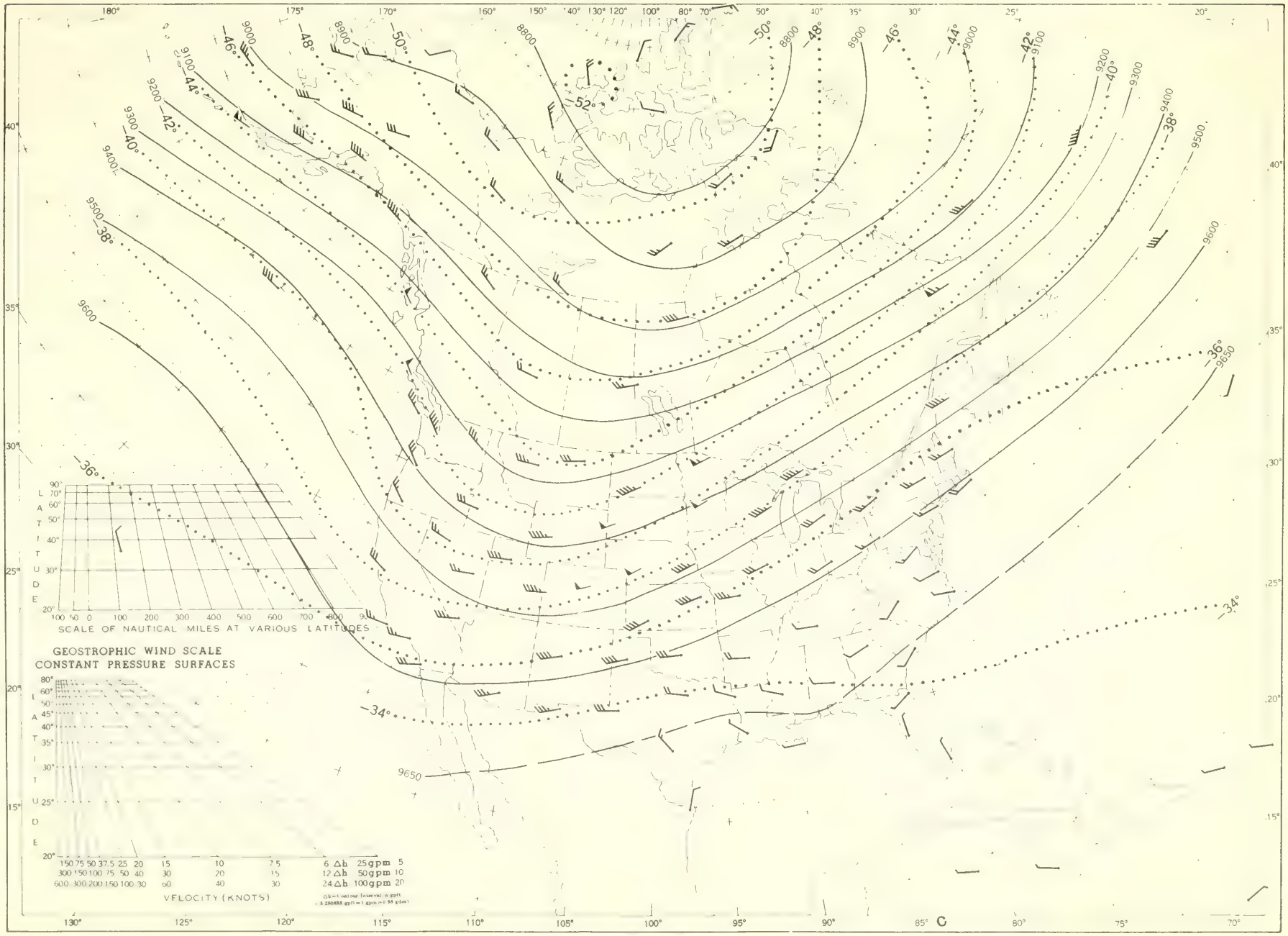
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, September 1961. Average Height and Temperature, and Resultant Winds.



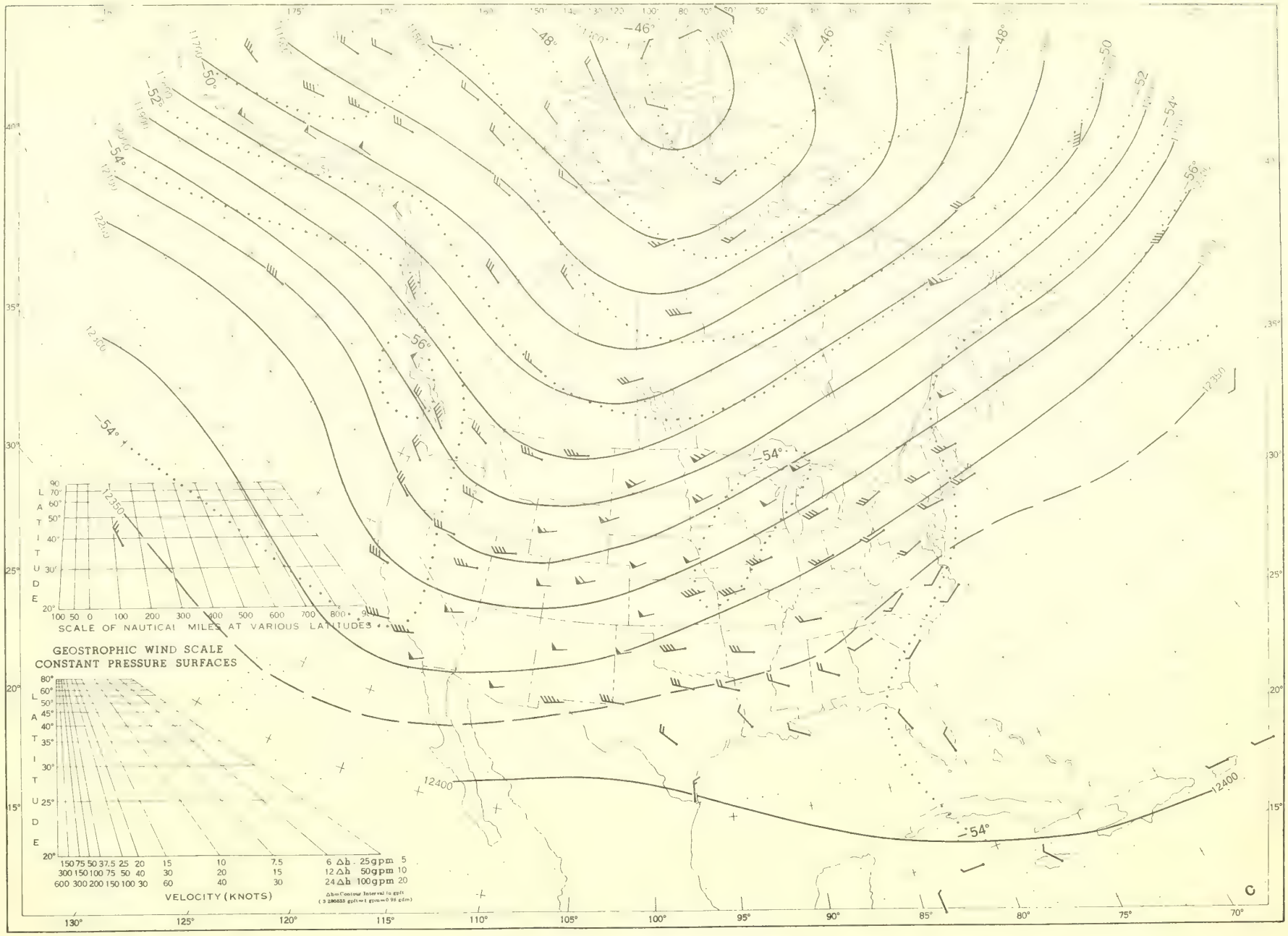
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, September 1961. Average Height and Temperature, and Resultant Winds.



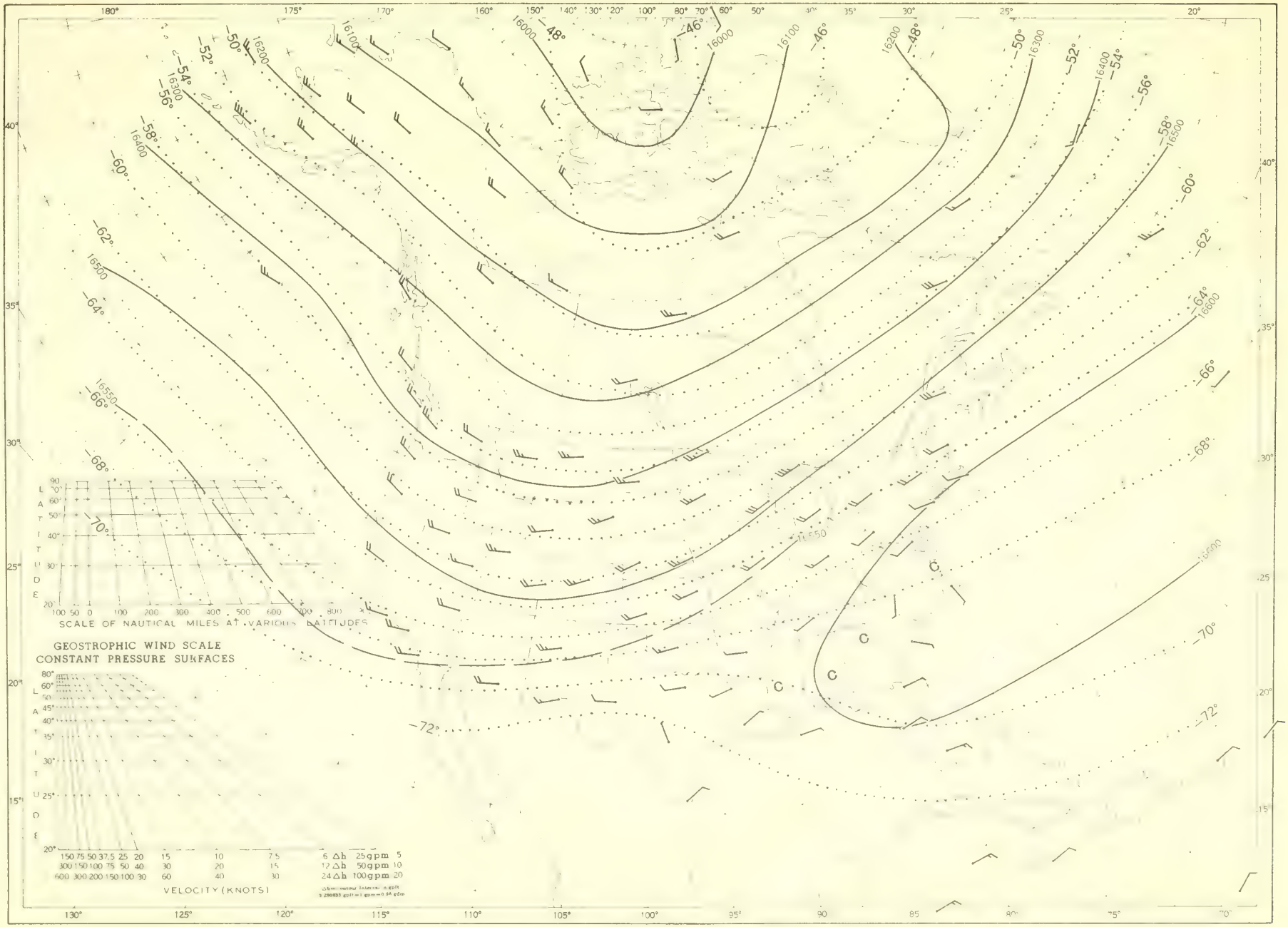
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, September 1961. Average Height and Temperature, and Resultant Winds



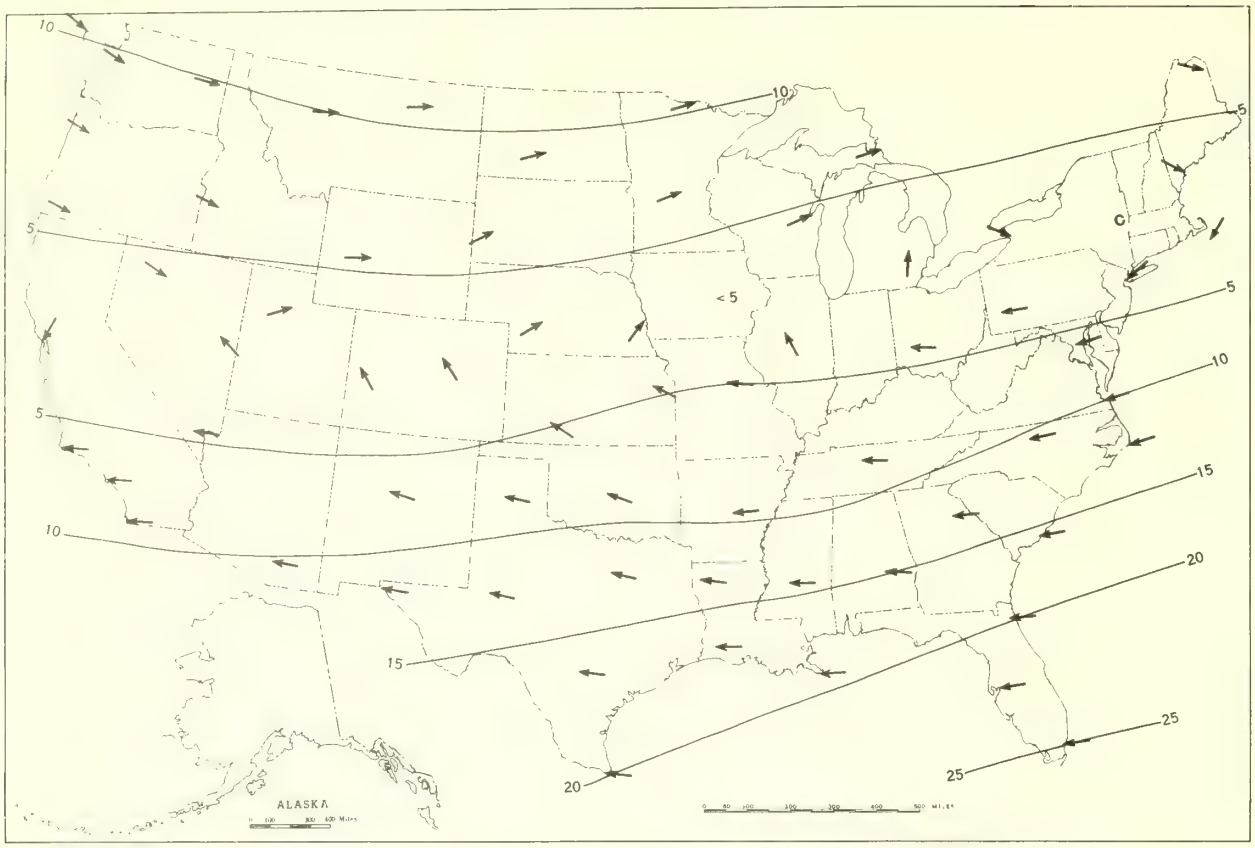
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, September 1961. Average Height and Temperature, and Resultant Winds.

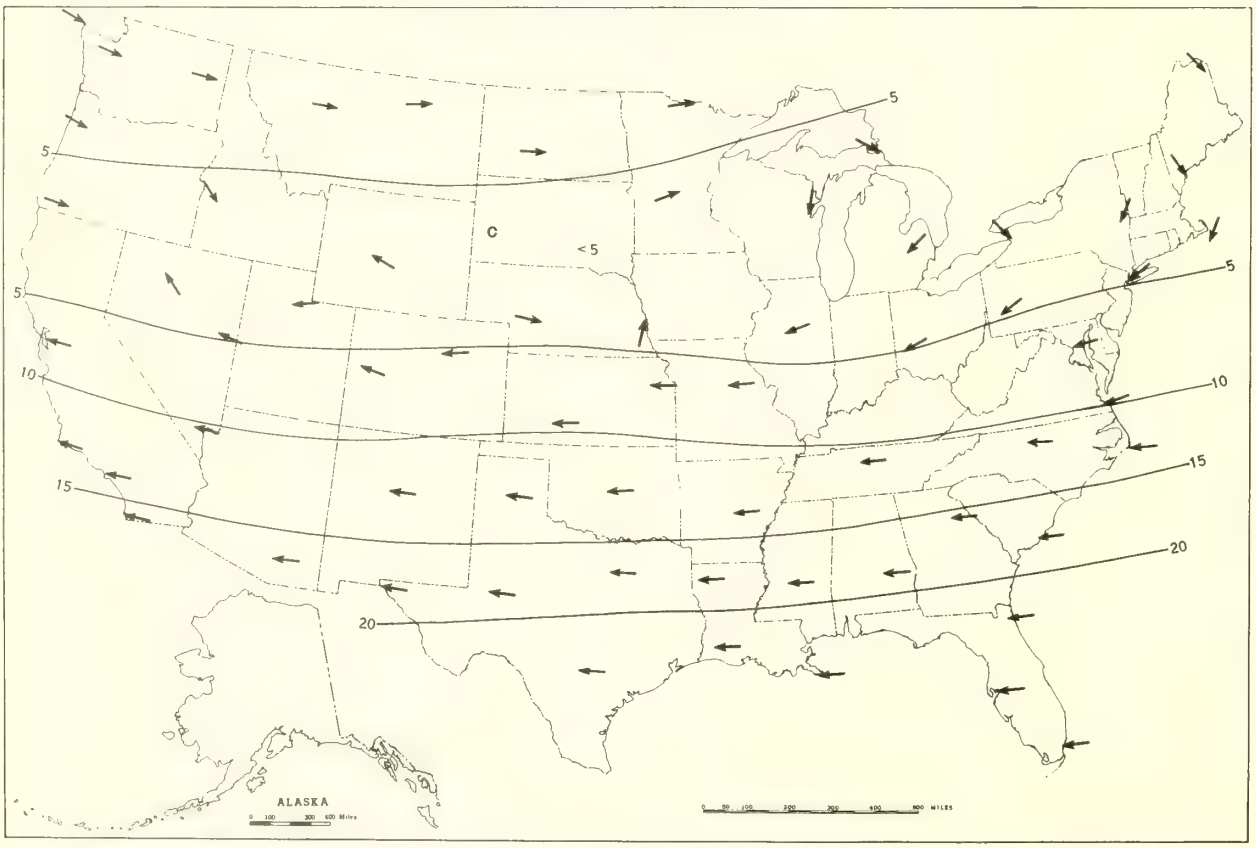


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, September 1961. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, September 1961. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-WB-Asheville - 11/30/61 - 1825

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WEATHER BUREAU
F. W. REICHELDERFER, Chief

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

JAN 13
AGRI

OCTOBER 1961
Volume 12 No. 10

ASHEVILLE: 1962

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 12 No. 10 OCTOBER 1961

GENERAL SUMMARY OF WEATHER CONDITIONS

Pleasant weather prevailed over most of the Nation in October 1961. Temperatures averaged within 4° of normal, and only a few relatively small areas had unusually heavy precipitation. The season's first freezes in most areas generally occurred on or near their normal dates and caused no significant crop damage. Dry, sunny weather favored maturity and harvesting of crops in nearly all areas. Few severe storms occurred, and flooding was limited to a few local areas. The most pronounced weather abnormalities during the month included a record heat wave in southern California, heavy snowfall in the northern Rockies, and continued dry weather in the Southeast.

TEMPERATURES.--Temperatures for the month averaged slightly above normal in California and the northeastern quarter of the Nation, and slightly below elsewhere. The month was unusually cold in southern Alaska, with Anchorage reporting its coldest October on record.

An outstanding heat wave for so late in the season occurred in southern California, particularly in coastal areas, on the 14th and 15th. Record-breaking highs for October included 107° at San Diego and 106° at Los Angeles on the 14th, and 95° at San Francisco on the 14th and 15th. Fresno recorded 99° on the 15th, a new record there for so late in the season, and Long Beach 111° on the 15th, the month's highest temperature.

Unseasonably low temperatures occurred in some southern areas late in the month. Prescott, Ariz., reported 20° on the 20th, its lowest temperature for October on record, and Augusta, Ga., an early season low of 28° on the 28th. At Las Vegas, Nev., a maximum temperature of 51° on the 31st was a record low maximum there for October. Many southern stations also had their first frost or freeze of the season late in the month.

PRECIPITATION.--Precipitation was deficient in the Southeast, the western portion of the Great Plains, and the Far Southwest, and well above normal in the Virginias, the upper Mississippi and lower Missouri Valleys, and western Wyoming and southern Idaho.

The southeastern area of deficient precipitation included the coastal states from South Carolina to Louisiana, and parts of the lower Mississippi and Ohio Valleys. Precipitation in much of this area was less than 25 percent of normal, and 50 stations in Georgia, 8 in Florida, and 3 in South Carolina had no rain at all. Macon, Ga., did not record even a trace of rain, the driest month in the history of that station. Tallahassee, Fla., had only a trace, which equaled the amount for the driest October on record there. Atlanta, Ga., had the least amount for October since 1891. September and October were both extremely dry months in this area, with parts of Florida, Georgia, and the Carolinas receiving less than 25 percent of normal precipitation for the 2-month period. The dry weather favored harvesting operations, but pastures and fall-sown grains suffered. The adverse effects of the drought were limited by the fact that most crops were well along toward maturity before the drought had become severe, and by a high water table as a result of above-normal rainfall in previous months.

Most of the heavy precipitation in the upper Mississippi and lower Missouri River Valleys fell during the second and fourth weeks, and were accompanied by some flooding in the latter area. Topeka, Kans., had its greatest total for October in 30 years; Omaha, Nebr., since 1900; and Minneapolis, Minn., since 1941. Oskaloosa, Kans., recorded the greatest total for October in the two areas, 10.83 inches. At the end of the month Kansas City, Mo., had recorded 50.26 inches of precipitation for 1961, already more than in any other year on record.

Heavy rains fell in the Virginias on the 20th and 21st when a storm developed off the middle Atlantic coast. In Virginia totals for the storm, ranging up to nearly 12 inches in central portions and 2 to 9 inches in much of the remainder of the State, caused considerable flooding along the James River. Richmond, Va., had its greatest total for October on record, and Parkersburg, W. Va., its greatest since 1925. Monthly totals in Virginia ranged up to 12.47 inches at Palmyra.

SNOWFALL.--During the first week up to 2 feet of snow fell in Wyoming and heavy amounts were reported in the mountains of northern Utah, and light amounts above 5,000 feet in Arizona.

Light to heavy snow fell in the lower Appalachians on the 20th and 21st. A few inches of snow were reported in southwestern Virginia and up to 23 inches in Nicholas County, West Virginia, where the snow was wet and heavy and caused considerable damage.

Late in the month general snowfall in the Rocky Mountains and northwestern Great Plains ranged up to 3 feet in Colorado, up to a foot in the northern and western mountains of New Mexico, and up to 6 inches in the northern plains of Colorado and the Black Hills of South Dakota. Salida, Colo., measured 44 inches of snow during the last 3 days of October for an early season record. Rapid City, S. Dak., had 4 inches, the most there in October since 1954. In the northern Cascades above 4,500 feet, depths ranged from 1 to 2 feet at the end of the month.

Snowfall was both unusually early and heavy in several areas. Caribou, Maine, had 4.1 inches on the 15th, the heaviest on record for so early in October. Anchorage, Alaska, had its second greatest amount for October, and Fairbanks, Alaska, the most for October since 1935. In the mountains near Bishop, Calif., 18 to 24 inches of snow on the ground at the end of the month furnished excellent skiing conditions. At Stampede Pass, Wash., 47.9 inches of snow for the month was a record amount for October. Charleston, W. Va., recorded 2.8 inches on the 20th, the most in October there during a record dating back to 1899, and Lander, Wyo., had 38.6 inches, a record snowfall for October.

DESTRUCTIVE STORMS.--High winds caused some crop damage and whipped up dust in eastern Washington on the 5th and 6th. Winds up to 50 m.p.h., caused some damage along the central California coast and aggravated a 2,000-

acre fire in the Sequoia National Forest early in the month.

On the 21st and 22d storms off the north Atlantic coast brought northeast winds and gales to coastal New England, where heavy seas and surfs caused extensive damage to small boats and other property along the shore.

On the 12th in northern Iowa considerable losses were caused by severe thunderstorms with small tornadoes at Fredericksburg and Nashua. At the same time damaging winds and lightning also occurred in Wisconsin.

Local floods in San Juan and other localities in northeastern Puerto Rico from heavy rains the 15th and 16th caused some damage.

CONDENSED CLIMATOLOGICAL SUMMARY

OCTOBER 1961

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	2 Stations	91	1	2 Stations	19	28+	Arley 3S	3.69	15 Stations	0.00
Arizona	Yuma WB AP	105	14	Fort Valley	-3	30	McNary	4.52	11 Stations	.00
Arkansas	3 Stations	90	13+	Batesville L&D No. 1	21	27	Magnolia 3N	6.74	Black Rock	.10
California	Long Beach WB AP	111	15	White Mountain 2	-20	29	Orick 10SE	9.95	133 Stations	.00
Colorado	Holly	91	8	Fraser	3	23	Wolf Creek Pass 1E	7.20	2 Stations	.00
Connecticut	Waterbury Radio WBRY	84	9	2 Stations	17	28	Putnam Lake	2.99	Cockaponset Ranger Station	1.15
Delaware	Newark University Farm	82	10	do	28	28	Selbyville	7.21	Wilmgton Ncastle WB AP	1.88
Florida	Avon Park	97	13	Jasper 3SE	31	16	Loxahatchee	9.99	8 Stations	.00
Georgia	Fort Gaines	94	31	Blairsville Exp Sta	14	27	Flat Top	3.04	50 Stations	.00
Idaho	Glenns Ferry	89	5	Warren	1	29	Island Park Dam	5.15	Challis	.15
Illinois	2 Stations	90	12	Marengo	23	27	Rockford WB Airport	6.05	New Burnside	.24
Indiana	Mount Vernon	89	13	2 Stations	20	27	Logansport Cicott St Br	5.34	Cypress Dam 48	.33
Iowa	Sioux City WB Airport	89	17	Le Mars 2N	17	26	Waucoma	5.23	Sheldon	1.24
Kansas	2 Stations	93	7	Syracuse 2W	21	23	Oskaloosa	10.83	Atwood	.15
Kentucky	3 Stations	88	13+	Cynthiana 2	17	27	Dewey Dam	3.96	Elizabethtown	.06
Louisiana	do	92	13+	2 Stations	27	27	Springhill 2S	6.66	Marion	.00
Maine	Woodland	82	8	Hiram 2S	17	28	Eastport	6.20	Fort Kent	.89
Maryland	Beltsville Plant Sta 5	88	14	Oakland 1SE	21	28	Crisfield Hammock Pt	7.21	Hancock Fruit Lab	.90
Massachusetts	Middleton	84	19	2 Stations	19	28	2 Stations	8.25	Peru	1.12
Michigan	Ontonagon	86	6	3 Stations	19	27+	Bergland Dam	3.81	Hale Loud Dam	.60
Minnesota	2 Stations	89	6	Cook 18W	11	2	Faribault Rad Sta KDHL	4.60	Bemidji Airport	.40
Mississippi	6 Stations	91	1	Calhoun City	24	27	Ackerman	7.37	Tunica 2	.23
Missouri	3 Stations	90	13+	Greenville 4NNW	19	27	Coloma	6.71	Marble Hill	.27
Montana	Flatwillow 4ENE	90	15	Lincoln 14NE	-8	29	Troy 18N	4.54	Savage	.00
Nebraska	6 Stations	92	18+	Harrisburg 10NW	12	25	Omaha West	5.44	Ogallala 3W	.05
Nevada	Sunrise Manor Las Vg	97	6	Ruth	3	22	Lehman Caves NM	3.00	3 Stations	.00
New Hampshire	3 Stations	82	19+	Grafton	14	28	Benton	3.45	Claremont	1.50
New Jersey	2 Stations	84	10+	Layton 3NW	18	28	Millville FAA Airport	6.74	Layton 3NW	1.14
New Mexico	Carlsbad FAA AP	94	1	Gavilan	10	24	Wolf Canyon	3.44	5 Stations	.00
New York	N. Y. Central Park WB	84	9+	Roxbury	14	28	South Edwards 1E	4.83	Lewiston 1N	.54
North Carolina	5 Stations	88	31+	2 Stations	17	28+	Elizabeth City	8.29	Morehead City	.17
North Dakota	McLeod 3E	90	6	Grenora	9	26	Enderlin	3.74	8 Stations	.00
Ohio	Circleville	88	12	2 Stations	20	28+	Clarington Lock 14	4.70	Prospect	.56
Oklahoma	Hollis	95	7	Kenton	25	23	Coalgate	5.82	Hollis	.66
Oregon	2 Stations	93	3	Ukiah	2	21	Valsetz	12.94	2 Stations	.17
Pennsylvania	Greenville	87	8	2 Stations	19	28+	Glen Hazel 2NE Dam	4.06	Palmerton	.59
Puerto Rico	2 Stations	95	20+	do	59	31+	Jajome Alto	21.46	Arecibo 2ESE	3.10
Rhode Island	Providence WB AP	79	9	Kingston	22	28	Block Island WB AP	3.17	Newport	2.05
South Carolina	Bamberg	93	31	2 Stations	23	28+	McClellanville	5.36	3 Stations	.00
South Dakota	6 Stations	92	6	Deerfield 5NW	6	23	LaDelle 7NE	5.60	McLaughlin	.00
Tennessee	Dover 1NW	90	10	2 Stations	18	27	Gatlinburg 2SW	5.40	Lascassas 1E	.22
Texas	3 Stations	99	1	4 Stations	28	26+	Callan	10.50	5 Stations	.00
Utah	St George PH	92	15	Bryce Canyon FAA AP	2	30	Silver Lake Brighton	5.32	Piute Dam	.11
Vermont	2 Stations	81	19+	2 Stations	17	28	Manchester Center	2.79	Danville	1.21
Virginia	4 Stations	85	30+	4 Stations	19	28+	Palmyra 1E	12.47	Stuart 1SSE	1.10
Washington	Odessa	91	15	do	16	20	Amanda Park	16.75	Eltopia 6W	.05
West Virginia	Williamson	90	1	Arbovale 2	19	28	Pickens 1	8.22	Keyser	1.06
Wisconsin	Port Wing	90	6	Laona 4SSW	12	27	Monroe 1W	6.15	Superior 7SE	.98
Wyoming	Kirtley	88	15	Bondurant 3NW	-8	25	Sheridan Field Sta	3.31	Deaver	.08

+ And also on an earlier date or dates.

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

OCTOBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	995.1	1020.7	78	50	64.2	0.5	86	13+	34	27	0	0	50	67	2.05	-0.81	1.70	4	0	0.0	0	6.6	ENE	28	N	14	18	7	6	3.4	80
HUNTSVILLE	605	997.1	1020.6	76	47	61.1		85	30+	28	27	0	1	47	66	1.46		1.06	4	1	0.0	0	6.4	ESE	24*	NNW	14	14	11	6	4.0	
MOBILE	211	1016.9	1019.5	80	55	67.5	- 1.6	88	12	41	20	0	0	53	67	1.47	-2.28	1.37	3	1	0.0	0	9.5	N	29*	ESE	29	19	6	6	3.5	
MONTGOMERY	195	1011.6	1019.9	80	49	64.1	- 2.3	88	31	34	27	0	0	50	66	0.08	-2.28	0.07	2	0	0.0	0	6.0	E	27	N	14	21	6	4	2.8	77
ALASKA																																
ANCHORAGE	90	999.0	1004.0	36	22	29.0	- 7.0	54	1	- 1	31	0	26	22	76	2.81	0.94	0.62	14	0	18.5	7	6.1	N	24*	NNW	9	10	3	18	6.5	41
ANNETTE	110	1005.8	1009.9	50	41	45.7	- 1.2	58	4	28	21	0	2	41	85	22.82	8.44	3.29	28	0	T	0	12.7	SSE	38*	SSE	14	3	4	24	8.4	
BARROW	22	1010.8	1011.5	21	10	15.8	- 1.3	35	19	-12	14	0	31	13	84	0.44	-0.08	0.20	12	0	15.1	10	11.4	S	33*	SE	31+	1	3	27	9.0	
BARTER ISLAND	39	1009.8	1011.8	18	6	12.2	- 5.2	39	19	-16	27	0	31	7	76	0.97	-0.06	0.13	20	0	13.4	8	14.2	E	43*	E	3	1	6	24	8.8	
BETHEL	125	1005.4	1006.9	31	21	26.2	- 5.6	43	2	7	13	0	28	22	85	2.05	0.30	0.73	15	0	12.2	6	16.1	NNE	46*	SSE	20	5	8	18	7.2	
COLD BAY	94	1005.4	1009.8	45	33	38.8	- 1.7	58	16	20	30	0	13	34	81	1.88	-2.50	1.40	9	0	0.7	T	18.6	WSW	55*	S	18	0	6	25	8.7	
CORDOVA	40	1000.0	1002.0	44	30	37.3	- 3.5	53	6+	16	31	0	22	31	81	8.54	-7.02	2.28	17	0	8.7	4	7.2	E	23*	ESE	28	4	3	24	7.9	
FAIRBANKS	436	989.8	1007.5	28	15	21.2	- 6.3	53	2	-13	31	0	31	16	79	1.17	0.25	0.25	17	0	24.2	12	6.5	N	20*	SW	29+	1	3	27	9.0	
JUNEAU	17	1004.7	1005.8	46	35	40.3	- 1.6	60	3	21	31	0	13	36	85	10.20	1.73	1.53	25	0	0.6	T	9.7	ESE	39*	ESE	2	3	1	27	8.9	22
KING SALMON	44	1003.7	1006.0	36	19	27.9	- 7.9	54	2	-11	31	0	24	22	79	2.91	0.39	0.65	18	0	10.4	10	9.5	N	35*	SSE	19	7	5	19	7.0	
KOTZEBUE	10	1007.8	1008.1	26	15	20.8	- 4.7	41	2	- 1	28	0	31	15	76	0.37	-0.21	0.09	10	0	7.9	3	14.0	ENE	39*	SE	18	9	5	17	6.5	
MC GRATH	334	994.6	1007.8	28	14	21.3	- 6.3	44	19	-14	31	0	30	14	73	1.53	-0.14	0.68	10	0	13.9	8	7.3	N	30*	S	19	7	4	20	7.4	
NOME	13	1006.1	1006.7	31	21	26.2	- 3.8	40	19+	7	28+	0	28	20	75	1.05	-0.65	0.36	11	0	4.8	2	13.6	N	38*	SE	20	5	7	19	7.0	35
ST. PAUL ISLAND	22	1006.4	1007.7	42	33	37.8	- 1.3	47	5	23	29+	0	14	34	83	3.85	0.73	0.78	26	0	5.9	1	18.6	WNW	46*	S	18	0	15	16	7.6	
SHEMYA	122	1009.5	1013.5	45	39	42.2		48	23+	33	28+	0	0	36	80	3.11		0.95	26	0	0.5	T	20.1	WSW	51*	SW	24+	0	10	21	8.2	
YAKUTAT	28	1002.0	1003.4	46	32	39.0	- 2.7	54	14+	17	31	0	17	35	87	16.42	-3.51	3.05	23	0	3.8	1	7.5	ENE	38*	SSE	28	3	5	23	8.3	
ARIZONA																																
FLAGSTAFF	6993			61	28	44.5	- 1.6	75	5	11	30	0	24			1.89	0.43	1.57	5	1	8.2	7						18	6	7	3.7	
PHOENIX	1109	973.6	1012.5	86	54	69.6	- 1.2	98	13	38	30	15	0	36	32	0.08	-0.32	0.05	2	0	0.0	0	7.4	E	32*	SW	8	23	5	3	2.1	91
PRESCOTT	5014	847.6	1014.9	72	39	55.5	- 1.5	84	5	20	30	0	6	24	34	0.48	-0.20	0.45	3	0	T	0	6.9	SSW	42	SW	8	22	5	4	2.7	86
TUCSON	2584	924.8	1012.2	82	55	68.5	- 1.1	91	13+	38	30	6	0	33	31	0.65	0.18	0.37	2	1	0.0	0	10.7	SE	36	SE	14	25	3	3	1.7	89
WINSLOW	4880	852.7	1014.8	72	37	54.7	- 1.6	83	6	20	30	0	7	24	37	0.85	0.30	0.66	4	0	8.2	3	9.2	SW	46*	S	8	21	4	6	2.8	
YUMA	199	1006.8	1012.1	91	59	75.0	- 1.4	105	14	46	31	19	0	34	26	T	-0.32	T	0	0	0.0	0	6.2	NNE	32	E	15	24	4	3	2.3	91
ARKANSAS																																
FORT SMITH	449	1002.3	1019.4	76	50	63.3	- 0.6	88	12	33	26	0	0	54	77	2.25	-1.38	1.35	6	3	0.0	0	6.1	NE	21	N	2	14	6	11	4.6	69
LITTLE ROCK	257	1007.3	1020.6	77	50	63.4	- 0.7	88	13	31	27	0	1	51	71	0.85	-1.96	0.37	4	2	0.0	0	7.0	WSW	25	N	14	15	7	9	4.2	63
TEXARKANA	361			77	54	65.3	- 1.7	87	12	39	27	0	0	55	75	2.32	-1.06	2.67	4	2	0.0	0	7.3	SSE								
CALIFORNIA																																
BAKERSFIELD	494	997.6	1015.8	80	53	66.3	- 0.2	97	15	41	22	11	0	40	41	T	-0.37	T	0	0	0.0	0	6.5	E	20*	NNW	7	14	12	5	4.0	
BISHOP	4108	874.4		75	38	56.4	- 0.7	89	6+	24	23	0	7			0.00	-0.34	0.00	0	0	0.0	0						17	8	6	3.8	
BLUE CANYON	5280	840.5		62	45	53.4	0.3	80	13	28	29+	0	6			3.15	-0.02	1.47	4	0	0.0	0	9.3	ENE	56	ENE	29	17	5	9	4.1	
BURBANK	699	988.2	1014.4	79	55	66.9	1.8	101	15	47	24+	7	0	45	54	T	-0.52	T	0	0	0.0	0	6.9	S	30*	NNW	28	12	13	6	4.4	
EUREKA U	43	1016.3		58	47	52.6	- 1.6	70	1	38	29	0	0			2.28	-0.42	0.93	7	0	0.0	0	5.5	N*	38	SW	27	10	7	14	6.0	57
FRESNO	326	1002.4	1014.4	81	48	64.3	0.2	99	15	34	30	10	0	39	46	T	-0.66	T	0	0	0.0	0	5.4	NW	28	NW	28	17	11	3	3.0	93
LONG BEACH	34	1012.9	1014.4	80	58	68.9		111	15	47	30	5	0	51	62	T		T	0	0	0.0	0	6.2	WNW	37*	NW	28	13	11	7	4.5	
LOS ANGELES	99	1010.8	1014.6	74	57	65.7	2.3	106	14	46	30	4	0	52	68	T	-0.43	T	0	0	0.0	0	6.9	W	29*	N	28	13	11	7	4.6	
LOS ANGELES U	312			78	58	67.9	1.3	103	14	48	30	5	0	48	56	T	-0.50	T	0	0	0.0	0	5.9	W*	34	NW	29	14	11	6	4.4	73
MT SHASTA R	3544	894.3		66	39	52.4	1.4	86	14	22	22	0	5			1.26	-1.35	1.02	5	0	T	T						16	6	9	4.3	
OAKLAND	3	1015.9	1016.2	72	51	61.1	1.1	95	15	41	23	3	0	45	62	0.07	-0.84	0.06	2	0	0.0	0	7.9	WNW	36*	NNE	29+	17	7	7	3.9	
POINT ARGUELLO	367	1001.4		69	49	58.8		97	14	36	31+	2	0			0.02		0.01	2	0	0.0	0	7.1		25*	NNW	28	14	7	10	5.0	
RED BLUFF	341	1002.7	1015.7	79	52	65.4	0.3	97	15	39	28+	11	0	36	41	0.07	-1.42	0.06	2	0	0.0	0	10.3	NW	38	SE	27	17	6	8	3.9	87
SACRAMENTO	17	1014.6	1015.8	79	49	64.0	1.3	96	15	38	23	9	0	42	53	0.03	-0.88	0.02	2	0	0.0	0	8.1	NNW	40	NW	7	20	6	5	3.3	92
SACRAMENTO U	23			78	51	64.3	0.5	95	16	41	23+	9	0			0.03	-0.89	0.02	2		0.0	0										
SANDBERG R	4517	863.2		67	49	57.8	- 0.5	83	16+	30	29	0	3			0.01	-0.65	0.01	1	0	0.0	0	12.9	N	35*	NNW	22+	16	8	7	3.9	
SAN DIEGO	13	1010.5	1013.8	75	58	66.7	1.7	107	14	48	29	3	0	53	66	0.20	-0.43	0.20	1	1	0.0	0	5.9	WNW	31	N	8	16	8	7	4.0	78
SAN FRANCISCO	8	1015.9	1016.8	71	51	60.8	1.4	95	15+	40	23	2	0	47	69	0.03	-0.89	0.03	1	0	0.0	0	9.5	WNW	38	N	8+	18	8	5	3.8	
SAN FRANCISCO U	52			68	55	61.2	0.2	94	15	50	23	1	0			0.09	-0.98	0.05	3	0	0.0	0	8.2	W*	28	NW	8					75
SANTA MARIA	238	1006.8	1015.6	74	47	60.3	0.3	101	14	35	29	3	0	46	67	T	-0.62	T	0	0	0.0	0	6.4	WNW	26*	NW	28	15	13	3	3.7	
COLORADO																																
ALAMOSA	7536	772.8		62	24	42.8	- 1.3	72	16+	14	26+	0	29			1.55	0.97	1.17	6	1	13.3	10						17	8	6	3.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: .01 inch or more	Precipitation: No of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
COLORADO																																
COLORADO SPRINGS	6173	812.7	1018.7	64	34	48.6	- 2.8	78	6	22	30+	0	13	24	47	0.98	0.35	0.49	4	0	5.1	3	10.0	NNE	37*	NW	27	17	6	8	3.9	
DENVER	5283	838.5	1016.8	65	35	50.0	- 1.5	81	16	22	25	0	10	27	49	0.77	-0.24	0.66	5	0	6.2	6	8.2	SSW	28	SW	22	15	8	8	4.2	75
GRAND JUNCTION	4849	860.5	1016.7	66	40	52.9	- 1.5	78	7	27	29	0	4	28	44	0.70	-0.14	0.61	5	0	T	0	7.3	ESE	24*	SW	21	14	6	11	4.5	70
PUEBLO	4639	857.4	1016.2	70	35	52.4	- 0.4	84	17+	26	25+	0	10	26	44	0.11	-0.59	0.08	3	0	0.7	T	6.7	W	56	W	22	19	4	8	3.5	87
CONNECTICUT																																
BRIDGEPORT	7	1016.9	1017.8	65	49	57.1	2.7	78	9	31	28	0	1	48	74	1.58	-1.25	1.12	6	1	0.0	0	13.3	W	29*	E	21+	12	10	9	5.0	
HARTFORD	169	1011.2	1017.2	66	43	54.4	1.5	81	9	26	28	0	6	45	75	2.45	-0.35	1.35	5	1	0.0	0	7.7	N	25	NE	22+	8	8	15	6.1	46
NEW HAVEN	6	1016.4		65	48	56.5	3.2	80	9	29	28	0	1			2.13	-0.87	1.45	6	0	0.0	0	8.4		29	NW	15	10	11	10	5.3	66
DELAWARE																																
WILMINGTON	78	1014.7	1018.1	68	46	56.9	0.7	80	10	32	28	0	1	48	75	1.88	-1.11	0.65	7	0	0.0	0	9.2	WNW	31*	NW	15	15	8	8	4.5	
DIST.OF COLUMBIA																																
WASHINGTON U	72			71	51	61.1	2.7	83	13	38	28	0	0			2.48	-0.49	1.55	5													
WASH NATL AP	14	1014.7	1019.1	70	49	59.5	1.3	82	13	35	28	0	0	48	69	2.37	-0.48	1.50	6	0	0.0	0	7.3	N	30	NW	15	14	8	9	4.7	71
FLORIDA																																
APALACHICOLA U	13	1016.1		77	60	68.6	- 2.4	86	11	48	21	0	0			0.41	-2.14	0.41	1	0	0.0	0	8.0		26	E	28	23	5	3	2.3	91
DAYTONA BEACH	31	1015.5	1017.4	80	64	71.9	- 1.5	86	13+	47	21	0	0	63	75	2.25	-3.64	0.70	9	2	0.0	0	9.5	NE	23*	ESE	28+	9	12	10	5.1	
FORT MYERS	13	1014.9		87	66	76.6	0.3	93	13+	55	23	10	0			3.16	-0.99	2.69	4	3	0.0	0	9.7		23	ENE	29+	15	11	5	4.3	
JACKSONVILLE	24	1017.1	1018.5	79	58	68.8	- 2.1	88	3	42	16	0	0	59	75	0.27	-4.44	0.23	2	0	0.0	0	10.5	NE	33	E	28+	15	10	6	4.4	49
KEY WEST	5	1013.1	1014.3	84	75	79.3	- 0.2	91	3	68	23	1	0	69	72	2.74	-4.04	1.38	8	2	0.0	0	12.7	ENE	33	SE	28	13	9	9	5.0	67
LAKELAND U	214			82	64	73.1	- 1.2	90	13	48	21	1	0			0.56	-1.97	0.33	4	2	0.0	0	8.1					11	14	6	4.9	75
MIAMI BEACH	9			83	74	78.6	- 0.1	88	20+	60	22	0	0			2.29	-4.78	1.60	10		0.0	0	9.2		32	E	29	9	15	7	5.0	74
MIAMI	7	1013.2	1014.4	85	70	77.7	- 0.2	91	2	57	22+	2	0	67	71	3.92	-4.31	1.93	14	6	0.0	0	11.2	ENE	30*	NE	17	10	11	10	5.2	
ORLANDO	106	1012.3	1016.8	83	64	73.6	- 1.1	91	13+	49	21	4	0	63	74	2.87	-1.04	2.48	7	1	0.0	0	9.1	N	21*	SE	29+	10	15	6	5.0	
PENSACOLA U	13			77	59	67.9	- 2.4	86	12	45	21	0	0			2.12	-1.76	2.12	1	0	0.0	0	10.2		21	NE	15					77
TALLAHASSEE	58	1016.0	1018.8	81	53	66.9	- 1.9	89	12	38	16	0	0	55	69	T	-2.38	T	0	0	0.0	0	9.2	ENE	30*	NNW	14	21	8	2	2.5	
TAMPA	19	1015.2	1016.9	85	64	74.4	- 0.2	90	13+	50	21	2	0	63	71	0.25	-2.89	0.11	4	1	0.0	0	12.5	NNE	31*	E	28	13	14	4	4.4	77
WEST PALM BEACH	15	1013.8	1014.9	85	70	77.1	- 0.5	90	13+	53	22+	2	0	67	72	6.52	-1.80	2.16	12	4	0.0	0	11.8	ENE	35*	E	29	7	16	8	5.8	
GEORGIA																																
ATHENS	803	990.6	1020.0	76	48	61.7	- 2.2	84	31	34	28+	0	0	47	63	0.20	-2.74	0.20	1	0	0.0	0	5.4	N	28*	NNW	14	21	8	2	2.4	
ATLANTA	975	978.5	1020.5	74	48	61.1	- 2.3	85	31	35	28+	0	0	45	60	0.07	-2.53	0.07	1	0	0.0	0	9.0	NW	25*	NW	14	22	7	2	2.3	88
AUGUSTA	143	1012.4	1019.2	80	45	62.1	- 2.6	89	31	28	28	0	1	48	67	0.18	-2.35	0.18	1	0	0.0	0	5.2	N	25*	NW	21	18	10	3	3.0	
COLUMBUS	385	1005.6		79	49	63.8	- 2.0	86	31+	40	22+	0	0			0.02	-2.02	0.02	1	0	0.0	0	8.7		23*	NW	19	23	4	4	2.4	
MACON	356	1005.7	1019.5	79	49	64.0	- 2.6	87	31	37	27	0	0	47	60	0.00	-2.27	0.00	0	0	0.0	0	6.4	NE	28	W	19	24	5	2	2.0	90
ROME	637	997.0		75	42	58.3	- 3.9	85	1	24	27	0	5			2.14	-0.72	2.13	3	0	0.0	0						17	9	5	3.3	
SAVANNAH	48	1016.7	1019.3	78	53	65.2	- 1.8	86	31+	40	21	0	0	54	72	0.09	-2.36	0.08	2	0	0.0	0	8.7	NNE	27	N	14	20	7	4	2.8	81
THOMASVILLE U	283			80	55	67.5	- 1.8	87	31+	40	27	0	0			0.06	-2.21	0.06	1	0	0.0	0										
HAWAII																																
HILO	31	1012.2	1014.3	83	68	75.6	1.1	91	19	64	5+	1	0	69	82	22.95	11.93	8.72	26	3	0.0	0	8.2	WSW	28*	ENE	28	3	6	22	8.0	27
HONOLULU	7	1013.2	1013.7	85	73	79.2	1.0	91	6	67	16	1	0	67	70	2.40	0.51	1.29	13	1	0.0	0	11.4	ENE	40	SE	31	4	14	13	6.6	79
LIHUE	115	1008.8	1014.4	84	71	77.6	1.1	87	29+	64	18+	0	0	69	76	4.49	-0.14	1.65	21	3	0.0	0	11.8	NNE	28	NE	25	4	14	13	6.7	65
IDAHO																																
BOISE	2838	921.4	1018.3	61	37	49.1	- 3.5	80	5	23	9	0	9	34	61	1.76	0.82	0.65	6	0	T	0	8.2	SE	30	NW	28	13	6	12	5.2	68
IDAHO FALLS 42NW R	4790			56	27	41.5	- 2.8	75	5	18	31+	0	26			0.87	0.40	0.50	3				9.1	NW	37A	NW	28					
IDAHO FALLS 46W R	4933	849.6		56	28	42.3	- 1.6	75	16+	14	30	0	24			0.96	0.28	0.44	3	0	3.7	3	9.2	SW	36A	SW	6					
LEWISTON	1413	966.5		60	39	49.5	- 2.4	80	15	25	29	0	6			0.61	-0.60	0.20	8	0	0.0	0						7	8	16	6.5	
POCATELLO	4444	864.5	1019.1	58	33	45.4	- 3.9	78	16+	19	30	0	14	31	63	2.03	0.99	1.30	7	0	11.8	7	10.5	SW	38	N	28	10	7	14	5.7	61
ILLINOIS																																
CAIRO U	314	1007.0		72	51	61.5	- 0.5	85	12	37	27	0	0			1.27	-1.70	0.81	5	1	0.0	0	8.3	S*	26	N	14	13	10	8	4.8	70
CHICAGO O HARE	658	992.8	1017.8	64	43	53.6		80	10+	25	27	0	5	45	75	3.34		1.49	11	2	T	0	10.2	SSW	26*	SSW	11	11	6	14	5.5	
CHICAGO MIDWAY	610	994.9	1018.0	65	48	56.1	2.0	82	9	32	27	0	1	45	69	3.49	0.93	1.41	10	3	T	0	12.0	S	40	NW	13	13	3	15	5.5	54
MOLINE	582	995.4	1018.0	66	45	55.4	1.5	82	9	31	27+	0	4	46	74	4.53	2.26	1.30	11	5	0.0	0	9.2	SW	33	NW	12	10	8	13	5.6	62
PEORIA	652	996.5	1019.2	64	44	53.7	- 1.0	79	12	32	26	0	1	46	78	1.77	-0.67	0.72	9	4	0.0	0	10.3	S	30	W	25	12	6	13	5.5	54

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ILLINOIS																																
ROCKFORD	728	990.3	1017.8	63	43	53.0	1.2	80	9	30	27+	0	3	45	76	6.05	3.44	1.65	11	6	T	0	10.4	SSW	37*	SW	11	8	10	13	5.8	
SPRINGFIELD	588	995.7	1019.3	67	47	56.8	0.9	85	12	31	26	0	1	46	72	2.01	-1.20	0.55	7	4	0.0	0	12.7	S	34	W	25	11	5	15	5.6	54
INDIANA																																
EVANSVILLE	381	1004.1	1020.1	73	44	58.8	- 0.5	86	12	27	27	0	3	47	69	0.55	-2.27	0.30	6	2	0.0	0	7.6	NW	27	W	25	13	9	9	4.9	68
FORT WAYNE	791	987.6	1019.2	64	44	54.0	0.8	79	10	27	27	0	3	46	76	1.89	-0.73	0.86	9	2	0.0	0	10.4	S	31	W	25	10	9	12	5.7	53
INDIANAPOLIS	793	989.3	1019.6	67	46	56.2	0.3	81	12	28	27	0	1	47	75	1.27	-1.25	0.40	8	3	0.0	0	8.9	S	38*	NW	25	8	8	15	5.9	55
SOUTH BEND	768	989.7	1018.1	63	45	54.1	1.2	80	10+	30	27	0	1	45	76	1.82	-1.17	0.59	12	4	T	0	10.7	SSW	28*	W	19	9	8	14	5.9	
IOWA																																
BURLINGTON	694	992.7	1018.8	66	45	55.5	0.5	81	12	30	26	0	1	45	72	3.68	0.73	1.07	8	5	0.0	0	11.0	SSW	32	W	25	12	9	10	4.9	71
DES MOINES	948	986.8	1018.3	66	44	55.0	0.5	81	17+	28	20	0	2	44	71	3.00	0.80	1.89	6	3	0.0	0	9.5	S	38	SW	12	16	6	9	4.2	73
DUBUQUE	1065	992.0		61	42	51.8	0.9	76	17	29	26	0	2			3.90	1.70	1.15	11	5	T	0						12	7	12	5.5	
SIOUX CITY	1095	974.6	1016.2	68	42	54.8	2.2	89	17	26	26+	0	5	40	63	1.42	-0.02	1.19	5	1	0.0	0	9.2	SE	34	S	27	16	5	10	4.5	71
WATERLOO	868	984.9	1017.3	65	43	53.8	1.9	81	17	28	26+	0	2	45	75	4.97	2.81	2.65	6	3	0.0	0	9.3	S	28*	S	10	12	12	7	4.6	
KANSAS																																
CONCORDIA U	1375	969.6		70	46	58.1	0.4	85	17	37	24+	0	0	44	65	1.88	0.16	1.02	4	3	0.0	0	7.1	S*	25	SW	27	18	5	8	3.7	76
DODGE CITY	2594	928.2	1016.3	72	43	57.2	- 0.6	91	7	32	23	1	1	36	53	1.78	0.21	0.72	5	4	0.0	0	10.8	SSW	39	SW	10	14	10	7	3.9	80
GOODLAND	3645	888.6	1016.0	69	35	51.7	- 0.4	87	7	24	25	0	11	32	56	0.36	-0.68	0.29	4	2	T	T	11.2	WSW	29*	NNW	22	17	4	10	4.2	
TOPEKA	877	981.8	1017.9	70	44	57.0	- 0.9	82	12	25	26	0	2	47	73	4.88	2.32	2.55	5	3	0.0	0	12.4	S	45	SE	22	16	5	10	4.4	72
WICHITA	1321	968.2	1017.0	71	48	59.6	- 0.6	83	12+	32	26	0	1	47	67	4.87	2.69	2.49	6	7	0.0	0	11.8	S	52	S	28	17	7	7	3.8	76
KENTUCKY																																
COVINGTON	869	988.0	1020.3	69	47	58.1	2.1	85	12	30	27	0	1	43	62	1.88	-0.29	1.10	7	0	0.0	0	9.7	S	23*	SSW	28+	13	6	12	5.2	
LEXINGTON	979	984.3	1020.5	70	46	58.1	0.2	84	12	28	27	0	2	45	66	0.88	-1.56	0.37	5	1	0.0	0	9.5	S	25*	W	30+	17	5	9	4.2	
LOUISVILLE	474	1000.6	1020.2	70	46	57.9	- 0.7	84	12	27	27	0	2	47	71	2.00	-0.45	1.48	6	1	0.0	0	7.8	SE	24	N	14	12	10	9	4.4	66
LOUISIANA																																
ALEXANDRIA	92	1014.9	1019.6	78	49	63.3		85	13+	33	27	0	0	54	77	0.67		0.62	4	1	0.0	0	4.6	NNE				17	5	9	4.0	
BATON ROUGE	64	1016.2	1019.3	80	54	66.9	- 2.7	87	13+	42	21	0	0	56	73	0.86	-2.12	0.45	3	1	0.0	0	7.2	SE				18	8	5	3.2	
BURWOOD R	5		1018.6	78	68	73.0	- 1.9	85	2+	61	22+	0	0	64	75	2.17	-1.39	1.83	5	1	0.0	0		NE								
LAKE CHARLES	12	1017.4	1018.9	80	58	68.7	- 1.6	88	1	48	27+	0	0	57	70	1.92	-1.52	1.46	4	2	0.0	0	4.0	N	20*	N	14	15	8	8	4.1	
NEW ORLEANS U	9	1024.0		79	63	70.9	- 1.9	87	2+	54	27+	0	0	58	67	4.86	1.20	3.88	4	3	0.0	0	6.9		21	E	15+	19	8	4	3.2	76
NEW ORLEANS	3	1016.7	1018.9	79	57	68.0	- 3.4	87	2+	45	23	0	0	58	75	0.51	-2.67	0.27	5	2	0.0	0	6.6	ENE	23*	NE	15	19	8	4	3.1	
SHREVEPORT	252	1010.8	1020.1	78	55	66.7	- 1.8	88	11	41	20	0	0	55	70	3.51	0.41	2.42	4	3	0.0	0	8.7	SSE				16	6	9	4.1	77
MAINE																																
CARIBOU	624	992.2	1015.8	54	38	46.0	3.9	74	7	24	23	0	11	40	83	1.64	-1.83	0.59	12	0	4.1	4	9.9	N	29*	NW	10	4	9	18	7.3	
PORTLAND	61	1015.3	1016.4	61	40	50.8	2.4	76	18	19	28	0	5	44	80	1.69	-1.29	0.60	8	1	0.8	0	8.9	N	28	N	20	7	7	17	6.7	46
MARYLAND																																
BALTIMORE	146	1013.8	1018.8	71	44	57.7	1.2	84	13	31	29+	0	2	47	71	3.70	0.33	2.40	6	0	0.0	0	9.0	W	30	NW	15	15	8	8	4.1	60
BALTIMORE U	14			71	52	61.5	2.2	84	13	41	28	0	0			2.92	-0.45	1.81	4													
FREDERICK	294			69	42	55.6	- 1.2	81	13+	28	28	0	2			1.72	-1.57	0.70	7	0	0.0	0										
MASSACHUSETTS																																
BLUE HILL OBS R	629	992.1	1015.5	63	46	54.8		78	9	29	16	0	3		80	2.61	-0.84	1.15	12		T	T	15.6	WNW	42	NW	30					47
BOSTON	15	1011.3	1016.0	65	50	57.3	2.3	81	10+	35	28	0	0	47	72	2.46	-0.33	1.48	12	0	T	T	13.9	W	33	ENE	22	7	8	16	6.7	49
NANTUCKET	43	1015.3	1015.9	62	50	56.0	3.0	72	10+	34	16	0	0	51	84	6.15	2.55	2.50	12	0	0.0	0	15.1	WSW	45	N	21	9	6	16	6.5	48
PITTSFIELD	1170			63	40	51.4	3.9	75	19+	25	28	0	8			1.29	-1.64	0.53	6		0.0	0										
WORCESTER	986	979.6	1016.5	61	43	52.4	1.8	75	18+	27	16	0	7	44	75	2.68	-0.49	1.48	9	0	0.9	T	9.2	W	27*	ENE	22	9	8	14	6.2	
MICHIGAN																																
ALPENA	689	990.9		59	37	48.3	0.3	80	6	25	27+	0	11			1.14	-1.25	0.30	9	1	0.0	0	7.0	SW*	26	W	31	6	9	16	6.6	48
DETROIT	619	991.4	1018.3	65	48	56.3	3.4	80	10	37	16+	0	0	46	72	1.49	-0.80	0.51	8	4	0.0	0	10.2	SW	33	SW	5	9	8	14	5.8	56
DETROIT M WAYNE CO	630	993.7	1018.0	64	45	54.6		81	10	33	15	0	0	45	74	1.13		0.48	7	3	T	0	8.7	WSW				10	7	14	5.6	
DETROIT WILLOW RUN	711	989.4	1018.1	65	42	53.3	0.8	81	10	31	15	0	2	45	78	0.78	-1.39	0.28	8	3	0.0	0	9.4	SW	29*	SW	25	9	9	13	5.8	
ESCANABA U	594	993.6		55	42	48.5	1.4	68	11	31	27	0	1	42	79	1.93	-0.11	0.39	9	0	T	T	11.2		52	NE	19	5	11	15	6.7	39
FLINT	766	990.3	1018.4	63	43	53.0	2.6	81	10	31	15	0	1	45	76	1.52	-0.96	0.97	7	3	0.0	0	9.4	SW	22*	W	31	8	9	14	6.4	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
GRAND RAPIDS	681	992.4	1018.0	62	44	52.9	2.6	80	10	30	27	0	2	44	74	1.62	-0.89	0.64	8	2	0.0	0	9.0	SSW	27	SW	11	8	8	15	6.1	50
LANSING	852	985.5	1017.9	62	42	52.2	1.7	79	10	30	16+	0	4	44	77	1.58	-0.87	0.64	8	3	T	0	12.8	S	37	W	31	8	8	15	6.1	51
MARQUETTE U	677	988.3		57	41	49.0	1.5	82	6	32	21+	0	2			1.80	-0.46	0.82	11	0	T	T	9.7	W#	37	SW	11	6	3	22	7.4	50
MUSKEGON	627	994.2	1017.6	60	46	53.1	2.8	75	10	34	24+	0	0	43	70	2.61	0.09	0.68	11	3	0.0	0	9.5	SSW	29*	SSW	11	9	9	13	5.9	
SAULT STE MARIE	721	993.3	1016.3	56	39	47.6	3.2	76	6	28	27+	0	3	40	80	1.90	-1.08	0.35	13	1	0.2	T	9.7	E	28*	NW	13	7	5	19	7.0	38
MINNESOTA																																
DULUTH	1426	973.4	1015.3	56	36	45.6	1.6	83	6	17	2	0	14	34	67	1.79	-0.43	1.18	10	0	T	T	8.9	ESE	41	W	17	9	4	18	6.7	50
INTERNATIONAL FALLS	1179	972.8	1014.6	54	34	43.8	1.9	82	17	22	2	0	15	35	73	0.89	-0.92	0.28	9	0	T	0	8.7	SE	28*	NW	17	8	2	21	6.9	
MINNEAPOLIS	822	981.3	1015.8	63	41	52.2	1.8	85	6	29	26	0	4	41	67	3.03	1.38	1.59	6	3	0.0	0	9.3	SE	36	SW	11	12	4	15	5.5	62
ROCHESTER	1297	968.0	1016.3	61	40	50.6	1.5	79	17	25	20	0	7	42	75	2.19	0.50	1.29	6	4	0.2	T	12.4	S				12	8	11	5.1	
ST CLOUD	1034	977.0	1015.6	60	37	48.5	1.9	83	6	23	26	0	11		71	2.11	0.47	1.21	6	2	T	0						12	5	14	5.6	
MISSISSIPPI																																
JACKSON	305	1007.8	1019.9	78	50	64.1	- 2.3	87	12+	34	27	0	0	51	67	0.84	-1.34	0.71	2	1	0.0	0	4.9	SE	29	NE	14	17	6	8	3.8	70
MERIDIAN	292	1006.7	1020.3	79	47	62.6	- 2.1	87	31+	30	27	0	2	51	75	0.43	-1.95	0.42	2	1	0.0	0	5.1	N	18*	NW	20+	19	6	6	3.3	
VICKSBURG U	234	984.7		76	55	65.5	- 2.2	87	11	43	27	0	0			1.19	-1.03	1.18	2	2	0.0	0	7.5		26	NE	14	14	9	8	4.0	77
MISSOURI																																
COLUMBIA	778	989.4	1018.3	69	47	58.2	0.1	83	12	33	26	0	0	47	71	2.86	-0.35	1.45	7	5	0.0	0	10.2	SSE	34	NW	12	18	4	9	3.8	64
KANSAS CITY	742	982.9	1018.2	70	48	59.0	- 0.6	83	12	35	26+	0	0	43	59	3.24	0.31	1.65	8	6	0.0	0	8.7	SSW	34	S	12	18	3	10	4.0	71
ST JOSEPH	809	982.5		69	45	56.7	- 1.4	81	17+	29	26	0	2			4.87	2.34	2.80	6	3	0.0	0	11.2	S	46*	NW	29	16	4	11	4.2	
ST LOUIS	535	998.8	1019.6	70	49	59.2	- 0.2	85	12	35	26	0	0	44	61	2.67	-0.41	1.27	7	3	0.0	0	9.6	S	26	S	29+	12	8	11	4.9	62
ST LOUIS RFC	465			69	52	60.8	0.2	86	12	41	26	0	0			2.27	-0.63	0.91	7		0.0	0										
SPRINGFIELD	1265	971.6	1019.5	72	46	58.9	0.5	85	12	29	26	0	3	47	70	2.09	-1.31	0.86	6	2	0.0	0	12.0	SSE	36	NW	13	18	6	7	3.9	77
MONTANA																																
BILLINGS	3567	890.6	1015.5	58	37	47.3	- 1.9	79	16+	20	29	0	10	30	56	1.47	0.33	0.59	7	0	11.3	5	13.7	WSW	32	W	24	10	11	10	5.6	64
GLASGOW	2277	939.4		57	33	44.7	- 0.8	85	16	18	30+	0	14	30	62	0.78	-0.02	0.49	6	0	5.0	3						4	12	15	6.7	
GREAT FALLS	3662	887.6	1015.1	58	35	46.6	- 1.5	79	15	14	29	0	11	26	51	0.32	-0.40	0.17	4	0	2.6	1	13.8	SW	38	SW	23	6	12	13	6.3	63
HAVRE	2582	924.5		60	31	45.4	- 1.4	85	15	16	29	0	18			0.73	0.05	0.29	6	0	1.7	1	10.4	SW#	29	SW	9+	8	9	14	5.8	80
HELENA	3893	874.0	1017.8	57	30	43.7	- 1.4	79	16+	13	29	0	17	26	55	0.16	-0.52	0.06	5	0	1.3	1	8.4	WNW	37	NW	23	11	6	14	5.8	64
KALISPELL	2965	913.0		52	28	40.0	- 4.4	76	5	18	29	0	25			0.92	-0.44	0.37	10	0	1.8	1	5.4					4	6	21	7.6	
MILES CITY	2629			59	35	47.0	- 1.3	82	15	19	30	0	10	31	59	0.09	-0.85	0.07	2	0	T	T	10.5	SSE	38*	NW	17	11	8	12	5.7	
MISSOULA	3190	903.8	1020.3	54	29	41.1	- 3.8	77	5	19	29	0	24	32	76	1.34	0.27	0.33	9	0	4.6	1	5.5	NW	30	W	16	8	4	19	6.9	53
NEBRASKA																																
GRAND ISLAND	1841	949.6		69	40	54.5	0.5	89	17	27	26	0	4	37	60	0.20	-1.11	0.10	4	1	0.0	0	10.0	S				17	0	14	4.6	
LINCOLN U	1150			68	45	56.6	0.2	87	5	31	26	0	2			2.69	1.03	2.23	5	4	0.0	0	10.6	S#	46	SE	10	16	4	11	4.3	68
NORFOLK	1544	959.6		67	38	52.9	0.8	89	17	21	26	0	6			0.61	-0.75	0.48	4	1	0.0	0						17	2	12	4.4	
NORTH PLATTE	2779	915.9	1015.6	67	32	49.3	- 2.4	85	16+	17	23	0	14	33	62	0.15	-0.89	0.11	3	1	0.0	0	10.6	N	38	N	29	12	6	13	5.1	66
OMAHA	978	976.4	1016.9	68	44	55.8	0.3	83	17+	30	20	0	3	44	69	4.99	3.26	2.91	7	3	0.0	0	11.0	SSE	35	S	27	18	3	10	4.2	68
OMAHA N OMAHA AP	1323	968.3		66	43	54.6	0.9	83	17	30	20	0	3			3.95	2.22	3.18	7	2	0.0	0						16	4	11	4.3	
SCOTTSBLUFF	3950	878.9	1016.3	64	33	48.6	- 1.9	82	6	19	25	0	12	30	57	0.24	-0.77	0.13	4	0	1.8	1	10.9	WNW	44*	NNE	29	11	10	10	4.9	
VALENTINE	2587	923.9		65	34	49.5	0.0	88	6	21	25	0	13	34	61	0.36	-0.81	0.14	5	2	T	T	10.2	W#	35	N	17	14	6	11	4.4	72
NEVADA																																
ELKO	5075	845.9	1018.0	62	28	45.2	- 2.2	80	15+	20	8+	0	24	23	47	0.56	-0.25	0.39	5	0	3.0	2	5.4	SW	21*	SW	6	15	1	15	5.2	
ELY	6257	810.0		60	26	43.4	- 3.5	77	15	9	22	0	25	22	50	0.52	-0.30	0.23	7	0	6.6	2	9.0	S	32	SW	21	14	4	13	5.3	71
LAS VEGAS	2162	948.2	1013.4	78	50	64.1	- 3.3	93	6	34	30	3	0	26	28	0.26	-0.06	0.21	3	0	0.0	0	10.0	WSW	38*	NNW	28	16	8	7	3.8	78
RENO	4404	863.5	1018.0	70	29	49.7	- 1.0	85	15+	13	31	0	22	26	44	0.15	-0.40	0.15	1	0	T	0	6.6	NE	49	S	27	14	5	12	5.1	90
WINNEMUCCA	4299	869.6		66	31	48.2	- 0.4	84	15+	19	31	0	20	27	47	0.69	-0.10	0.40	6	0	0.4	T	8.2	W	36	W	27	11	7	13	5.5	62
NEW HAMPSHIRE																																
CONCORD	339	1006.0	1016.9	64	40	52.4	4.4	81	10	19	28	0	6	42	71	2.06	-0.74	1.28	6	1	T	0	4.9	NW	25	NW	16	8	8	15	6.3	47
MT WASHINGTON OBS	6262	805.7		42	28	34.9	3.2	55	8	6	16	0	19		82	2.52	-3.38	0.80	7	0	5.7	1	29.0	W	88Y	W	17	8	6	17	6.7	45
NEW JERSEY																																
ATLANTIC CITY	58	1015.9	1018.0	68	48	58.1	1.5	81	7	31	28	0	1	49	75	4.73	1.68	2.45	8	1	0.0	0	11.9	W	33*	NNE	22	13	9	9	4.8	62
ATLANTIC CITY U	10			67	54	60.4	2.4	78	9	43	28	0	0			3.49	0.28	1.52	8				12.0		33*	NNE	21					

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW JERSEY																																
NEWARK	11	1016.4	1017.7	69	50	59.5	3.9	81	13+	36	28	0	0	47	68	2.06	-1.14	0.89	8	1	0.0	0	9.2	SW	29*	ENE	22	15	9	7	4.5	
TRENTON U	56	1010.1		67	49	58.0	1.9	79	10+	36	28	0	0			1.82	-0.83	0.62	8	0	0.0	0	8.3	N#	27	W	15	12	13	6	4.4	70
NEW MEXICO																																
ALBUQUERQUE	5310	849.6	1014.6	72	42	56.8	- 1.4	82	1	33	24+	0	0	27	37	0.47	-0.17	0.27	5	3	T	0	8.2	ESE	45	E	2	20	9	2	2.7	91
CLAYTON	4969	846.6		69	38	53.9	- 1.2	82	17+	27	23	0	5			1.35	0.05	0.87	5	0	0.0	T						21	7	3	2.5	
RATON	6379	806.6		68	31	49.4	- 1.7	78	17+	24	30	0	21			0.57	-0.53	0.27	6	2	1.3	1						20	7	4	3.1	
ROSWELL	3612	894.0		79	39	59.1	- 1.8	92	7	28	3	3	7	32	41	0.44	-0.54	0.30	2	2	0.0	0	8.1		40	N	1	23	4	4	2.5	
SILVER CITY	5373	834.7		73	43	58.2		82	1	36	4	0	0			0.16		0.12	3	1	0.0	0						22	5	4	2.3	
NEW YORK																																
ALBANY	277	1013.4	1017.3	65	43	53.9	3.2	79	10	27	28	0	7	45	74	1.22	-0.99	0.55	5	0	0.0	0	7.8	S	29	W	31	8	12	11	5.9	62
BINGHAMTON	1590	958.0	1017.5	63	43	53.2	4.9	77	13+	29	5+	0	4	43	72	1.22	-1.82	0.59	10	0	T	0	9.2	SSW	26	W	31	8	12	11	5.6	61
BUFFALO	705	990.0	1018.2	64	45	54.5	3.3	78	11	30	23	0	1	44	71	2.41	-0.08	1.30	10	1	T	0	9.7	S	32	W	31+	10	6	15	6.0	61
NEW YORK U	132	1005.6		70	52	61.1	3.5	84	9+	40	28	0	0	48	66	2.21	-0.82	0.93	8		0.0	0	9.0	SW	32	NE	22	17	7	7	4.1	65
NEW YORK	19	1015.5	1017.4	67	53	60.0	2.4	80	10+	41	28	0	0	48	68	2.05	-0.86	0.95	8	1	0.0	0	13.8	SW	36	NW	15	13	10	8	4.9	
ROCHESTER	543	998.3	1017.8	66	45	55.5	4.7	82	13+	29	23	0	3	44	71	1.58	-0.92	0.50	9	0	0.0	0	11.7	SSW	35	W	13	10	6	15	5.8	56
SCHENECTADY	217			64	43	53.6	3.3	78	18	28	28	0	5			1.22	-1.44	0.62	5	0	0.0	0						18	9	4	3.3	
SYRACUSE	424	995.2	1017.5	66	46	55.8	3.4	81	13+	30	23	0	1	44	70	3.59	0.55	1.13	10	0	T	0	9.7	WSW	34	NW	31	12	4	15	5.5	58
NORTH CAROLINA																																
ASHEVILLE U	2203	940.8		69	42	55.3	- 1.7	80	13+	28	27	0	2			2.36	-0.18	1.66	5	1	T	0	6.7		32	NW	14	19	5	7	3.4	71
CAPE HATTERAS R	7	1016.7	1017.4	71	54	62.4	- 3.9	79	2+	36	28	0	0	56	79	2.32	-1.73	1.86	8	1	0.0	0	10.2	N	31	NNW	15	14	8	9	4.3	69
CHARLOTTE	725	990.8	1019.2	76	48	62.1	0.6	85	31+	31	28	0	1	46	60	0.73	-2.26	0.43	4	1	0.0	0	5.3	N	21	NW	19+	22	5	4	2.6	84
GREENSBORO	891	987.2	1019.4	73	44	58.3	- 0.7	85	31	30	28+	0	2	45	67	1.02	-1.58	0.46	5	0	0.0	0	6.7	WSW	32	N	21	21	6	4	2.7	84
RALEIGH	433	1004.8	1018.7	74	45	59.1	- 2.0	85	31	28	28	0	2	48	71	1.16	-1.66	0.35	5	0	0.0	0	6.4	N	25*	NNW	4	22	2	7	3.1	76
WILMINGTON	30	1015.6	1018.5	74	51	62.4	- 2.9	85	31	36	27	0	0	54	78	1.19	-1.59	0.87	5	0	0.0	0	8.0	N	28	N	14	18	7	6	3.5	78
WINSTON SALEM	967	983.9	1019.5	73	47	59.9	0.1	83	31+	33	28	0	0	43	58	1.40	-1.73	0.65	7	0	0.0	0	7.9	NW	28*	NNE	21	23	4	4	2.2	
NORTH DAKOTA																																
BISMARCK	1647	953.2	1014.3	61	35	47.9	2.2	85	16	22	30	0	13	31	59	0.50	-0.50	0.46	3	0	T	T	9.6	WNW	36	W	22+	9	7	15	6.2	62
DEVILS LAKE U	1471	960.2		57	34	45.3	1.4	86	6	21	26	0	17			0.26	-1.00	0.22	4	0	T	T	8.8	S#	27	SW	22	8	8	15	6.4	59
FARGO	900	980.0	1015.0	59	37	47.9	1.8	89	6	23	26	0	9	36	69	1.70	0.44	1.01	6	1	T	0	12.4	SSE	38	SE	22	9	5	17	6.4	55
WILLISTON U	1877	945.7		59	34	46.7	1.2	81	16+	24	30+	0	15			0.07	-0.70	0.07	1	0	0.5	T	7.3	W#	30	W	22	9	7	15	6.1	61
OHIO																																
AKRON	1210	981.0	1019.5	65	45	55.0	2.0	80	12	35	27+	0	0	45	72	1.90	-0.49	0.47	11	2	T	0	11.1	S	30*	SW	26	11	7	13	5.5	
CINCINNATI OBS	761			70	46	58.1	0.7	85	12	30	27	0	1			1.61	-0.58	0.83	7	1	0.0	0	5.3	S	22	S	26					68
CINCINNATI	553	997.0		71	48	59.6	0.5	86	12	33	27	0	0			1.83	-0.36	1.07	6		0.0	0										
CLEVELAND	777	990.4	1018.5	67	47	56.8	2.4	81	11+	36	23+	0	0	44	65	2.15	-0.27	0.86	10	2	T	0	10.7	S	26	S	25+	8	7	16	6.1	52
COLUMBUS	812	991.0	1020.0	68	43	55.3	0.8	82	12+	25	27	0	2	46	76	1.18	-1.00	0.36	8	2	0.0	0	7.3	S	26	S	19	10	8	13	5.6	50
COLUMBUS U	724			68	47	57.8	1.7	83	12	34	27	0	0			1.26	-0.74	0.35	6	2	0.0	0										
DAYTON	1002	983.2	1019.9	66	45	55.9	0.8	80	12	30	27	0	3	44	69	1.59	-0.71	0.95	7	2	0.0	0	9.1	SSW	36	S	15	8	13	10	5.7	60
MANSFIELD	1296			65	45	55.1		80	12	31	27+	0	2			1.23		0.67	8	1	0.0	0						10	7	14	5.8	
SANDUSKY U	603	996.2		67	48	57.7	2.7	84	10	36	27	0	0			1.66	-0.44	0.66	7	3	0.0	0	9.1		34	NW	13+	12	7	12	5.1	65
TOLEDO	676	993.3	1019.0	65	43	53.9	1.2	80	10	30	27	0	2	46	79	0.86	-1.46	0.31	8	2	0.0	0	9.1	SW	26	S	25	9	5	17	6.0	53
YOUNGSTOWN	1178	976.0	1019.0	65	44	54.3	0.4	79	13+	32	23	0	1	44	72	2.88	0.11	0.63	12	2	0.0	0	9.3	SSW	22*	S	31+	9	8	14	5.9	
OKLAHOMA																																
OKLAHOMA CITY	1280	974.5	1018.2	74	52	63.0	- 0.2	86	12	37	26	0	0	52	68	2.86	0.20	2.61	7	3	0.0	0	13.0	SSE	35	SW	10	20	5	6	3.4	72
TULSA	650	993.6	1018.3	75	50	62.6	- 0.8	87	12	31	26	0	1	51	72	0.86	-2.23	0.42	5	2	0.0	0	10.9	SSE	27*	SSE	8	18	6	7	3.8	68
OREGON																																
ASTORIA	8	1017.3	1017.9	60	42	51.0	- 3.1	77	2	32	30	0	1	47	86	7.32	0.17	1.53	17	2	0.0	0	9.3	SSE	37*	NW	26	6	9	16	6.9	
BURNS U	4151	874.4		61	31	45.9	- 1.3	83	4	22	24	0	18	30	58	0.92	0.12	0.47	7	0	1.3	1						12	6	13	5.4	
EUGENE	361	1005.1		64	41	52.3	- 0.4	83	15	30	8	0	2			4.31	0.74	1.61	13	1	0.0	0	9.0		40*	S	26	5	8	18	5.9	
MEACHAM	4050			52	35	43.3	- 2.2	77	15	24	29+	0	16			3.74	0.80	1.00	12	0	16.3	7						9	5	17	6.4	
MEDFORD	1298	971.2	1019.3	67	39	52.9	- 1.6	91	2	26	30+	1	6	42	74	2.38	0.47	1.38	11	0	0.0	0	3.3	N	26*	NW	27	8	10	13	6.3	
PENDLETON	1482	964.1	1018.4	62	38	50.0	- 3.6	82	5	26	29	0	6	37	65	0.70	-0.48	0.21	7	0	T	0	9.6	SE	37*	W	23+	10	7	14	5.8	
PORTLAND	21	1012.5	1018.3	63	44	53.3	- 1.4	80	14	32	20	0	1	45	77	2.89	-0.28	1.05	15	0	0.0	0	7.5	SE	43	W	23	5	8	18	7.2	42

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

OCTOBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy 4-7	No. of days (sunrise to sunset): Cloudy 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F	%	In	In.	In			In	In	M.p.h		M p h							%
OREGON																																
PORTLAND U	30			63	47	54.9	- 1.2	82	14	38	29	0	0			4.04	0.51	1.62	14		0.0	0										
ROSEBURG	505	1000.0		65	40	52.8	- 1.5	88	2	31	20	0	3			4.22	1.29	1.84	11	1	0.0	0	3.5	N*	23	S	26	6	7	18	7.0	46
SALEM	195	1010.8	1018.4	65	41	52.6	- 1.9	83	14+	30	31	0	3	44	77	3.18	-0.52	0.91	13	0	0.0	0	5.9	S	25*	S	12	6	8	17	6.9	
SEXTON SUMMIT R	3836	885.5		57	41	49.3	- 1.0	80	14+	28	21	0	8			5.34	1.50	2.13	11	0	7.8	5	13.3	S				9	9	13	6.1	
PACIFIC AREA																																
CANTON ISLAND	8	1009.1	1009.6	89	78	83.6	- 0.5	91	17+	75	25	12	0	71	69	0.97	0.58	0.66	8	0	0.0	0	11.5	ENE	24*	NE	25	15	8	8	4.9	
ENIWETOK	13	1009.1		86	77	81.3		90	2	72	27+	1	0	75	80	11.89		2.86	23	1	0.0	0	12.1									
JOHNSTON	7	1010.5		83	74	78.4		86	29	66	2	0	0	73	80	12.72		9.51	20	1	0.0	0	14.6		34	E	7	0	11	20	7.8	67
KOROR R	94	1005.8	1008.4	86	75	80.6	- 0.5	90	20+	72	25+	2	0	75	86	18.55	6.01	4.02	23	5	0.0	0	7.8	W	26	SSW	26	0	1	30	9.7	33
KWAJALEIN	8	1008.1	1009.0	87	77	81.7		89	14	73	21+	0	0	75	79	10.29		2.00	21	2	0.0	0	8.7	ENE	35*	ESE	21	5	5	21	7.9	
MAJURO	10	1009.0	1009.3	86	77	81.9		88	13+	73	15+	0	0	74	77	11.50		3.74	22	1	0.0	0	7.0	E	26	E	1	0	6	25	9.0	62
PONAPE R	123	1004.1	1008.5	88	73	80.1	- 0.6	91	25+	71	31+	7	0	74	86	14.07	-2.32	3.70	24	3	0.0	0	3.4	ESE	20	SW	22	0	3	28	9.3	50
TAGUAC GUAM R	361			85	73	78.8	- 0.1	89	1	69	4	0	0			19.17	6.27	3.03	28	7	0.0	0	7.1	E*	30	SW	26					
TRUK MOEN ISLAND	5	1007.6	1007.9	86	75	80.7	0.0	90	15	72	11	1	0	76	86	17.89	6.86	5.04	23	3	0.0	0	6.4	S	34	NW	29	0	2	29	9.5	68
WAKE ISLAND	11	1010.2	1010.5	86	75	80.4	- 1.0	89	8	68	28	0	0	73	79	8.19	2.15	2.29	18	3	0.0	0	14.1	ENE	37*	ENE	28	2	7	22	8.2	
YAP R	55	1004.8	1006.8	86	74	79.8	- 2.1	89	31+	72	26+	0	0	76	88	21.16	8.34	5.32	26	4	0.0	0	8.0	SW	34	W	25	0	0	31	9.9	31
PENNSYLVANIA																																
ALLENTOWN	376	1003.9	1018.4	68	43	55.5	2.3	81	13	27	28	0	4	46	74	0.80	-2.17	0.38	6	0	0.0	0	8.3	WSW	31*	SW	31	15	7	9	4.6	
ERIE	732	991.6	1018.0	65	48	56.2	3.9	80	13	37	28	0	0	45	68	2.56	-0.45	1.28	9	3	T	T	14.2	S	29*	NW	31+	11	5	15	5.9	
HARRISBURG	335	1003.6	1018.6	70	44	57.2	2.0	82	13	30	28	0	2	47	73	0.92	-2.15	0.44	5	0	0.0	0	7.5	W	23	W	31+	10	14	7	4.9	66
PHILADELPHIA	5	1013.2	1017.8	67	44	55.7	- 0.9	79	10+	30	28	0	2	46	72	1.83	-0.77	0.73	7	0	0.0	0	8.4	WSW	26	E	22+	16	6	9	4.7	75
PITTSBURGH	1151	988.9	1019.7	67	44	55.3	2.3	80	13+	34	28+	0	0	45	74	2.58	0.14	0.65	11	3	T	0	8.0	WSW	29*	W	13	8	12	11	5.7	63
PITTSBURGH U	749			68	48	58.0	2.1	81	13	39	28+	0	0			2.55	0.06	0.91	10		0.0	0										48
READING U	266	1005.9	1017.9	70	48	58.6	2.5	82	9	34	28	0	0			1.61	-1.14	0.73	7	0	0.0	0	9.1		33	NW	15	15	9	7	4.2	68
SCRANTON	940	983.9	1018.7	65	41	52.9	0.7	79	10	25	28	0	6	43	74	1.58	-1.80	0.49	9	0	0.0	0	7.8	WSW	24	SW	31	12	9	10	5.1	57
WILLIAMSPORT	527	999.6	1019.0	67	43	54.9	1.9	80	10	30	28	0	2	45	75	1.86	-1.51	0.71	8	1	0.0	0	5.9	W	23*	W	31	7	12	12	6.2	
RHODE ISLAND																																
BLOCK ISLAND	110	1009.9	1013.9	62	51	56.6	2.1	71	9+	37	28	0	0			3.17	0.07	1.94	9	0	0.0	0						10	8	13	5.6	
PROVIDENCE	55	1010.2	1016.5	65	47	55.8	3.1	79	9	31	28+	0	3	47	75	2.39	-0.44	1.33	10	0	T	0	10.8	N	29*	NNE	23	8	10	13	6.0	50
SOUTH CAROLINA																																
CHARLESTON	41	1016.4	1018.6	76	51	63.7	- 2.8	87	31	35	28	0	0	53	74	1.71	-1.02	1.28	5	0	0.0	0	7.5	NNE	47Y	W	3	20	8	3	3.1	81
CHARLESTON U	9			74	59	66.5	- 1.7	86	31	46	21	0	0			3.71	1.27	2.94	4		0.0	0	10.1		33	N	21					
COLUMBIA	217	1006.2	1019.2	79	45	61.9	- 3.0	87	31+	28	28	0	2	48	66	0.82	-1.60	0.81	2	0	0.0	0	4.9	NNW	25*	NNW	14	21	6	4	2.7	79
FLORENCE	146	1012.6	1018.4	76	49	62.5	- 1.6	87	31	34	28	0	0	49	68	0.34	-1.93	0.17	4	0	0.0	0	7.0	N	17*	NNW	14	21	4	6	3.0	
GREENVILLE	1009	981.9	1019.4	76	49	62.3	- 0.2	83	13+	33	27	0	0	46	60	0.90	-2.56	0.77	2	1	0.0	0	7.2	NE	24	N	21	22	4	5	2.4	84
SPARTANBURG	801	989.5	1019.6	75	48	61.3	- 0.9	83	2	34	28	0	0	45	59	0.56	-2.84	0.45	2	0	0.0	0	6.8	N	25*	NNW	14	21	7	3	2.5	
SOUTH DAKOTA																																
HURON	1282	967.4	1015.1	65	36	50.3	0.3	91	6	22	26	1	12	38	70	4.66	3.40	4.20	5	2	T	T	10.8	SSE	42	SW	11	12	6	13	5.3	69
RAPID CITY	3165	900.8	1015.5	63	37	49.9	0.8	86	16	20	30	0	10	28	50	0.94	-0.19	0.83	4	0	3.7	4	11.1	NNW	36	N	17	13	7	11	5.1	57
SIOUX FALLS	1420	963.4	1015.4	65	38	51.3	1.3	84	6	22	26	0	7	37	63	2.66	1.20	1.22	6	2	0.0	0	10.1	SW	30*	SSW	11	15	6	10	4.5	
TENNESSEE																																
BRISTOL	1507	965.6	1020.4	70	43	56.5	- 1.4	82	1	26	27	0	2	45	72	4.05	1.66	1.92	6	2	T	T	5.5	NE	29*	NW	19	18	5	8	3.5	
CHATTANOOGA	670	993.0	1020.9	74	45	59.7	- 1.1	84	12	28	27	0	2	45	67	1.63	-1.61	1.57	4	0	0.0	0	5.5	N	27	NW	14	17	6	8	4.2	74
KNOXVILLE	950	985.4	1021.1	71	45	57.9	- 2.4	82	13+	29	27	0	1	46	69	3.41	0.78	2.44	7	1	0.0	0	5.4	NE	29	W	19	15	7	9	4.2	51
MEMPHIS	263	1005.5	1020.4	75	50	62.5	- 1.1	85	30+	35	27	0	0	48	64	1.28	-1.99	1.09	5	2	0.0	0	8.6	SSE	27	N	14	13	12	6	4.2	73
MEMPHIS U	271			74	55	64.0	- 1.0	85	12	41	20	0	0			0.74	-2.44	0.08	4		0.0	0										
NASHVILLE	577	1000.1	1020.4	74	46	59.8	- 2.0	87	12	27	27	0	1	46	64	1.12	-1.40	0.46	7	2	0.0	0	7.0	S	26	NW	14	13	10	8	4.5	68
OAK RIDGE	905	987.2		72	44	57.6	- 1.2	83	12+	26	27	0	2			2.91	0.49	1.59	5	1	0.0	0	2.6		24Y		25+	18	5	8	3.7	
TEXAS																																
ABILENE	1759	955.8	1016.8	77	53	65.2	- 1.0	87	7	41	20	0	0	52	66	1.67	-0.90	1.15	4	4	0.0	0	9.7	S	37	N	2	16	9	6	3.6	79
AMARILLO	3607	890.0	1015.3	75	44	59.5	0.8	90	21+	34	23	2	0	35	47	0.91	-1.02	0.62	6	2	0.0	0	13.7	S	35	W	10	20	6	5	3.1	80
AUSTIN	597	996.3	1018.3	80	59	69.8	- 1.1	91	1	46	17	1	0	57	69	0.91	-2.04	0.42	6	4	0.0	0	7.7	SSE	29	NW	2	13	6	12	4.8	58
BROWNSVILLE	16	1014.2	1016.8	85	65	74.9	- 1.1	90	1	54	4	1	0	65	75	0.34	-2.57	0.33	2	1	0.0	0	10.5	SE	29	SE	29	12	16	3	4.3	69

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

OCTOBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In.	In.	M.p.h.		M.p.h.							%
TEXAS																																
CORPUS CHRISTI	43	1016.2	1017.6	84	63	73.4	- 1.1	91	1	48	16	2	0	62	70	0.05	-2.41	0.04	2	0	0.0	0	9.8	SE	31	S	28	13	9	9	4.7	79
DALLAS	481	999.7	1018.3	77	57	67.3	- 1.5	84	30+	41	20	0	0	54	67	3.41	0.74	2.02	5	1	0.0	0	10.7	SSE	40	N	2	13	7	11	4.5	64
DEL RIO U	957			81	61	71.0	- 0.5	90	1	50	17+	1	0			3.21	1.01	1.40	5	4	0.0	0										
EL PASO	3918	887.0	1014.4	80	47	63.5	- 1.7	90	1	37	4	1	0	32	34	0.18	-0.65	0.17	2	1	0.0	0	6.2	NNE	40	W	28	22	7	2	2.1	88
FORT WORTH	544	997.3	1018.3	78	57	67.3	- 1.2	85	12	42	20	0	0	55	68	2.82	0.13	1.61	4	2	0.0	0	12.8	S	36*	NNW	2	13	9	9	4.4	
GALVESTON U	7			77	68	72.6	- 1.0	84	1	53	3	0	0			0.23	-3.36	0.21	2		0.0	0	11.0		31	NE	26+					86
GALVESTON	5	1016.4	1018.7	78	67	72.8	- 1.0	86	1	54	3	0	0	59	64	0.30	-3.54	0.25	2	1	0.0	0	10.3	SE				17	7	7	3.7	
HOUSTON U	41			82	64	72.7	0.1	92	1	51	16+	1	0			0.23	-3.16	0.20	4		0.0	0										
HOUSTON	50	1016.1	1018.9	82	59	70.5	- 0.9	92	1	45	16	1	0	60	75	0.05	-3.65	0.04	2	3	0.0	0	9.1	SE				14	7	10	4.5	82
LAREDO	500	1001.1	1016.5	87	64	75.6	- 0.9	95	1	51	4	10	0	57	59	0.63	-0.94	0.52	3	1	0.0	0	11.2	SE	29*	NNW	2	14	9	8	4.3	
LUBBOCK	3243	905.3	1016.6	77	46	61.2	0.0	89	22+	35	3	0	0	44	57	0.55	-1.52	0.32	5	3	0.0	0	15.1	S	35*	NE	25	18	8	5	3.0	
MIDLAND	2854	916.8	1015.3	80	52	65.6	- 1.0	92	7	42	3	3	0	44	53	0.03	-1.75	0.03	2	0	0.0	0	10.6	SSE	32*	NNE	2	21	1	9	3.5	
PORT ARTHUR	16	1017.0	1018.5	82	57	69.3	- 1.2	89	13+	44	16	0	0	59	76	3.04	0.11	2.89	4	1	0.0	0	8.6	ESE	34	N	14	16	6	9	4.2	61
SAN ANGELO	1903	949.5	1016.5	79	53	66.0	- 2.0	90	1	39	20	1	0	52	66	1.94	-0.31	1.39	3	3	0.0	0	8.0	SSW	35*	N	2	14	9	8	4.2	
SAN ANTONIO	792	992.7	1017.7	82	60	71.1	- 0.2	91	9+	46	17	3	0	58	69	3.39	1.29	1.67	4	2	0.0	0	9.1	SE	27	N	2	14	6	11	4.7	64
VICTORIA	104	1013.3		83	60	71.3	- 2.3	91	1	46	16	1	0			0.82	-2.06	0.42	5	0	0.0	0	9.6		38Y	N	2	15	8	8	4.2	
WACO	500	998.4	1018.3	80	58	68.6	- 0.8	87	13	44	20	0	0	57	70	1.28	-1.13	1.06	4	2	0.0	0	12.4	SSE	38*	NW	2	14	4	13	4.8	
WICHITA FALLS	994	980.2	1017.1	78	52	65.0	- 0.3	87	12	39	26	0	0	51	63	1.48	-1.30	1.28	3	2	0.0	0	12.4	S	35*	NNE	2	16	10	5	3.7	
UTAH																																
MILFORD	5028	845.2		64	32	48.0	- 2.1	81	6+	19	23	0	18			0.54	-0.34	0.32	3	0	4.2	1						16	5	10	4.2	
SALT LAKE CITY	4220	868.9	1017.9	63	37	50.0	- 2.9	82	6	23	29	0	8	33	59	1.60	0.26	0.89	7	1	8.3	3	10.1	S	43	N	29	11	8	12	5.5	61
WENDOVER	4237	872.0		61	41	50.6		81	6	29	29+	0	3			0.67		0.31	6	0	2.0	2						14	3	14	5.0	
VERMONT																																
BURLINGTON	331	1001.8	1016.6	60	39	49.6	1.4	74	13+	20	23	0	9	42	77	2.50	-0.39	0.84	8	0	T	0	7.9	SSW	29	SW	1	9	7	15	6.5	55
VIRGINIA																																
LYNCHBURG	947	994.2		71	46	58.4	0.6	81	13	33	28	0	0			4.55	1.68	3.30	5	1	0.0	0	7.1		34	NE	21	21	4	6	3.1	79
NORFOLK	26	1017.2	1018.6	71	51	60.6	- 0.6	82	31	37	28	0	0	53	79	4.12	1.67	1.92	8	1	0.0	0	9.8	SW	39	E	20	18	7	6	4.1	69
RICHMOND	162	1013.0	1019.4	72	44	58.1	- 0.7	84	30	30	28	0	2	48	75	8.78	6.17	6.50	6	1	0.0	0	6.8	N	27	N	14	16	7	8	4.3	67
ROANOKE	1174	977.1	1019.8	72	45	58.3	0.4	82	13	29	28	0	1	45	66	3.35	-0.04	2.28	8	1	0.0	0	7.0	NW	24*	W	26	22	3	6	2.9	
WASHINGTON																																
OLYMPIA	190	1011.2	1018.5	59	38	48.4	- 2.6	82	14	27	20	0	10	44	86	4.97	0.47	1.22	16	1	0.0	0	7.0	SW	38*	SSW	26	3	9	19	7.5	
SEATTLE TACOMA	400	1003.4	1017.7	59	43	50.8	- 0.9	80	14	33	31	0	0	44	80	3.27	-0.05	0.58	17	0	0.0	0	10.0	S	36*	SSE	26	4	7	20	7.4	
SEATTLE	14		1017.8											45	80								6.3	SSE								
SEATTLE U	14			59	48	53.2	- 1.2	76	13	38	29	0	0			2.83	-0.25	0.68	17		0.0	0			44	S	26					36
SPOKANE	2357	948.5	1018.1	56	34	45.2	- 3.4	79	15	24	29	0	16	33	68	1.05	-0.28	0.39	9	0	T	0	8.1	SSW	35	SW	23	6	10	15	6.7	52
STAMPEDE PASS R	3958	879.8		45	34	39.4	- 3.0	69	15	26	22	0	18			9.78	0.44	1.59	20	0	47.9	19						6	5	20	7.5	
TATOOSH ISLAND	101	1014.2	1017.2	53	45	49.3	- 2.6	63	13	41	21	0	0	45	85	9.44	0.72	2.04	19	0	0.0	0	16.0	ENE	45	S	9	6	9	16	6.9	52
WALLA WALLA U	949	981.4		62	43	52.5	- 2.7	81	5	29	21	0	2			1.32	-0.16	0.61	10	0	0.0	0	5.1	E#	27	E	25	10	6	15	5.8	65
YAKIMA	1061	979.0	1018.5	63	33	47.9	- 2.7	78	4	21	20	0	15	34	65	0.31	-0.31	0.27	3	0	0.0	0	8.4	WNW	39*	NW	5	6	9	16	6.2	
WEST INDIES																																
SAN JUAN P.R. U	47			86	74	80.2	0.1	92	21	70	31	7	0			7.59	2.32	2.05	17	2	0.0	0										
SAN JUAN P.R.	15	1010.1	1013.0	87	72	79.8	0.1	92	20+	68	26	7	0	72	82	8.47	1.94	1.67	17	5	0.0	0	5.5	ENE	24	SE	29	2	12	17	7.1	48
SWAN ISLAND	28	1008.5		86	76	81.2	- 0.5	90	1	71	30	4	0			9.18	-0.07	3.30	20	3	0.0	0						1	11	19	8.5	
WEST VIRGINIA																																
CHARLESTON	939	984.6	1020.4	69	44	56.1	- 1.3	80	13+	31	27	0	2	46	75	6.11	3.30	2.48	9	1	2.8	3	4.2	SW	25*	SW	19	9	11	11	5.8	
HUNTINGTON U	567			71	46	58.3	- 0.9	84	12	31	27	0	1			3.35	0.92	1.09	10		0.0	0										
PARKERSBURG U	621			70	45	57.7	0.8	83	12+	33	27	0	0			4.59	2.47	1.10	9	2	0.0	0	5.6		34	NW	13					53
WISCONSIN																																
GREEN BAY	689	993.8	1016.9	60	41	50.1	1.7	77	6	24	27	0	4	43	77	3.34	1.54	1.28	10	3	0.0	0	11.7	SW	51	SW	11	8	9	14	6.3	42
LA CROSSE	652	991.4		63	43	52.8	2.0	80	17	29	20	0	6	43	73	2.47	0.54	0.96	10	4	0.0	0	11.0	S	35*	SSW	11	10	9	12	5.6	
MADISON	858	981.3	1017.1	61	40	50.5	0.1	76	12	26	27+	0	6	44	81	3.75	1.67	1.21	11	5	0.1	T	9.5	S	33	SW	11	10	6	15	6.0	52
MILWAUKEE	670	992.9	1018.3	60	42	51.2	- 0.2	79	9	24	27	0	3	45	78	2.75	0.78	0.72	11	2	T	0	11.8	SSW	34	SW	11	11	8	12	5.5	51

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

OCTOBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
WYOMING																																
CASPER	5319	837.5	1015.9	57	33	44.8	- 1.6	74	15+	13	29	0	15	27	56	1.12	0.01	0.55	6	0	5.3	4	15.7	SW	52*	SW	22	10	7	14	5.7	
CHEYENNE	6131	813.8	1016.8	58	31	44.8	- 1.6	77	16	17	30+	0	16	23	49	0.56	-0.57	0.24	5	0	3.6	3	13.6	WNW	50	W	11+	12	9	10	4.9	68
LANDER	5563	836.1		55	30	42.5	- 2.1	74	5	8	30	0	17	26	57	2.98	1.45	1.69	6	0	38.6	17	5.9	SW#	38	S	21	11	9	11	5.1	79
SHERIDAN	3942	884.5	1012.4	57	31	43.7	- 2.9	80	16	5	30	0	17	30	64	2.83	1.56	0.85	10	0	12.6	7	7.6	NW	40	NW	24	8	11	12	5.6	59

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

A Maximum hourly average.

\+ And also on an earlier date or dates.

B Number of days maximum 70°F. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM	186	995.1	1020.7	25.6	10.0	17.9	0.3	30.0	13+	1.1	27	0	0	10.0	67	52	- 21	43	4	0	0	0	3.0	ENE	12.5	N	14	18	7	6	3.4	80
HUNTSVILLE	184	997.1	1020.6	24.4	8.3	16.2		29.4	30+	- 2.2	27	0	1	8.3	66	37		27	4	1	0	0	2.9	ESE	10.7*	NNW	14	14	11	6	4.0	
MOBILE	64	1016.9	1019.5	26.7	12.8	19.7	-0.9	31.1	12	5.0	20	0	0	11.7	67	37	- 58	35	3	1	0	0	4.2	N	13.0*	ESE	29	19	6	6	3.5	
MONTGOMERY	59	1011.6	1019.9	26.7	9.4	17.8	-1.3	31.1	31	1.1	27	0	0	10.0	66	2	- 58	2	2	0	0	0	2.7	E	12.1	N	14	21	6	4	2.8	77
ALASKA																																
ANCHORAGE	27	999.0	1004.0	2.2	- 5.6	- 1.7	-3.9	12.2	1	-18.3	31	0	26	- 5.6	76	71	24	16	14	0	470	178	2.7	N	0.7*	NNW	9	10	3	18	6.5	41
ANNETTE	34	1005.8	1009.9	10.0	5.0	7.6	-0.7	14.4	4	- 2.2	21	0	2	5.0	85	580	214	84	28	0	T	0	5.7	SSE	17.0*	SSE	14	3	4	24	8.4	
BARROW	7	1010.8	1011.5	- 6.1	-12.2	- 9.0	-0.7	1.7	19	-24.4	14	0	31	-10.6	84	11	- 2	5	12	0	384	254	5.1	S	14.8*	SE	31+	1	3	27	9.0	
BARTER ISLAND	12	1009.8	1011.8	- 7.8	-14.4	-11.0	-2.9	3.9	19	-26.7	27	0	31	-13.9	76	25	- 2	3	20	0	340	203	6.3	E	19.2*	E	3	1	6	24	8.8	
BETHEL	38	1005.4	1006.9	- 0.6	- 6.1	- 3.2	-3.1	6.1	2	-13.9	13	0	28	- 5.6	85	52	8	19	15	0	310	152	7.2	NNE	20.6*	SSE	20	5	8	18	7.2	
COLD BAY	29	1005.4	1009.8	7.2	0.6	3.8	-0.9	14.4	16	- 6.7	30	0	13	1.1	81	48	- 64	36	9	0	18	T	8.3	WSW	24.6*	S	18	0	6	25	8.7	
CORDOVA	12	1000.0	1002.0	6.7	- 1.1	2.9	-1.9	11.7	6+	- 8.9	31	0	22	- 0.6	81	217	-178	58	17	0	221	102	3.2	E	10.3*	ESE	28	4	3	24	7.9	
FAIRBANKS	133	989.8	1007.5	- 2.2	- 9.4	- 6.0	-3.5	11.7	2	-25.0	31	0	31	- 8.9	79	30	6	6	17	0	615	305	2.9	N	8.9*	SW	29+	1	3	27	9.0	
JUNEAU	5	1004.7	1005.8	7.8	1.7	4.6	-0.9	15.6	3	- 6.1	31	0	13	2.2	85	259	44	39	25	0	15	T	4.3	ESE	17.4*	ESE	2	3	1	27	8.9	22
KING SALMON	13	1003.7	1006.0	2.2	- 7.2	- 2.3	-4.4	12.2	2	-23.9	31	0	24	- 5.6	79	74	10	17	18	0	264	254	4.2	N	15.6*	SSE	19	7	5	19	7.0	
KOTZEBUE	3	1007.8	1008.1	- 3.3	- 9.4	- 6.2	-2.6	5.0	2	-18.3	28	0	31	- 9.4	76	9	- 5	2	10	0	201	76	6.3	ENE	17.4*	SE	18	9	5	17	6.5	
MC GRATH	102	994.6	1007.8	- 2.2	-10.0	- 5.9	-3.5	6.7	19	-25.6	31	0	30	-10.0	73	39	- 4	17	10	0	353	203	3.3	N	13.4*	S	19	7	4	20	7.4	
NOME	4	1006.1	1006.7	- 0.6	- 6.1	- 3.2	-2.1	4.4	19+	-13.9	28+	0	28	- 6.7	75	27	- 17	9	11	0	122	51	6.1	N	17.0*	SE	20	5	7	19	7.0	35
ST. PAUL ISLAND	7	1006.4	1007.7	5.6	0.6	3.2	-0.7	8.3	5	- 5.0	29+	0	14	1.1	83	98	19	20	26	0	150	25	8.3	WNW	20.6*	S	18	0	15	16	7.6	
SHEMYA	37	1009.5	1013.5	7.2	3.9	5.7		8.9	23+	0.6	28+	0	0	2.2	80	79		24	26	0	13	T	9.0	WSW	22.8*	WSW	24+	0	10	21	8.2	
YAKUTAT	9	1002.0	1003.4	7.8	0.0	3.9	-1.5	12.2	14+	- 8.3	31	0	17	1.7	87	417	- 89	77	23	0	97	25	3.4	ENE	17.0*	SSE	28	3	5	23	8.3	
ARIZONA																																
FLAGSTAFF	2131			16.1	- 2.2	6.9	-0.9	23.9	5	-11.7	30	0	24			48	11	40	5	1	208	178						18	6	7	3.7	
PHOENIX	338	973.6	1012.5	30.0	12.2	20.9	-0.7	36.7	13	3.3	30	15	0	2.2	32	2	- 8	1	2	0	0	0	3.3	E	14.3*	WSW	8	23	5	3	2.1	91
PRESCOTT	1528	847.6	1014.9	22.2	3.9	13.1	-0.8	28.9	5	- 6.7	30	0	6	- 4.4	34	12	- 5	11	3	0	T	0	3.1	SSW	18.8	SW	8	22	5	4	2.7	86
TUCSON	788	924.8	1012.2	27.8	12.8	20.3	-0.6	32.8	13+	3.3	30	6	0	0.6	31	17	5	9	2	1	0	0	4.8	SE	16.1	SE	14	25	3	3	1.7	89
WINSLOW	1487	852.7	1014.8	22.2	2.8	12.6	-0.9	28.3	6	- 6.7	30	0	7	- 4.4	37	22	8	17	4	0	208	76	4.1	SW	20.6*	S	8	21	4	6	2.8	
YUMA	61	1006.8	1012.1	32.8	15.0	23.9	-0.8	40.6	14	7.8	31	19	0	1.1	26	T	- 8	T	0	0	0	0	2.8	NNE	14.3	E	15	24	4	3	2.3	91
ARKANSAS																																
FORT SMITH	137	1002.3	1019.4	24.4	10.0	17.4	-0.3	31.1	12	0.6	26	0	0	12.2	77	57	- 35	34	6	3	0	0	2.7	NE	9.4	N	2	14	6	11	4.6	69
LITTLE ROCK	78	1007.3	1020.6	25.0	10.0	17.4	-0.4	31.1	13	- 0.6	27	0	1	10.6	71	22	- 50	9	4	2	0	0	3.1	WSW	11.2	N	14	15	7	9	4.2	63
TEXARKANA	110			25.0	12.2	18.5	-0.9	30.6	12	3.9	27	0	0	12.8	75	59	- 27	68	4	2	0	0	3.3	SSE								
CALIFORNIA																																
BAKERSFIELD	151	997.6	1015.8	26.7	11.7	19.1	-0.1	36.1	15	5.0	22	11	0	4.4	41	T	- 9	T	0	0	0	0	2.9	E	8.9*	NNW	7	14	12	5	4.0	
BISHOP	1252	874.4		23.9	3.3	13.6	-0.4	31.7	6+	- 4.4	23	0	7			0	0	0	0	0	0	0						17	8	6	3.8	
BLUE CANYON	1609	840.5		16.7	7.2	11.9	0.2	26.7	13	- 2.2	29+	0	6			80	- 1	37	4	0	0	0	4.2	ENE	25.0	ENE	29	17	5	9	4.1	
BURBANK	213	988.2	1014.4	26.1	12.8	19.4	1.0	38.3	15	8.3	24+	7	0	7.2	54	T	- 13	T	0	0	0	0	3.1	S	3.4*	NNW	28	12	13	6	4.4	
EUREKA U	13	1016.3		14.4	8.3	11.4	-0.9	21.1	1	3.3	29	0	0			58	- 11	24	7	0	0	0	2.5	N*	17.0	SW	27	10	7	14	6.0	57
FRESNO	99	1002.4	1014.4	27.2	8.9	17.9	0.1	37.2	15	1.1	30	10	0	3.9	46	T	- 17	T	0	0	0	0	2.4	NW	12.5	NW	28	17	11	3	3.0	93
LONG BEACH	10	1012.9	1014.4	26.7	14.4	20.5		43.9	15	8.3	30	5	0	10.6	62	T		T	0	0	0	0	2.8	WNW	16.5*	NW	28	13	11	7	4.5	
LOS ANGELES	30	1010.8	1014.6	23.3	13.9	18.7	1.3	41.1	14	7.8	30	4	0	11.1	68	T	- 11	T	0	0	0	0	3.1	W	13.0*	N	28	13	11	7	4.6	
LOS ANGELES U	95			25.6	14.4	19.9	0.7	39.4	14	8.9	30	5	0	8.9	56	T	- 13	T	0	0	0	0	2.6	W*	15.2	NW	29	14	11	6	4.4	73
MT SHASTA R	1080	894.3		18.9	3.9	11.3	0.8	30.0	14	- 5.6	22	0	5			32	- 34	26	5	0	T	T						16	6	9	4.3	
OAKLAND	1	1015.9	1016.2	22.2	10.6	16.2	0.6	35.0	15	5.0	23	3	0	7.2	62	2	- 21	2	2	0	0	0	3.5	WNW	6.1*	NNE	29+	17	7	7	3.9	
POINT ARGUELLO	112	1001.4		20.6	9.4	14.9		36.1	14	2.2	31+	2	0			2	- 36	2	2	0	0	0	4.6	NW	17.0	SE	27	17	6	8	3.9	87
RED BLUFF	104	1002.7	1015.7	26.1	11.1	18.6	0.2	36.1	15	3.9	28+	11	0	2.2	41	1		0	2	0	0	0	3.2		1.2*	NNW	28	14	7	10	5.0	
SACRAMENTO	5	1014.6	1015.8	26.1	9.4	17.8	0.7	35.6	15	3.3	23	9	0	5.6	53	1	- 22	1	2	0	0	0	3.6	NNW	17.9	NW	7	20	6	5	3.3	92
SACRAMENTO U	7			25.6	10.6	17.9	0.3	35.0	16	5.0	23+	9	0			1	- 23	1	2		0	0										
SANDBERG R	1377	863.2		19.4	9.4	14.3	-0.3	28.3	16+	- 1.1	29	0	3			T	- 17	0	1	0	0	0	5.8	N	5.6*	NNW	22+	16	8	7	3.9	
SAN DIEGO	4	1010.5	1013.8	23.9	14.4	19.3	0.9	41.7	14	8.9	29	3	0	11.7	66	5	- 11	5	1	1	0	0	2.6	WNW	3.9	N	8	16	8	7	4.0	78
SAN FRANCISCO	2	1015.9	1016.8	21.7	10.6	16.0	0.8	35.0	15+	4.4	23	2	0	8.3	69	1	- 23	1	1	0	0	0	4.2	WNW	17.0	N	8+	18	8	5	3.8	
SAN FRANCISCO U	16			20.0	12.8	16.2	0.1	34.4	15	10.0	23	1	0			2	- 25	1	3	0	0	0	3.7	W*	12.5	NW	8					75
SANTA MARIA	73	1006.8	1015.6	23.3	8.3	15.7	0.2	38.3	14	1.7	29	3	0	7.8	67	T	- 16	T	0	0	0	0	2.9	WNW	11.6*	WNW	28	15	13	3	3.7	
COLORADO																																
ALAMOSA	2297	772.8		16.7	- 4.4	6.0	-0.7	22.2	16+	-10.0	26+	0	29			39	25	30	6	1	338	254						17	8	6	3.7	
COLORADO SPRINGS	1882	812.7	1018.7	17.8	1.1	9.2	-1.6	25.6	6	- 5.6	30+	0	13	- 4.4	47	25	9	12	4	0	130	76	4.5	NNE	16.5*	WNW	27	17	6	8	3.9	
DENVER	1610	838.5	1016.8	18.3	1.7	10.0	-0.8	27.2	16	- 5.6	25	0	10	- 2.8	49	20	- 6	17	5	0	157	152	3.7	SSW	12.5	SW	22	15	8	8	4.2	75
GRAND JUNCTION	1478	860.5	1016.7	18.9	4.4	11.6	-0.8	25.6	7	- 2.8	29	0	4	- 2.2	44	18	- 4	15	5	0	T	0	3.3	ESE	10.7*	WSW	21	14	6	11	4.5	70

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

OCTOBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
PUEBLO	1414	857.4	1016.2	21.1	1.7	11.3	-0.2	28.9	17+	- 3.3	25+	0	10	- 3.3	44	3	- 15	2	3	0	18	T	3.0	W	25.0	W	22	19	4	8	3.5	87
CONNECTICUT																																
BRIDGEPORT	2	1016.9	1017.8	18.3	9.4	13.9	1.5	25.6	9	- 0.6	28	0	1	8.9	74	40	- 32	28	6	1	0	0	5.9	W	13.0*	E	21+	12	10	9	5.0	
HARTFORD	52	1011.2	1017.2	18.9	6.1	12.4	0.8	27.2	9	- 3.3	28	0	6	7.2	75	62	- 9	34	5	1	0	0	3.4	N	11.2	NE	22+	8	8	15	6.1	46
NEW HAVEN	2	1016.4		18.3	8.9	13.6	1.8	26.7	9	- 1.7	28	0	1			54	- 22	37	6	0	0	0	3.8		13.0	NW	15	10	11	10	5.3	66
DELAWARE																																
WILMINGTON	24	1014.7	1018.1	20.0	7.8	13.8	0.4	26.7	10	0.0	28	0	1	8.9	75	48	- 28	17	7	0	0	0	4.1	WNW	13.9*	NW	15	15	8	8	4.5	
DIST.OF COLUMBIA																																
WASHINGTON U	22			21.7	10.6	16.2	1.5	28.3	13	3.3	28	0	0			63	- 12	39	5													
WASH NATL AP	4	1014.7	1019.1	21.1	9.4	15.3	0.7	27.8	13	1.7	28	0	0	8.9	69	60	- 12	38	6	0	0	0	3.3	N	13.4	WNW	15	14	8	9	4.7	71
FLORIDA																																
APALACHICOLA U	4	1016.1		25.0	15.6	20.3	-1.3	30.0	11	8.9	21	0	0			10	- 54	10	1	0	0	0	3.6		11.6	E	28	23	5	3	2.3	91
DAYTONA BEACH	9	1015.5	1017.4	26.7	17.8	22.2	-0.8	30.0	13+	8.3	21	0	0	17.2	75	57	- 92	18	9	2	0	0	4.2	NE	10.3*	ESE	28+	9	12	10	5.1	
FORT MYERS	4	1014.9		30.6	18.9	24.8	0.2	33.9	13+	12.8	23	10	0			80	- 25	68	4	3	0	0	4.3		10.3	ENE	29+	15	11	5	4.3	
JACKSONVILLE	7	1017.1	1018.5	26.1	14.4	20.4	-1.2	31.1	3	5.6	16	0	0	15.0	75	14	- 50	8	4	2	0	0	3.6					11	14	6	4.9	75
KEY WEST	2	1013.1	1014.3	28.9	23.9	26.3	-0.1	32.8	3	20.0	23	1	0	20.6	72	7	-113	6	2	0	0	0	4.7	NE	14.8	E	28+	15	10	6	4.4	49
LAKELAND U	65			27.8	17.8	22.8	-0.7	32.2	13	8.9	21	1	0			70	-103	35	8	2	0	0	5.7	ENE	14.8	SE	28	13	9	9	5.0	67
MIAMI BEACH	3			28.3	23.3	25.9	-0.1	31.1	20+	15.6	22	0	0			58	-121	41	10		0	0	4.1		14.3	E	29	9	15	7	5.0	74
MIAMI	2	1013.2	1014.4	29.4	21.1	25.4	-0.1	32.8	2	13.9	22+	2	0	19.4	71	100	-109	49	14	6	0	0	5.0	ENE	13.4*	NE	17	10	11	10	5.2	
ORLANDO	32	1012.3	1016.8	28.3	17.8	23.1	-0.6	32.8	13+	9.4	21	4	0	17.2	74	73	- 26	63	7	1	0	0	4.1	N	9.4*	SE	29+	10	15	6	5.0	
PENSACOLA U	4			25.0	15.0	19.9	-1.3	30.0	12	7.2	21	0	0			54	- 45	54	1	0	0	0	4.6		9.4	NE	15					77
TALLAHASSEE	18	1016.0	1018.8	27.2	11.7	19.4	-1.1	31.7	12	3.3	16	0	0	12.8	69	T	- 60	T	0	0	0	0	4.1	ENE	3.4*	NNW	14	21	8	2	2.5	
TAMPA	6	1015.2	1016.9	29.4	17.8	23.6	-0.1	32.2	13+	10.0	21	2	0	17.2	71	6	- 73	3	4	1	0	0	5.6	NNE	13.9*	E	28	13	14	4	4.4	77
WEST PALM BEACH	5	1013.8	1014.9	29.4	21.1	25.1	-0.3	32.2	13+	11.7	22+	2	0	19.4	72	166	- 46	55	12	4	0	0	5.3	ENE	15.6*	E	29	7	16	8	5.8	
GEORGIA																																
ATHENS	245	990.6	1020.0	24.4	8.9	16.5	-1.2	28.9	31	1.1	28+	0	0	8.3	63	5	- 70	5	1	0	0	0	2.4	N	12.5*	NNW	14	21	8	2	2.4	
ATLANTA	297	978.5	1020.5	23.3	8.9	16.2	-1.3	29.4	31	1.7	28+	0	0	7.2	60	2	- 64	2	1	0	0	0	4.0	NW	11.2*	NW	14	22	7	2	2.3	88
AUGUSTA	44	1012.4	1019.2	26.7	7.2	16.7	-1.4	31.7	31	- 2.2	28	0	1	8.9	67	5	- 60	5	1	0	0	0	2.3	N	11.2*	NW	21	18	10	3	3.0	
COLUMBUS	117	1005.6		26.1	9.4	17.7	-1.1	30.0	31+	4.4	22+	0	0			1	- 51	1	1	0	0	0	3.9		10.3*	NW	19	23	4	4	2.4	
MACON	109	1005.7	1019.5	26.1	9.4	17.8	-1.4	30.6	31	2.8	27	0	0	8.3	60	0	- 58	0	0	0	0	0	2.9	NE	12.5	W	19	24	5	2	2.0	90
ROME	194	997.0		23.9	5.6	14.6	-2.2	29.4	1	- 4.4	27	0	5			54	- 18	54	3	0	0	0						17	9	5	3.3	
SAVANNAH	15	1016.7	1019.3	25.6	11.7	18.4	-1.0	30.0	31+	4.4	21	0	0	12.2	72	2	- 60	2	2	0	0	0	3.9	NNE	2.1	N	14	20	7	4	2.8	81
THOMASVILLE U	86			26.7	12.8	19.7	-1.0	30.6	31+	4.4	27	0	0			2	- 56	2	1	0	0	0										
HAWAII																																
HILO	9	1012.2	1014.3	28.3	20.0	24.2	0.6	32.8	19	17.8	5+	1	0	20.6	82	583	303	221	26	3	0	0	3.7	WSW	12.5*	ENE	28	3	6	22	8.0	27
HONOLULU	2	1013.2	1013.7	29.4	22.8	26.2	0.6	32.8	6	19.4	16	1	0	19.4	70	61	13	33	13	1	0	0	5.1	ENE	17.9	SE	31	4	14	13	6.6	79
LIHUE	35	1008.8	1014.4	28.9	21.7	25.3	0.6	30.6	29+	17.8	18+	0	0	20.6	76	114	- 4	42	21	3	0	0	5.3	NNE	12.5	NE	25	4	14	13	6.7	65
IDAHO																																
BOISE	865	921.4	1018.3	16.1	2.8	9.5	-1.9	26.7	5	- 5.0	9	0	9	1.1	61	45	21	17	6	0	T	0	3.7	SE	13.4	NW	28	13	6	12	5.2	68
IDAHO FALLS 42NW R	1460			13.3	- 2.8	5.3	-1.6	23.9	5	- 7.8	31+	0	26			22	10	13	3				4.1	NW	16.5A	NW	28					
IDAHO FALLS 46W R	1504	849.6		13.3	- 2.2	5.7	-0.9	23.9	16+	-10.0	30	0	24			24	7	11	3	0	94	76	4.1	SW	16.1A	SW	6					
LEWISTON	431	966.5		15.6	3.9	9.7	-1.3	26.7	15	- 3.9	29	0	6			15	- 15	5	8	0	0	0						7	8	16	6.5	
POCATELLO	1355	864.5	1019.1	14.4	0.6	7.4	-2.2	25.6	16+	- 7.2	30	0	14	- 0.6	63	52	25	33	7	0	300	178	4.7	SW	7.0	N	28	10	7	14	5.7	61
ILLINOIS																																
CAIRO U	96	1007.0		22.2	10.6	16.4	-0.3	29.4	12	2.8	27	0	0			32	- 43	21	5	1	0	0	3.7	SW	1.6	N	14	13	10	8	4.8	70
CHICAGO O HARE	201	992.8	1017.8	17.8	6.1	12.0		26.7	10+	- 3.9	27	0	5	7.2	75	85		38	11	2	T	0	4.6	SSW	11.6*	SSW	11	11	6	14	5.5	
CHICAGO MIDWAY	186	994.9	1018.0	18.3	8.9	13.4	1.1	27.8	9	0.0	27	0	1	7.2	69	89	24	36	10	3	T	0	5.4	S	17.9	NW	13	13	3	15	5.5	54
MOLINE	177	995.4	1018.0	18.9	7.2	13.0	0.8	27.8	9	- 0.6	27+	0	4	7.8	74	115	57	33	11	5	0	0	4.1	SW	14.8	NW	12	10	8	13	5.6	62
PEORIA	199	996.5	1019.2	17.8	6.7	12.1	-0.6	26.1	12	0.0	26	0	1	7.8	78	45	- 17	18	9	4	0	0	4.6	S	13.4	W	25	12	6	13	5.5	54
ROCKFORD	222	990.3	1017.8	17.2	6.1	11.7	0.7	26.7	9	- 1.1	27+	0	3	7.2	76	154	87	42	11	6	T	0	4.6	SSW	16.5*	WSW	11	8	10	13	5.8	
SPRINGFIELD	179	995.7	1019.3	19.4	8.3	13.8	0.5	29.4	12	- 0.6	26	0	1	7.8	72	51	- 30	14	7	4	0	0	5.7	S	15.2	W	25	11	5	15	5.6	54
INDIANA																																
EVANSVILLE	116	1004.1	1020.1	22.8	6.7	14.9	-0.3	30.0	12	- 2.8	27	0	3	8.3	69	14	- 58	8	6	2	0	0	3.4	NW	12.1	W	25	13	9	9	4.9	68
FORT WAYNE	241	987.6	1019.2	17.8	6.7	12.2	0.4	26.1	10	- 2.8	27	0	3	7.8	76	48	- 19	22	9	2	0	0	4.6	S	13.9	W	25	10	9	12	5.7	53

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
INDIANAPOLIS	242	989.3	1019.6	19.4	7.8	13.4	0.2	27.2	12	- 2.2	27	0	1	8.3	75	32	- 32	10	8	3	0	0	4.0	S	17.0*	WNW	25	8	8	15	5.9	55
SOUTH BEND	234	989.7	1018.1	17.2	7.2	12.3	0.7	26.7	10+	- 1.1	27	0	1	7.2	76	46	- 30	15	12	4	T	0	4.8	SSW	12.5*	W	19	9	8	14	5.9	
IOWA																																
BURLINGTON	212	992.7	1018.8	18.9	7.2	13.1	0.3	27.2	12	- 1.1	26	0	1	7.2	72	93	19	27	8	5	0	0	4.9	SSW	14.3	W	25	12	9	10	4.9	71
DES MOINES	289	986.8	1018.3	18.9	6.7	12.8	0.3	27.2	17+	- 2.2	20	0	2	6.7	71	76	20	48	6	3	0	0	4.2	S	17.0	SW	12	16	6	9	4.2	73
DUBUQUE	325	992.0		16.1	5.6	11.0	0.5	24.4	17	- 1.7	26	0	2			99	43	29	11	5	T	0						12	7	12	5.5	
SIOUX CITY	334	974.6	1016.2	20.0	5.6	12.7	1.2	31.7	17	- 3.3	26+	0	5	4.4	63	36	- 1	30	5	1	0	0	4.1	SE	15.2	S	27	16	5	10	4.5	71
WATERLOO	265	984.9	1017.3	18.3	6.1	12.1	1.1	27.2	17	- 2.2	26+	0	2	7.2	75	126	71	67	6	3	0	0	4.2	S	12.5*	S	10	12	12	7	4.6	
KANSAS																																
CONCORDIA U	419	969.6		21.1	7.8	14.5	0.2	29.4	17	2.8	24+	0	0	6.7	65	48	4	26	4	3	0	0	3.2	SW	11.2	SW	27	18	5	8	3.7	76
DODGE CITY	791	928.2	1016.3	22.2	6.1	14.0	-0.3	32.8	7	0.0	23	1	1	2.2	53	45	5	18	5	4	0	0	4.8	SSW	17.4	SW	10	14	10	7	3.9	80
GOODLAND	1111	888.6	1016.0	20.6	1.7	10.9	-0.2	30.6	7	- 4.4	25	0	11	0.0	56	9	- 17	7	4	2	T	T	5.0	WSW	13.0*	NNW	22	17	4	10	4.2	
TOPEKA	267	981.8	1017.9	21.1	6.7	13.9	-0.5	27.8	12	- 3.9	26	0	2	8.3	73	124	59	65	5	3	0	0	5.5	S	20.1	SE	22	16	5	10	4.4	72
WICHITA	403	968.2	1017.0	21.7	8.9	15.3	-0.3	28.3	12+	0.0	26	0	1	8.3	67	124	68	63	6	7	0	0	5.3	S	23.2	S	28	17	7	7	3.8	76
KENTUCKY																																
COVINGTON	265	988.0	1020.3	20.6	8.3	14.5	1.2	29.4	12	- 1.1	27	0	1	6.1	62	48	- 7	28	7	0	0	0	4.3	S	10.3*	SSW	28+	13	6	12	5.2	
LEXINGTON	298	984.3	1020.5	21.1	7.8	14.5	0.1	28.9	12	- 2.2	27	0	2	7.2	66	22	- 40	9	5	1	0	0	4.2	S	11.2*	W	30+	17	5	9	4.2	
LOUISVILLE	144	1000.6	1020.2	21.1	7.8	14.4	-0.4	28.9	12	- 2.8	27	0	2	8.3	71	51	- 11	38	6	1	0	0	3.5	SE	10.7	N	14	12	10	9	4.4	66
LOUISIANA																																
ALEXANDRIA	28	1014.9	1019.6	25.6	9.4	17.4		29.4	13+	0.6	27	0	0	12.2	77	17		16	4	1	0	0	2.1	NNE				17	5	9	4.0	
BATON ROUGE	20	1016.2	1019.3	26.7	12.2	19.4	-1.5	30.6	13+	5.6	21	0	0	13.3	73	22	- 54	11	3	1	0	0	3.2	SE				18	8	5	3.2	
BURWOOD R	2		1018.6	25.6	20.0	22.8	-1.1	29.4	2+	16.1	22+	0	0	17.8	75	55	- 35	46	5	1	0	0		NE								
LAKE CHARLES	4	1017.4	1018.9	26.7	14.4	20.4	-0.9	31.1	1	8.9	27+	0	0	13.9	70	49	- 39	37	4	2	0	0	1.8	N	8.9*	N	14	15	8	8	4.1	
NEW ORLEANS U	3	1024.0		26.1	17.2	21.6	-1.1	30.6	2+	12.2	27+	0	0	14.4	67	123	30	99	4	3	0	0	3.1		9.4	E	15+	19	8	4	3.2	76
NEW ORLEANS	1	1016.7	1018.9	26.1	13.9	20.0	-1.9	30.6	2+	7.2	23	0	0	14.4	75	13	- 68	7	5	2	0	0	3.0	ENE	10.3*	NE	15	19	8	4	3.1	
SHREVEPORT	77	1010.8	1020.1	25.6	12.8	19.3	-1.0	31.1	11	5.0	20	0	0	12.8	70	89	10	61	4	3	0	0	3.9	SSE				16	6	9	4.1	77
MAINE																																
CARIBOU	190	992.2	1015.8	12.2	3.3	7.8	2.2	23.3	7	- 4.4	23	0	11	4.4	83	42	- 46	15	12	0	104	102	4.4	N	13.0*	NW	10	4	9	18	7.3	
PORTLAND	19	1015.3	1016.4	16.1	4.4	10.4	1.3	24.4	18	- 7.2	28	0	5	6.7	80	43	- 33	15	8	1	20	0	4.0	N	12.5	N	20	7	7	17	6.7	46
MARYLAND																																
BALTIMORE	45	1013.8	1018.8	21.7	6.7	14.3	0.7	28.9	13	- 0.6	29+	0	2	8.3	71	94	8	61	6	0	0	0	4.0	W	13.4	NW	15	15	8	8	4.1	60
BALTIMORE U	4			21.7	11.1	16.4	1.2	28.9	13	5.0	28	0	0			74	- 11	46	4													
FREDERICK	90			20.6	5.6	13.1	-0.7	27.2	13+	- 2.2	28	0	2			44	- 40	18	7	0	0	0										
MASSACHUSETTS																																
BLUE HILL OBS R	192	992.1	1015.5	17.2	7.8	12.7		25.6	9	- 1.7	16	0	3		80	66	- 21	29	12		T	T	7.0	WNW	18.8	WNW	30					47
BOSTON	5	1011.3	1016.0	18.3	10.0	14.1	1.3	27.2	10+	1.7	28	0	0	8.3	72	62	- 8	38	12	0	T	T	6.2	W	14.8	ENE	22	7	8	16	6.7	49
NANTUCKET	13	1015.3	1015.9	16.7	10.0	13.3	1.7	22.2	10+	1.1	16	0	0	10.6	84	156	65	64	12	0	0	0	6.8	WSW	20.1	N	21	9	6	16	6.5	46
PITTSFIELD	357			17.2	4.4	10.8	2.2	23.9	19+	- 3.9	28	0	8			33	- 42	13	6		0	0										
WORCESTER	301	979.6	1016.5	16.1	6.1	11.3	1.0	23.9	18+	- 2.8	16	0	7	6.7	75	68	- 12	38	9	0	23	T	4.1	W	12.1*	ENE	22	9	8	14	6.2	
MICHIGAN																																
ALPENA	210	990.9		15.0	2.8	9.1	0.2	26.7	6	- 3.9	27+	0	11			29	- 32	8	9	1	0	0	3.1	SW*	11.6	W	31	6	9	16	6.6	46
DETROIT	189	991.4	1018.3	18.3	8.9	13.5	1.9	26.7	10	2.8	16+	0	0	7.8	72	38	- 20	13	8	4	0	0	4.6	SW	14.8	SW	5	9	8	14	5.8	56
DETROIT M WAYNE CO	192	993.7	1018.0	17.8	7.2	12.6		27.2	10	0.6	15	0	0	7.2	74	29		12	7	3	T	0	3.9	WSW				10	7	14	5.8	
DETROIT WILLOW RUN	217	989.4	1018.1	18.3	5.6	11.8	0.4	27.2	10	- 0.6	15	0	2	7.2	78	20	- 35	7	8	3	0	0	4.2	SW	13.0*	WSW	25	9	9	13	5.8	
ESCANABA U	181	993.6		12.8	5.6	9.2	0.8	20.0	11	- 0.6	27	0	1	5.6	79	49	- 3	10	9	0	T	T	5.0		3.2	NE	19	5	11	15	6.7	39
FLINT	233	990.3	1018.4	17.2	6.1	11.7	1.4	27.2	10	- 0.6	15	0	1	7.2	76	39	- 24	25	7	3	0	0	4.2	SW	9.8*	W	31	8	9	14	6.4	
GRAND RAPIDS	208	992.4	1018.0	16.7	6.7	11.6	1.4	26.7	10	- 1.1	27	0	2	6.7	74	41	- 23	16	8	2	0	0	4.0	SSW	12.1	SW	11	8	8	15	6.1	50
LANSING	260	985.5	1017.9	16.7	5.6	11.2	0.9	26.1	10	- 1.1	16+	0	4	6.7	77	40	- 22	16	8	3	T	0	5.7	S	16.5	W	31	8	8	15	6.1	51
MARQUETTE U	206	988.3		13.9	5.0	9.4	0.8	27.8	6	0.0	21+	0	2			46	- 12	21	11	0	T	T	4.3	W*	16.5	SW	11	6	3	22	7.4	50
MUSKEGON	191	994.2	1017.6	15.6	7.8	11.7	1.6	23.9	10	1.1	24+	0	0	6.1	70	66	2	17	11	3	0	0	4.2	SSW	13.0*	SSW	11	9	9	13	5.9	
SAULT STE MARIE	220	993.3	1016.3	13.3	3.9	8.7	1.8	24.4	6	- 2.2	27+	0	3	4.4	80	48	- 27	9	13	1	5	T	4.3	E	12.5*	WNW	13	7	5	19	7.0	38
MINNESOTA																																
DULUTH	435	973.4	1015.3	13.3	2.2	7.6	0.9	28.3	6	- 8.3	2	0	14	1.1	67	45	- 11	30	10	0	T	T	4.0	ESE	18.3	W	17	9	4	18	6.7	50
INTERNATIONAL FALLS	359	972.8	1014.6	12.2	1.1	6.6	1.1	27.8	17	- 5.6	2	0	15	1.7	73	23	- 23	7	9	0	T	0	3.9	SE	12.5*	WNW	17	8	2	21	6.9	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
MINNESOTA																																
MINNEAPOLIS	251	981.3	1015.8	17.2	5.0	11.2	1.0	29.4	6	- 1.7	26	0	4	5.0	67	77	35	40	6	3	0	0	4.2	SE	16.1	SW	11	12	4	15	5.5	62
ROCHESTER	395	968.0	1016.3	16.1	4.4	10.3	0.8	26.1	17	- 3.9	20	0	7	5.6	75	56	13	33	6	4	5	T	5.5	S				12	8	11	5.1	
ST CLOUD	315	977.0	1015.6	15.6	2.8	9.2	1.1	28.3	6	- 5.0	26	0	11		71	54	12	31	6	2	T	0						12	5	14	5.6	
MISSISSIPPI																																
JACKSON	93	1007.8	1019.9	25.6	10.0	17.8	-1.3	30.6	12+	1.1	27	0	0	10.6	67	21	- 34	18	2	1	0	0	2.2	SE	13.0	NE	14	17	6	8	3.8	70
MERIDIAN	89	1006.7	1020.3	26.1	8.3	17.0	-1.2	30.6	31+	- 1.1	27	0	2	10.6	75	11	- 50	11	2	1	0	0	2.3	N	8.0*	NW	20+	19	6	6	3.3	
VICKSBURG U	71	984.7		24.4	12.8	18.6	-1.2	30.6	11	6.1	27	0	0			30	- 26	30	2	2	0	0	3.4		11.6	NE	14	14	9	8	4.0	77
MISSOURI																																
COLUMBIA	237	989.4	1018.3	20.6	8.3	14.6	0.1	28.3	12	0.6	26	0	0	8.3	71	73	- 9	37	7	5	0	0	4.6	SSE	15.2	NW	12	18	4	9	3.8	64
KANSAS CITY	226	982.9	1018.2	21.1	8.9	15.0	-0.3	28.3	12	1.7	26+	0	0	6.1	59	82	8	42	8	6	0	0	3.9	SSW	15.2	S	12	18	3	10	4.0	71
ST JOSEPH	247	982.5		20.6	7.2	13.7	-0.8	27.2	17+	- 1.7	26	0	2			124	59	71	6	3	0	0	5.0	S	20.6*	NW	29	16	4	11	4.2	
ST LOUIS	163	998.8	1019.6	21.1	9.4	15.1	-0.1	29.4	12	1.7	26	0	0	6.7	61	68	- 10	32	7	3	0	0	4.3	S	11.6	S	29+	12	8	11	4.9	62
ST LOUIS RFC	142			20.6	11.1	16.0	0.1	30.0	12	5.0	26	0	0			58	- 16	23	7		0	0										
SPRINGFIELD	386	971.6	1019.5	22.2	7.8	14.9	0.3	29.4	12	- 1.7	26	0	3	8.3	70	53	- 33	22	6	2	0	0	5.4	SSE	16.1	NW	13	18	6	7	3.9	77
MONTANA																																
BILLINGS	1087	890.6	1015.5	14.4	2.8	8.5	-1.1	26.1	16+	- 6.7	29	0	10	- 1.1	56	37	8	15	7	0	287	127	6.1	WSW	14.3	W	24	10	11	10	5.6	64
GLASGOW	694	939.4		13.9	0.6	7.1	-0.4	29.4	16	- 7.8	30+	0	14	- 1.1	62	20	- 1	12	6	0	127	76						4	12	15	6.7	
GREAT FALLS	1116	887.6	1015.1	14.4	1.7	8.1	-0.8	26.1	15	-10.0	29	0	11	- 3.3	51	8	- 10	4	4	0	66	25	6.2	SW	17.0	SW	23	6	12	13	6.3	63
HAVRE	787	924.5		15.6	- 0.6	7.4	-0.8	29.4	15	- 8.9	29	0	18			19	1	7	6	0	43	25	4.6	SW#	13.0	SW	9+	8	9	14	5.8	80
HELENA	1187	874.0	1017.8	13.9	- 1.1	6.5	-0.8	26.1	16+	-10.6	29	0	17	- 3.3	55	4	- 13	2	5	0	33	25	3.8	WNW	16.5	NW	23	11	6	14	5.8	64
KALISPELL	904	913.0		11.1	- 2.2	4.4	-2.4	24.4	5	- 7.8	29	0	25			23	- 11	9	10	0	46	25	2.4					4	6	21	7.6	
MILES CITY	801			15.0	1.7	8.3	-0.7	27.8	15	- 7.2	30	0	10	- 0.6	59	2	- 22	2	2	0	T	T	4.7	SSE	17.0*	NW	17	11	8	12	5.7	
MISSOULA	972	903.8	1020.3	12.2	- 1.7	5.1	-2.1	25.0	5	- 7.2	29	0	24	0.0	76	34	7	8	9	0	117	25	2.5	NW	13.4	W	16	8	4	19	6.9	53
NEBRASKA																																
GRAND ISLAND	561	949.6		20.6	4.4	12.5	0.3	31.7	17	- 2.8	26	0	4	2.8	60	5	- 28	3	4	1	0	0	4.5	S				17	0	14	4.6	
LINCOLN U	351			20.0	7.2	13.7	0.1	30.6	5	- 0.6	26	0	2			68	26	57	5	4	0	0	4.7	S#	20.6	SE	10	16	4	11	4.3	68
NORFOLK	471	959.6		19.4	3.3	11.6	0.4	31.7	17	- 6.1	26	0	6			15	- 19	12	4	1	0	0						17	2	12	4.4	
NORTH PLATTE	847	915.9	1015.6	19.4	0.0	9.6	-1.3	29.4	16+	- 8.3	23	0	14	0.6	62	4	- 23	3	3	1	0	0	4.7	N	17.0	N	29	12	6	13	5.1	66
OMAHA	298	976.4	1016.9	20.0	6.7	13.2	0.2	28.3	17+	- 1.1	20	0	3	6.7	69	127	83	74	7	3	0	0	4.9	SSE	15.6	S	27	18	3	10	4.2	68
OMAHA N OMAHA AP	403	968.3		18.9	6.1	12.6	0.5	28.3	17	- 1.1	20	0	3			100	56	81	7	2	0	0						16	4	11	4.3	
SCOTTSBLUFF	1204	878.9	1016.3	17.8	0.6	9.2	-1.1	27.8	6	- 7.2	25	0	12	- 1.1	57	6	- 20	3	4	0	46	25	4.9	WNW	9.7*	NNE	29	11	10	10	4.9	
VALENTINE	789	923.9		18.3	1.1	9.7	0.0	31.1	6	- 6.1	25	0	13	1.1	61	9	- 21	4	5	2	T	T	4.6	W#	15.6	N	17	14	6	11	4.4	72
NEVADA																																
ELKO	1547	845.9	1018.0	16.7	- 2.2	7.3	-1.2	26.7	15+	- 6.7	8+	0	24	- 5.0	47	14	- 6	10	5	0	76	51	2.4	SW	9.4*	WSW	6	15	1	15	5.2	
ELY	1907	810.0		15.6	- 3.3	6.3	-1.9	25.0	15	-12.8	22	0	25	- 5.6	50	13	- 8	6	7	0	168	51	4.0	S	14.3	SW	21	14	4	13	5.3	71
LAS VEGAS	659	948.2	1013.4	25.6	10.0	17.8	-1.8	33.9	6	1.1	30	3	0	- 3.3	28	7	- 2	5	3	0	0	0	4.5	WSW	17.0*	NNW	28	16	8	7	3.8	78
RENO	1342	863.5	1018.0	21.1	- 1.7	9.8	-0.6	29.4	15+	-10.6	31	0	22	- 3.3	44	4	- 10	4	1	0	T	0	3.0	NE	21.9	S	27	14	5	12	5.1	90
WINNEMUCCA	1310	869.6		18.9	- 0.6	9.0	-0.2	28.9	15+	- 7.2	31	0	20	- 2.8	47	18	- 3	10	6	0	10	T	3.7	W	16.1	W	27	11	7	13	5.5	62
NEW HAMPSHIRE																																
CONCORD	103	1006.0	1016.9	17.8	4.4	11.3	2.4	27.2	10	- 7.2	28	0	6	5.6	71	52	- 19	33	6	1	T	0	2.2	NW	11.2	NW	16	8	8	15	6.3	47
MT WASHINGTON OBS	1909	805.7		5.6	- 2.2	1.6	1.8	12.8	8	-14.4	16	0	19		82	64	- 86	20	7	0	145	25	13.0	W	39.3Y	W	17	8	6	17	6.7	45
NEW JERSEY																																
ATLANTIC CITY	18	1015.9	1018.0	20.0	8.9	14.5	0.8	27.2	7	- 0.6	28	0	1	9.4	75	120	43	62	8	1	0	0	5.3	W	14.8*	NNE	22	13	9	9	4.8	62
ATLANTIC CITY U	3			19.4	12.2	15.8	1.3	25.6	9	6.1	28	0	0			89	7	39	8				5.4		4.8*	NNE	21					
NEWARK	3	1016.4	1017.7	20.6	10.0	15.3	2.2	27.2	13+	2.2	28	0	0	8.3	68	52	- 29	23	8	1	0	0	4.1	SW	13.0*	ENE	22	15	9	7	4.5	
TRENTON U	17	1010.1		19.4	9.4	14.4	1.1	26.1	10+	2.2	28	0	0			46	- 21	16	8	0	0	0	3.7	N#	12.1	W	15	12	13	6	4.4	70
NEW MEXICO																																
ALBUQUERQUE	1618	849.6	1014.6	22.2	5.6	13.8	-0.8	27.8	1	0.6	24+	0	0	- 2.8	37	12	- 4	7	5	3	T	0	3.7	ESE	20.1	E	2	20	9	2	2.7	91
CLAYTON	1515	846.6		20.6	3.3	12.2	-0.7	27.8	17+	- 2.8	23	0	5			34	1	22	5	0	0	T						21	7	3	2.5	
RATON	1944	806.6		20.0	- 0.6	9.7	-0.9	25.6	17+	- 4.4	30	0	21			14	- 13	7	6	2	33	25						20	7	4	3.1	
ROSWELL	1101	894.0		26.1	3.9	15.1	-1.0	33.3	7	- 2.2	3	3	7	0.0	41	11	- 14	8	2	2	0	0	3.6		17.9	N	1	23	4	4	2.5	
SILVER CITY	1638	834.7		22.8	6.1	14.6		27.8	1	2.2	4	0	0			4		3	3	1	0	0						22	5	4	2.3	
NEW YORK																																
ALBANY	84	1013.4	1017.3	18.3	6.1	12.2	1.8	26.1	10	- 2.8	28	0	7	7.2	74	31	- 25	14	5	0	0	0	3.5	S	13.0	W	31	8	12	11	5.9	62

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
NEW YORK																																
BINGHAMTON	485	958.0	1017.5	17.2	6.1	11.8	2.7	25.0	13+	- 1.7	5+	0	4	6.1	72	31	- 46	15	10	0	T	0	4.1	SSW	11.6	W	31	8	12	11	5.6	61
BUFFALO	215	990.0	1018.2	17.8	7.2	12.5	1.8	25.6	11	- 1.1	23	0	1	6.7	71	61	- 2	33	10	1	T	0	4.3	S	14.3	W	31+	10	6	15	6.0	61
NEW YORK U	40	1005.6		21.1	11.1	16.2	1.9	28.9	9+	4.4	28	0	0	8.9	66	56	- 21	24	8		0	0	4.0	SW	14.3	NE	22	17	7	7	4.1	65
NEW YORK	6	1015.5	1017.4	19.4	11.7	15.6	1.3	26.7	10+	5.0	28	0	0	8.9	68	52	- 22	24	8	1	0	0	6.2	SW	16.1	WNW	15	13	10	8	4.9	
ROCHESTER	166	998.3	1017.8	18.9	7.2	13.1	2.6	27.8	13+	- 1.7	23	0	3	6.7	71	40	- 23	13	9	0	0	0	5.2	SSW	15.6	W	13	10	6	15	5.8	56
SCHENECTADY	66			17.8	6.1	12.0	1.8	25.6	18	- 2.2	28	0	5			31	- 37	16	5	0	0	0						18	9	4	3.3	
SYRACUSE	129	995.2	1017.5	18.9	7.8	13.2	1.9	27.2	13+	- 1.1	23	0	1	6.7	70	91	14	29	10	0	T	0	4.3	WSW	15.2	NW	31	12	4	15	5.5	58
NORTH CAROLINA																																
ASHEVILLE U	671	940.8		20.6	5.6	12.9	-0.9	26.7	13+	- 2.2	27	0	2			60	- 5	42	5	1	T	0	3.0		14.3	NW	14	19	5	7	3.4	71
CAPE HATTERAS R	2	1016.7	1017.4	21.7	12.2	16.9	-2.2	26.1	2+	2.2	28	0	0	13.3	79	59	- 44	47	8	1	0	0	4.6	N	13.9	NNW	15	14	8	9	4.3	69
CHARLOTTE	221	990.8	1019.2	24.4	8.9	16.7	0.3	29.4	31+	- 0.6	28	0	1	7.8	60	19	- 57	11	4	1	0	0	2.4	N	9.4	NW	19+	22	5	4	2.6	84
GREENSBORO	272	987.2	1019.4	22.8	6.7	14.6	-0.4	29.4	31	- 1.1	28+	0	2	7.2	67	26	- 40	12	5	0	0	0	3.0	WSW	14.3	N	21	21	6	4	2.7	84
RALEIGH	132	1004.8	1018.7	23.3	7.2	15.1	-1.1	29.4	31	- 2.2	28	0	2	8.9	71	29	- 42	9	5	0	0	0	2.9	N	1.2*	NNW	4	22	2	7	3.1	76
WILMINGTON	9	1015.6	1018.5	23.3	10.6	16.9	-1.6	29.4	31	2.2	27	0	0	12.2	78	30	- 40	22	5	0	0	0	3.6	N	12.5	N	14	18	7	6	3.5	78
WINSTON SALEM	295	983.9	1019.5	22.8	8.3	15.5	0.1	28.3	31+	0.6	28	0	0	6.1	58	36	- 44	17	7	0	0	0	3.5	NW	12.5*	NNE	21	23	4	4	2.2	
NORTH DAKOTA																																
BISMARCK	502	953.2	1014.3	16.1	1.7	8.8	1.2	29.4	16	- 5.6	30	0	13	- 0.6	59	13	- 13	12	3	0	T	T	4.3	WNW	16.1	W	22+	9	7	15	6.2	62
DEVILS LAKE U	448	960.2		13.9	1.1	7.4	0.8	30.0	6	- 6.1	26	0	17			7	- 25	6	4	0	T	T	3.9	S#	12.1	SW	22	8	8	15	6.4	59
FARGO	274	980.0	1015.0	15.0	2.8	8.8	1.0	31.7	6	- 5.0	26	0	9	2.2	69	43	11	26	6	1	T	0	5.5	SSE	17.0	SE	22	9	5	17	6.4	55
WILLISTON U	572	945.7		15.0	1.1	8.2	0.7	27.2	16+	- 4.4	30+	0	15			2	- 18	2	1	0	13	T	3.3	W#	13.4	W	22	9	7	15	6.1	61
OHIO																																
AKRON	369	981.0	1019.5	18.3	7.2	12.8	1.1	26.7	12	1.7	27+	0	0	7.2	72	48	- 12	12	11	2	T	0	5.0	S	13.4*	WSW	26	11	7	13	5.5	
CINCINNATI OBS	232			21.1	7.8	14.5	0.4	29.4	12	- 1.1	27	0	1			41	- 15	21	7	1	0	0	2.4	S	9.8	S	26					68
CINCINNATI	169	997.0		21.7	8.9	15.3	0.3	30.0	12	0.6	27	0	0			46	- 9	27	6		0	0										
CLEVELAND	237	990.4	1018.5	19.4	8.3	13.8	1.3	27.2	11+	2.2	23+	0	0	6.7	65	55	- 7	22	10	2	T	0	4.8	S	11.6	S	25+	8	7	16	6.1	52
COLUMBUS	247	991.0	1020.0	20.0	6.1	12.9	0.4	27.8	12+	- 3.9	27	0	2	7.8	76	30	- 25	9	8	2	0	0	3.3	S	11.6	S	19	10	8	13	5.6	50
COLUMBUS U	221			20.0	8.3	14.3	0.9	28.3	12	1.1	27	0	0			32	- 19	9	6	2	0	0										
DAYTON	305	983.2	1019.9	18.9	7.2	13.3	0.4	26.7	12	- 1.1	27	0	3	6.7	69	40	- 18	24	7	2	0	0	4.1	SSW	16.1	S	15	8	13	10	5.7	60
MANSFIELD	395			18.3	7.2	12.8		26.7	12	- 0.6	27+	0	2			31		17	8	1	0	0						10	7	14	5.8	
SANDUSKY U	184	996.2		19.4	8.9	14.3	1.5	28.9	10	2.2	27	0	0			42	- 11	17	7	3	0	0	4.1		15.2	NW	13*	12	7	12	5.1	65
TOLEDO	206	993.3	1019.0	18.3	6.1	12.2	0.7	26.7	10	- 1.1	27	0	2	7.8	79	22	- 37	8	8	2	0	0	4.1	SW	11.6	S	25	9	5	17	6.0	53
YOUNGSTOWN	359	976.0	1019.0	18.3	6.7	12.4	0.2	26.1	13+	0.0	23	0	1	6.7	72	73	3	16	12	2	0	0	4.2	SSW	9.8*	S	31+	9	8	14	5.9	
OKLAHOMA																																
OKLAHOMA CITY	390	974.5	1018.2	23.3	11.1	17.2	-0.1	30.0	12	2.8	26	0	0	11.1	68	73	5	66	7	3	0	0	5.8	SSE	15.6	SW	10	20	5	6	3.4	72
TULSA	198	993.6	1018.3	23.9	10.0	17.0	-0.4	30.6	12	- 0.6	26	0	1	10.6	72	22	- 57	11	5	2	0	0	4.9	SSE	12.1*	SSE	8	18	6	7	3.8	68
OREGON																																
ASTORIA	2	1017.3	1017.9	15.6	5.6	10.6	-1.7	25.0	2	0.0	30	0	1	8.3	86	186	4	39	17	2	0	0	4.2	SSE	16.5*	WNW	26	6	9	16	6.9	
BURNS U	1265	874.4		16.1	- 0.6	7.7	-0.7	28.3	4	- 5.6	24	0	18	- 1.1	58	23	3	12	7	0	33	25						12	6	13	5.4	
EUGENE	110	1005.1		17.8	5.0	11.3	-0.2	28.3	15	- 1.1	8	0	2			109	19	41	13	1	0	0	4.0		17.9*	S	26	5	8	18	6.9	
MEACHAM	1234			11.1	1.7	6.3	-1.2	25.0	15	- 4.4	29+	0	16			95	20	25	12	0	414	178						9	5	17	6.4	
MEDFORD	396	971.2	1019.3	19.4	3.9	11.6	-0.9	32.8	2	- 3.3	30+	1	6	5.6	74	60	12	35	11	0	0	0	1.5	N	11.6*	WNW	27	8	10	13	6.3	
PENDLETON	452	964.1	1018.4	16.7	3.3	10.0	-2.0	27.8	5	- 3.3	29	0	6	2.8	65	18	- 12	5	7	0	T	0	4.3	SE	16.5*	W	23+	10	7	14	5.8	
PORTLAND	6	1012.5	1018.3	17.2	6.7	11.8	-0.8	26.7	14	0.0	20	0	1	7.2	77	73	- 7	27	15	0	0	0	3.4	SE	19.2	W	23	5	8	18	7.2	42
PORTLAND U	9			17.2	8.3	12.7	-0.7	27.8	14	3.3	29	0	0			103	13	41	14		0	0										
ROSEBURG	154	1000.0		18.3	4.4	11.6	-0.8	31.1	2	- 0.6	20	0	3			136	38	54	11	0	198	127	5.9	S				9	9	13	6.1	
SALEM	59	1010.8	1018.4	18.3	5.0	11.4	-1.1	28.3	14+	- 1.1	31	0	3	6.7	77	107	33	47	11	1	0	0	1.6	N#	10.3	S	26	6	7	18	7.0	46
SEXTON SUMMIT R	1169	885.5		13.9	5.0	9.6	-0.6	26.7	14+	- 2.2	21	0	8			81	- 13	23	13	0	0	0	2.6	S	11.2*	S	12	6	8	17	6.9	
PACIFIC AREA																																
CANTON ISLAND	2	1009.1	1009.6	31.7	25.6	28.7	-0.3	32.8	17+	23.9	25	12	0	21.7	69	25	15	17	8	0	0	0	5.1	ENE	10.7*	NE	25	15	8	8	4.9	
ENIWETOK	4	1009.1		30.0	25.0	27.4		32.2	2	22.2	27+	1	0	23.9	80	302		73	23	1	0	0	5.4									
JOHNSTON	2	1010.5		28.3	23.3	25.8		30.0	29	18.9	2	0	0	22.8	80	323		242	20	1	0	0	6.5		15.2	E	7	0	11	20	7.8	67
KOROR R	29	1005.8	1008.4	30.0	23.9	27.0	-0.3	32.2	20+	22.2	25+	2	0	23.9	86	471	153	102	23	5	0	0	3.5	W	11.6	SSW	26	0	1	30	9.7	33
KWAJALEIN	2	1008.1	1009.0	30.6	25.0	27.6		31.7	14	22.8	21+	0	0	23.9	79	261		51	21	2	0	0	3.9	ENE	15.6*	ESE	21	5	5	21	7.9	
MAJURO	3	1009.0	1009.3	30.0	25.0	27.7		31.1	13+	22.8	15+	0	0	23.3	77	292		95	22	1	0	0	3.1	E	11.6	E	1	0	6	25	9.0	62
PONAPE R	37	1004.1	1008.5	31.1	22.8	26.7	-0.3	32.8	25+	21.7	31+	7	0	23.3	86	357	- 59	94	24	3	0	0	1.5	ESE	8.9	SW	22	0	3	28	9.3	50
TAGUAC GUAM R	110			29.4	22.8	26.0	-0.1	31.7	1	20.6	4	0	0			487	159	77	28	7	0	0	3.2	E#	13.4	SW	26					
TRUK MOEN ISLAND	2	1007.6	1007.9	30.0	23.9	27.1	0.0	32.2	15	22.2	11	1	0	24.4	86	454	174	128	23	3	0	0	2.9	S	15.2	NW	29	0	2	29	9.5	68

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 25 mm or more	Precipitation: No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0.3	No. of days: Partly cloudy, 4.7	No. of days: Cloudy, 8.10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s.							%
PACIFIC AREA																																
WAKE ISLAND	3	1010.2	1010.5	30.0	23.9	26.9	-0.6	31.7	8	20.0	28	0	0	22.8	79	208	55	58	18	3	0	0	6.3	ENE	16.5*	ENE	28	2	7	22	8.2	
YAP R	17	1004.8	1006.8	30.0	23.3	26.6	-1.2	31.7	31+	22.2	26+	0	0	24.4	88	537	212	135	26	4	0	0	3.6	SW	15.2	W	25	0	0	31	9.9	31
PENNSYLVANIA																																
ALLENTOWN	115	1003.9	1018.4	20.0	6.1	13.1	1.3	27.2	13	- 2.8	28	0	4	7.8	74	20	- 55	10	6	0	0	0	3.7	WSW	13.9*	WSW	31	15	7	9	4.6	
ERIE	223	991.6	1018.0	18.3	8.9	13.4	2.2	26.7	13	2.8	28	0	0	7.2	68	65	- 11	33	9	3	T	T	6.3	S	13.0*	WNW	31+	11	5	15	5.9	
HARRISBURG	102	1003.6	1018.6	21.1	6.7	14.0	1.1	27.8	13	- 1.1	28	0	2	8.3	73	23	- 55	11	5	0	0	0	3.4	W	10.3	W	31+	10	14	7	4.9	66
PHILADELPHIA	2	1013.2	1017.8	19.4	6.7	13.2	-0.5	26.1	10+	- 1.1	28	0	2	7.8	72	66	4	17	11	3	T	0	3.6	WSW	13.0*	W	13	8	12	11	5.7	63
PITTSBURGH	351	988.9	1019.7	19.4	6.7	12.9	1.3	26.7	13+	1.1	28+	0	0	7.2	74	65	2	23	10		0	0										48
PITTSBURGH U	228			20.0	8.9	14.4	1.2	27.2	13	3.9	28+	0	0			46	- 20	19	7	0	0	0	3.8	WSW	11.6	E	22+	16	6	9	4.7	75
READING U	81	1005.9	1017.9	21.1	8.9	14.8	1.4	27.8	9	1.1	28	0	0			41	- 29	19	7	0	0	0	4.1		14.8	NW	15	15	9	7	4.2	66
SCRANTON	287	983.9	1018.7	18.3	5.0	11.6	0.4	26.1	10	- 3.9	28	0	6	6.1	74	40	- 46	12	9	0	0	0	3.5	WSW	10.7	SW	31	12	9	10	5.1	57
WILLIAMSPORT	161	999.6	1019.0	19.4	6.1	12.7	1.1	26.7	10	- 1.1	28	0	2	7.2	75	47	- 38	18	8	1	0	0	2.6	W	10.3*	W	31	7	12	12	6.2	
RHODE ISLAND																																
BLOCK ISLAND	34	1009.9	1013.9	16.7	10.6	13.7	1.2	21.7	9+	2.8	28	0	0			81	2	49	9	0	0	0						10	8	13	5.6	
PROVIDENCE	17	1010.2	1016.5	18.3	8.3	13.2	1.7	26.1	9	- 0.6	28+	0	3	8.3	75	61	- 11	34	10	0	T	0	4.8	N	13.0*	NNE	23	8	10	13	6.0	50
SOUTH CAROLINA																																
CHARLESTON	12	1016.4	1018.6	24.4	10.6	17.6	-1.6	30.6	31	1.7	28	0	0	11.7	74	43	- 26	33	5	0	0	0	3.4	NNE	21.0Y	W	3	20	8	3	3.1	81
CHARLESTON U	3			23.3	15.0	19.2	-0.9	30.0	31	7.8	21	0	0			94	32	75	4		0	0	4.5		14.8	N	21					
COLUMBIA	66	1006.2	1019.2	26.1	7.2	16.6	-1.7	30.6	31+	- 2.2	28	0	2	8.9	66	21	- 41	21	2	0	0	0	2.2	NNW	1.2*	NNW	14	21	6	4	2.7	79
FLORENCE	45	1012.6	1018.4	24.4	9.4	16.9	-0.9	30.6	31	1.1	28	0	0	9.4	68	9	- 49	4	4	0	0	0	3.1	N	7.6*	NNW	14	21	4	6	3.0	
GREENVILLE	308	981.9	1019.4	24.4	9.4	16.8	-0.1	28.3	13+	0.6	27	0	0	7.8	60	23	- 65	20	2	1	0	0	3.2	NE	10.7	N	21	22	4	5	2.4	84
SPARTANBURG	244	989.5	1019.6	23.9	8.9	16.3	-0.5	28.3	2	1.1	28	0	0	7.2	59	14	- 72	11	2	0	0	0	3.0	N	1.2*	NNW	14	21	7	3	2.5	
SOUTH DAKOTA																																
HURON	391	967.4	1015.1	18.3	2.2	10.2	0.2	32.8	6	- 5.6	26	1	12	3.3	70	118	86	107	5	2	T	T	4.8	SSE	18.8	SW	11	12	6	13	5.3	69
RAPID CITY	965	900.8	1015.5	17.2	2.8	9.9	0.4	30.0	16	- 6.7	30	0	10	- 2.2	50	24	- 5	21	4	0	94	102	5.0	NNW	6.1	N	17	13	7	11	5.1	57
SIOUX FALLS	433	963.4	1015.4	18.3	3.3	10.7	0.7	28.9	6	- 5.6	26	0	7	2.8	63	68	30	31	6	2	0	0	4.5	SW	13.4*	SSW	11	15	6	10	4.5	
TENNESSEE																																
BRISTOL	459	965.6	1020.4	21.1	6.1	13.6	-0.8	27.8	1	- 3.3	27	0	2	7.2	72	103	42	49	6	2	T	T	2.5	NE	13.0*	NW	19	18	5	8	3.5	
CHATTANOOGA	204	993.0	1020.9	23.3	7.2	15.4	-0.6	28.9	12	- 2.2	27	0	2	7.2	67	41	- 41	40	4	0	0	0	2.5	N	12.1	NW	14	17	6	8	4.2	74
KNOXVILLE	290	985.4	1021.1	21.7	7.2	14.4	-1.3	27.8	13+	- 1.7	27	0	1	7.8	69	87	20	62	7	1	0	0	2.4	NE	13.0	W	19	15	7	9	4.2	51
MEMPHIS	80	1005.5	1020.4	23.9	10.0	16.9	-0.6	29.4	30+	1.7	27	0	0	8.9	64	33	- 51	28	5	2	0	0	3.8	SSE	12.1	N	14	13	12	6	4.2	73
MEMPHIS U	83			23.3	12.8	17.8	-0.6	29.4	12	5.0	20	0	0			19	- 62	2	4		0	0										
NASHVILLE	176	1000.1	1020.4	23.3	7.8	15.4	-1.1	30.6	12	- 2.8	27	0	1	7.8	64	28	- 36	12	7	2	0	0	3.1	S	11.6	NW	14	13	10	8	4.5	68
OAK RIDGE	276	987.2		22.2	6.7	14.2	-0.7	28.3	12+	- 3.3	27	0	2			74	12	40	5	1	0	0	1.2		10.7Y		25+	18	5	8	3.7	
TEXAS																																
ABILENE	536	955.8	1016.8	25.0	11.7	18.4	-0.6	30.6	7	5.0	20	0	0	11.1	66	42	- 23	29	4	4	0	0	4.3	S	16.5	N	2	16	9	6	3.6	79
AMARILLO	1099	890.0	1015.3	23.9	6.7	15.3	0.4	32.2	21+	1.1	23	2	0	1.7	47	23	- 26	16	6	2	0	0	6.1	S	15.6	W	10	20	6	5	3.1	80
AUSTIN	182	996.3	1018.3	26.7	15.0	21.0	-0.6	32.8	1	7.8	17	1	0	13.9	69	23	- 52	11	6	4	0	0	3.4	SSE	13.0	NW	2	13	6	12	4.8	58
BROWNSVILLE	5	1014.2	1016.8	29.4	18.3	23.8	-0.6	32.2	1	12.2	4	1	0	18.3	75	9	- 65	8	2	1	0	0	4.7	SE	13.0	SE	29	12	16	3	4.3	69
CORPUS CHRISTI	13	1016.2	1017.6	28.9	17.2	23.0	-0.6	32.8	1	8.9	16	2	0	16.7	70	5	- 17	4	2	1	0	0	2.8	NNE	17.9	W	28	22	7	2	2.1	88
DALLAS	147	999.7	1018.3	25.0	13.9	19.6	-0.8	28.9	30+	5.0	20	0	0	12.2	67	1	- 61	1	2	0	0	0	4.4	SE	13.9	S	28	13	9	9	4.7	79
DEL RIO U	292			27.2	16.1	21.7	-0.3	32.2	1	10.0	17+	1	0			87	19	51	5	1	0	0	4.8	SSE	7.9	N	2	13	7	11	4.5	64
EL PASO	1194	887.0	1014.4	26.7	8.3	17.5	-0.9	32.2	1	2.8	4	1	0	0.0	34	82	26	36	5	4	0	0										
FORT WORTH	166	997.3	1018.3	25.6	13.9	19.6	-0.7	29.4	12	5.6	20	0	0	12.8	68	72	3	41	4	2	0	0	5.7	S	6.1*	NNW	2	13	9	9	4.4	
GALVESTON U	2			25.0	20.0	22.6	-0.6	28.9	1	11.7	3	0	0			6	- 85	5	2		0	0	4.9		13.9	NE	26+					86
GALVESTON	2	1016.4	1018.7	25.6	19.4	22.7	-0.6	30.0	1	12.2	3	0	0	15.0	64	8	- 90	6	2	1	0	0	4.6	SE				17	7	7	3.7	
HOUSTON U	12			27.8	17.8	22.6	0.1	33.3	1	10.6	16+	1	0			6	- 80	5	4		0	0										
HOUSTON	15	1016.1	1018.9	27.8	15.0	21.4	-0.5	33.3	1	7.2	16	1	0	15.6	75	1	- 93	1	2	3	0	0	4.1	SE				14	7	10	4.5	82
LAREDO	152	1001.1	1016.5	30.6	17.8	24.2	-0.5	35.0	1	10.6	4	10	0	13.9	59	16	- 24	13	3	1	0	0	5.0	SE	13.0*	NNW	2	14	9	8	4.3	
LUBBOCK	988	905.3	1016.6	25.0	7.8	16.2	0.0	31.7	22+	1.7	3	0	0	6.7	57	14	- 39	8	5	3	0	0	6.8	S	15.6*	NE	25	18	8	5	3.0	
MIDLAND	870	916.8	1015.3	26.7	11.1	18.7	-0.6	33.3	7	5.6	3	3	0	6.7	53	1	- 44	1	2	0	0	0	4.7	SSE	14.3*	NNE	2	21	1	9	3.5	
PORT ARTHUR	5	1017.0	1018.5	27.8	13.9	20.7	-0.7	31.7	13+	6.7	16	0	0	15.0	76	77	3	73	4	1	0	0	3.8	ESE	15.2	N	14	16	6	9	4.2	61
SAN ANGELO	580	949.5	1016.5	26.1	11.7	18.9	-1.1	32.2	1	3.9	20	1	0	11.1	66	49	- 8	35	3	3	0	0	3.6	SSW	15.6*	N	2	14	9	8	4.2	
SAN ANTONIO	241	992.7	1017.7	27.8	15.6	21.7	-0.1	32.8	9+	7.8	17	3	0	14.4	69	86	33	42	4	2	0	0	4.1	SE	2.1	N	2	14	6	11	4.7	64
VICTORIA	32	1013.3		28.3	15.6	21.8	-1.3	32.8	1	7.8	16	1	0			21	- 52	11	5	0	0	0	4.3		17.0Y	N	2	15	8	8	4.2	
WACO	152	998.4	1018.3	26.7	14.4	20.3	-0.4	30.6	13	6.7	20	0	0	13.9	70	33	- 29	27	4	2	0	0	5.5	SSE	17.0*	NW	2	14	4	13	4.8	
WICHITA FALLS	303	980.2	1017.1	25.6	11.1	18.3	-0.2	30.6	12	3.9	26	0	0	10.6	63	38	- 33	33	3	2	0	0	5.5	S	15.6*	NNE	2	16	10	5	3.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

OCTOBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
UTAH																																
MILFORD	1533	845.2		17.8	0.0	8.9	-1.2	27.2	6+	- 7.2	23	0	18			14	- 9	8	3	0	107	25						16	5	10	4.2	
SALT LAKE CITY	1286	868.9	1017.9	17.2	2.8	10.0	-1.6	27.8	6	- 5.0	29	0	8	0.6	59	41	7	23	7	1	211	76	4.5	S	9.2	N	29	11	8	12	5.5	61
WENDOVER	1291	872.0		16.1	5.0	10.3		27.2	6	- 1.7	29+	0	3			17		8	6	0	51	51						14	3	14	5.0	
VERMONT																																
BURLINGTON	101	1001.8	1016.6	15.6	3.9	9.8	0.8	23.3	13+	- 6.7	23	0	9	5.6	77	64	- 10	21	8	0	T	0	3.5	SSW	13.0	SW	1	9	7	15	6.5	55
VIRGINIA																																
LYNCHBURG	289	994.2		21.7	7.8	14.7	0.3	27.2	13	0.6	28	0	0			116	43	84	5	1	0	0	3.2		15.2	NE	21	21	4	6	3.1	79
NORFOLK	8	1017.2	1018.6	21.7	10.6	15.9	-0.3	27.8	31	2.8	28	0	0	11.7	79	105	42	49	8	1	0	0	4.4	SW	17.4	E	20	18	7	6	4.1	69
RICHMOND	49	1013.0	1019.4	22.2	6.7	14.5	-0.4	28.9	30	- 1.1	28	0	2	8.9	75	223	157	165	6	1	0	0	3.0	N	2.1	N	14	16	7	8	4.3	67
ROANOKE	358	977.1	1019.8	22.2	7.2	14.6	0.2	27.8	13	- 1.7	28	0	1	7.2	66	85	- 1	58	8	1	0	0	3.1	NW	10.7*	W	26	22	3	6	2.9	
WASHINGTON																																
OLYMPIA	58	1011.2	1018.5	15.0	3.3	9.1	-1.4	27.8	14	- 2.8	20	0	10	6.7	86	126	12	31	16	1	0	0	3.1	SW	17.0*	SSW	26	3	9	19	7.5	
SEATTLE TACOMA	122	1003.4	1017.7	15.0	6.1	10.4	-0.5	26.7	14	0.6	31	0	0	6.7	80	83	- 1	15	17	0	0	0	4.5	S	16.1*	SSE	26	4	7	20	7.4	
SEATTLE	4		1017.8											7.2	80								2.8	SSE								
SEATTLE U	4			15.0	8.9	11.8	-0.7	24.4	13	3.3	29	0	0			72	- 6	17	17		0	0			19.7	S	26					36
SPOKANE	718	948.5	1018.1	13.3	1.1	7.3	-1.9	26.1	15	- 4.4	29	0	16	0.0	68	27	- 7	10	9	0	T	0	3.6	SSW	15.6	SW	23	6	10	15	6.7	52
STAMPEDE PASS R	1206	879.8		7.2	1.1	4.1	-1.7	20.6	15	- 3.3	22	0	18			248	11	40	20	0	1217	483						6	5	20	7.5	
TATOOSH ISLAND	31	1014.2	1017.2	11.7	7.2	9.6	-1.4	17.2	13	5.0	21	0	0	7.2	85	240	18	52	19	0	0	0	7.2	ENE	20.1	S	9	6	9	16	6.9	52
WALLA WALLA U	289	981.4		16.7	6.1	11.4	-1.5	27.2	5	- 1.7	21	0	2			34	- 4	15	10	0	0	0	2.3	E#	12.1	E	25	10	6	15	5.8	65
YAKIMA	323	979.0	1018.5	17.2	0.6	8.8	-1.5	25.6	4	- 6.1	20	0	15	1.1	65	3	- 8	7	3	0	0	0	3.8	WNW	17.4*	WNW	5	6	9	16	6.2	
WEST INDIES																																
SAN JUAN P.R. U	14			30.0	23.3	26.8	0.1	33.3	21	21.1	31	7	0			193	59	52	17	2	0	0										
SAN JUAN P.R.	5	1010.1	1013.0	30.6	22.2	26.6	0.1	33.3	20+	20.0	26	7	0	2.2	82	215	49	42	17	5	0	0	2.5	ENE	10.7	SE	29	2	12	17	7.1	48
SWAN ISLAND	9	1008.5		30.0	24.4	27.3	-0.3	32.2	1	21.7	30	4	0			233	- 2	84	20	3	0	0						1	11	19	8.5	
WEST VIRGINIA																																
CHARLESTON	286	984.6	1020.4	20.6	6.7	13.4	-0.7	26.7	13+	- 0.6	27	0	2	7.8	75	155	84	63	9	1	71	76	1.9	SW	11.2*	WSW	19	9	11	11	5.8	
HUNTINGTON U	173			21.7	7.8	14.6	-0.5	28.9	12	- 0.6	27	0	1			85	23	28	10		0	0										
PARKERSBURG U	189			21.1	7.2	14.3	0.4	28.3	12+	0.6	27	0	0																			
WISCONSIN																																
GREEN BAY	210	993.8	1016.9	15.6	5.0	10.1	0.9	25.0	6	- 4.4	27	0	4	6.1	77	85	39	33	10	3	0	0	5.2	SW	22.8	SW	11	8	9	14	6.3	42
LA CROSSE	199	991.4		17.2	6.1	11.6	1.1	26.7	17	- 1.7	20	0	6	6.1	73	63	14	24	10	4	0	0	4.9	S	15.6*	SSW	11	10	9	12	5.0	
MADISON	262	981.3	1017.1	16.1	4.4	10.3	0.1	24.4	12	- 3.3	27+	0	6	6.7	81	95	47	31	11	5	3	T	4.2	S	14.8	SW	11	10	6	15	6.0	52
MILWAUKEE	204	992.9	1018.3	15.6	5.6	10.7	-0.1	26.1	9	- 4.4	27	0	3	7.2	78	76	20	18	11	2	T	0	5.3	SSW	15.2	SW	11	11	8	12	5.5	51
WYOMING																																
CASPER	1621	837.5	1015.9	13.9	0.6	7.1	-0.9	23.3	15+	-10.6	29	0	15	- 2.8	56	28	0	14	6	0	135	102	7.0	SW	23.2*	WSW	22	10	7	14	5.7	
CHEYENNE	1869	813.8	1016.8	14.4	- 0.6	7.1	-0.9	25.0	16	- 8.3	30+	0	16	- 5.0	49	14	- 14	6	5	0	91	76	6.1	WNW	22.4	W	11+	12	9	10	4.9	68
LANDER	1696	836.1		12.8	- 1.1	5.8	-1.2	23.3	5	-13.3	30	0	17	- 3.3	57	76	37	43	6	0	980	432	2.6	SW#	17.0	S	21	11	9	11	5.1	79
SHERIDAN	1202	884.5	1012.4	13.9	- 0.6	6.5	-1.6	26.7	16	-15.0	30	0	17	- 1.1	64	72	40	22	10	0	360	178	3.4	NW	17.9	NW	24	8	11	12	5.6	59

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

A Maximum hourly average.

\+ And also on an earlier date or dates.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

B Number of days maximum 21.1 C. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

Data in this table is obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

OCTOBER 1961

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	93	96	136
Huntsville	109	170	
Mobile	42	42	28
Montgomery	91	93	69
ALASKA			
Anchorage	1112	2140	1939
Annette	591	1208	1397
Barrow	1523	4186	4126
Barter Island	1631	4159	
Bethel	1195	2592	2327
Cold Bay	806	2222	2150
Cordova	853	2199	1983
Fairbanks	1353	2448	2220
Juneau	760	1872	1850
King Salmon	1143	2448	2065
Kotzebue	1362	2815	2775
McGrath	1346	2662	2352
Nome	1198	2869	2745
St. Paul	835	2606	2513
Shemya	701	2352	
Yakutat	801	2025	1959
ARIZONA			
Flagstaff	628	1029	956
Phoenix (U)	39	39	13
Phoenix	51	51	22
Prescott	288	340	295
Tucson	61	61	24
Winslow	312	345	294
Yuma	18	18	0
ARKANSAS			
Ft. Smith	125	139	140
Little Rock	120	130	120
Texarkana	90	94	69
CALIFORNIA			
Bakersfield	107	107	41
Bishop	264	303	308
Blue Canyon	396	593	551
Burbank	63	68	70
Eureka (U)	377	1142	1114
Fresno	126	126	86
Long Beach	23	23	
Los Angeles (U)	32	34	58
Los Angeles	53	54	196
Mt. Shasta (R)	389	638	682
Oakland	152	260	394
Point Arguello (R)	220	765	
Red Bluff	112	114	59
Sacramento (U)	117	124	92
Sacramento	122	128	120
Sandberg (R)	291	390	237
San Diego	33	33	94
San Francisco (U)	156	541	604
San Francisco	161	332	555
San Jose (U)	110	130	141
Santa Maria	182	385	460
COLORADO			
Alamosa	680	1144	1142
Colorado Springs	503	858	575
Denver	459	743	561
Grand Junction	367	563	369
Pueblo	383	571	457
CONNECTICUT			
Bridgeport	247	292	400
Hartford	322	413	499
Middletown	305	378	
New Haven	263	305	474
DELAWARE			
Wilmington	250	286	329
DIST. OF COLUMBIA			
Washington (U)	149	164	263
Washington	181	197	274
FLORIDA			
Apalachicola (U)	25	25	17
Daytona Beach	8	8	0
Fort Myers	0	0	0
Jacksonville	34	34	16
Key West	0	0	0
Lakeland (U)	6	6	0
Miami	0	0	0
Miami Beach (Coop)	0	0	0
Orlando	5	5	0
Pensacola (U)	32	32	18
Tallahassee	61	61	31
Tampa	5	5	0
West Palm Beach	1	1	0
GEORGIA			
Athens	126	135	105
Atlanta	150	162	118
Augusta	123	129	59
Columbus	84	84	78
Macon	79	82	63
Rome	212	228	148
Savannah	66	69	38
Thomasville (U)	41	41	25
IDAHO			
Boise	485	724	524
Idaho Falls 46W (R)	695	1127	1027
IDAHO (Cont'd.)			
Idaho Falls 42NW(R)	721	1189	1059
Lewiston	476	645	539
Pocatello	602	946	670
ILLINOIS			
Cairo (U)	156	172	189
Chicago (Midway)	293	375	440
Chicago (O'Hare)	360	512	
Moline	309	431	467
Peoria	347	474	436
Rockford	372	517	
Springfield	275	354	404
INDIANA			
Evansville	208	253	274
Ft. Wayne	339	421	501
Indianapolis	276	339	385
South Bend	342	433	500
IOWA			
Burlington	308	433	419
Des Moines	311	478	471
Dubuque	404	589	629
Sioux City	320	515	558
Waterloo	343	530	589
KANSAS			
Concordia (U)	225	370	332
Dodge City	247	374	302
Goodland	404	649	508
Topeka	257	378	338
Wichita	184	272	251
KENTUCKY			
Lexington	226	258	315
Louisville	232	262	283
LOUISIANA			
Alexandria	123	129	
Baton Rouge	57	57	27
Lake Charles	32	32	22
New Orleans (U)	11	11	5
New Orleans	26	26	7
Shreveport	71	72	53
MAINE			
Caribou	580	933	1282
Greenville (U)	586	929	
Portland	433	650	785
MARYLAND			
Baltimore (U)	153	165	236
Baltimore	230	260	328
Frederick	288	352	323
MASSACHUSETTS			
Blue Hill Obs. (R)	315	416	
Boston	246	306	399
Nantucket	275	358	539
Pittsfield	414	601	844
Worcester	382	523	
MICHIGAN			
Alpena	514	829	880
Detroit (City AP)	276	346	485
Detroit (M. Wayne Co.)	323	406	
Detroit (Willow Run)	361	449	499
Escanaba (U)	501	778	959
Flint	369	517	646
Grand Rapids	374	481	649
Lansing	392	535	
Marquette (U)	494	814	935
Muskegon	363	461	688
S. Ste. Marie	532	877	1172
MINNESOTA			
Duluth	597	1030	1096
Internat. Falls	647	1121	1260
Minneapolis	396	645	641
Rochester	438	697	743
St. Cloud	506	801	880
MISSISSIPPI			
Jackson	109	114	69
Meridian	131	138	90
Vicksburg (U)	88	94	51
MISSOURI			
Columbia	232	319	330
Kansas City	196	340	284
St. Joseph	262	383	319
St. Louis (RFC)	178	211	240
St. Louis	211	263	278
Springfield	214	287	318
MONTANA			
Billings	543	927	719
Butte	813	1504	1483
Glasgow	623	1044	862
Great Falls	566	1028	871
Havre	602	1045	892
Helena	652	1136	1039
Kalispell	768	1261	1095
Miles City	552	941	729
Missoula	734	1198	994
NEBRASKA			
Grand Island	327	530	459
Lincoln (U)	268	455	396
Norfolk	372	609	561
North Platte	479	757	563
Omaha	283	461	424
Omaha N. Omaha AP	322	532	
Scottsbluff	501	793	593
Valentine	474	775	627
NEVADA			
Elko	606	949	809
Ely	661	1054	855
Las Vegas	136	136	61
Reno	470	753	696
Tonopah	447	601	523
Winnemucca	512	812	705
NEW HAMPSHIRE			
Concord	389	521	787
Mt. Washington Obs.(R)	924	2395	
NEW JERSEY			
Atlantic City	226	255	
Atlantic City (U)	155	165	259
Newark	200	221	348
Trenton (U)	226	260	340
NEW MEXICO			
Albuquerque	248	291	228
Clayton	338	512	386
Raton	474	707	632
Roswell	194	215	164
Silver City	203	220	
NEW YORK			
Albany	335	443	606
Binghamton	362	554	789
Buffalo	323	446	601
New York (U)	168	188	302
New York (LaGuardia)	181	203	278
Rochester	301	432	616
Schenectady	351	452	612
Syracuse	292	389	542
NORTH CAROLINA			
Asheville (U)	295	346	312
Cape Hatteras (R)	124	124	63
Charlotte	133	141	154
Greensboro	215	240	231
Raleigh	197	216	165
Wilmington	119	119	73
Winston-Salem	177	206	210
NORTH DAKOTA			
Bismarck	524	923	891
Devils Lake (U)	601	1006	1038
Fargo	527	839	867
Grand Forks CAA	546	854	
Pembina	560	898	
Williston (U)	563	975	937
OHIO			
Akron	311	402	478
Cincinnati (U)	190	212	264
Cincinnati	190	212	378
Cincinnati Obs.	225	265	319
Cleveland	258	354	425
Columbus	297	361	414
Columbus (U)	237	280	358
Dayton	282	342	403
Mansfield	309	411	
Sandusky (U)	242	291	393
Toledo	344	470	501
Youngstown	330	444	457
OKLAHOMA			
Oklahoma City	106	146	168
Tulsa	129	166	170
OREGON			
Astoria	428	897	733
Burns (U)	586	955	818
Eugene	391	633	592
Meacham	668	1194	1089
Medford	369	523	403
Pendleton	458	625	457
Portland (U)	316	439	392
Portland	359	543	482
Roseburg	376	570	510
Salem	382	616	483
Sexton Summit (R)	513	981	782
PENNSYLVANIA			
Allentown	293	350	464
Erie	276	375	544
Harrisburg	244	287	377
Philadelphia (U)	163	177	252
Philadelphia	283	328	316
Pittsburgh (U)	226	277	354
Pittsburgh	302	392	491
Reading (U)	209	241	347
Scranton	370	460	522
Williamsport	308	386	494
RHODE ISLAND			
Block Island	257	307	445
RHODE ISLAND (Cont'd.)			
Providence	284	339	514
SOUTH CAROLINA			
Charleston (U)	44	45	34
Charleston	92	95	52
Columbia	123	130	82
Florence	112	119	94
Greenville	116	125	141
Spartanburg	138	156	143
SOUTH DAKOTA			
Huron	452	730	647
Pierre	412	683	
Rapid City	469	798	749
Sioux Falls	422	663	664
TENNESSEE			
Bristol	263	292	297
Chattanooga	178	187	193
Knoxville	222	237	212
Memphis (U)	118	128	111
Memphis	148	156	143
Nashville	186	209	176
Oak Ridge	237	259	269
TEXAS			
Abilene	71	91	103
Amarillo	189	252	277
Austin	21	21	30
Brownsville	1	1	0
Corpus Christi	4	4	0
Dallas	49	50	53
Del Rio (U)	M	10	
El Paso	82	82	70
Ft. Worth	50	50	58
Galveston (U)	7	7	0
Galveston	4	4	0
Houston (U)	M	6	0
Houston	16	16	7
Laredo	0	0	0
Lubbock	150	174	196
Midland	66	78	MU
Port Arthur	33	33	20
San Angelo	66	74	72
San Antonio	19	19	25
Victoria	15	15	0
Waco	37	37	44
Wichita Falls	62	66	120
UTAH			
Milford	519	742	576
Salt Lake City	461	668	469
Wendover	436	596	
VERMONT			
Burlington	468	653	759
VIRGINIA			
Lynchburg	208	247	285
Norfolk	155	162	161
Richmond	218	245	243
Roanoke	211	247	283
WASHINGTON			
Olympia	508	855	815
Seattle (U)	365	517	557
Seattle	401	579	643
Seattle-Tacoma	437	665	749
Spokane	604	873	758
Stampede Pass (R)	785	1709	1626
Tatoosh Island (R)	479	1313	1304
Walla Walla	419	553	
Walla Walla (U)	385	504	401
Yakima	524	735	603
WEST VIRGINIA			
Charleston	275	335	310
Huntington (U)	213	248	245
Parkersburg (U)	234	284	328
WISCONSIN			
Green Bay	455	681	788
La Crosse	375	564	630
Madison	444	661	653
Milwaukee	422	583	614
WYOMING			
Casper	622	1055	845
Cheyenne	622	1052	890
Lander	691	1130	906
Sheridan	651	1099	885

STORM SUMMARY

OCTOBER 1961

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
Alabama *																													
Alaska *																													
Arizona *																													
Arkansas N																													
California	1	1	0	3	4					2	0	5	0																
Colorado *																													
Connecticut *																													
Delaware N																													
Florida																										0	1	0	0
Georgia *																													
Hawaii										0	1	3	1													1	0	4	3
Idaho						0	0	2	3	0	0	4	2					3		5	4	0	0	5	3				
Illinois N																													
Indiana *																													
Iowa	2	1	0	0	5	0	0	5	5	0	0	5	5	0	0	5	0												
Kansas	7	1			4										2														
Kentucky *																													
Louisiana *																													
Maine																		0	0	4	3								
Maryland N																													
Massachusetts																										0	0	5	0
Michigan *																													
Minnesota *																													
Mississippi *																													
Missouri										0	0	4	0	0	1	0	0												
Montana *																													
Nebraska	1	1	0	0	3																								
Nevada *																													
New Hampshire *																													
New Jersey 1/										0	0	5	0																
New Mexico																						0	0	4	0				
New York N																													
North Carolina *																													
North Dakota *																													
Ohio *																													
Oklahoma	1	1	0	0	4	0	0	?	?	0	1	3	0	0	2	4	0												
Oregon N																													
Pennsylvania *																													
Puerto Rico N																													
Rhode Island *																													
South Carolina *																													
South Dakota														1		2													
Tennessee N																													
Texas						0	0	0	5	0	0	4	0													0	0	0	4
Utah												4	3					1											
Vermont *																													
U.S.Virgin Is. N																													
Virginia	1	1	0	0	?					0	0	?	?	0	0	4	0	0	0	?	0					0	0	5	?
Washington												4				5													
West Virginia																		1		6	C								
Wisconsin														0	0	5	0												
Wyoming																		5	4	4	0								

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
C Crop Damage.
° Includes crop damage.
N No report received by printing deadline.
1/ Windstorms contributed to tidal flooding.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

OCTOBER 1961

Record flooding occurred on Stranger Creek in the Kansas River Basin in Kansas during October. There was some heavy flooding in adjacent areas of the lower Delaware River Basin and moderate flooding along the Marais des Cygnes. Flooding in the upper James Basin in Virginia was comparable to the floods of 1942, 1954, and 1955; and in the lower James it exceeded all flooding since the fall of 1944. Flooding reported elsewhere was mostly light to moderate.

Heavy rains on October 2 from tropical storm Frances in the south and east coastal sections of Puerto Rico produced flooding on the Rio Grande de Loiza at 2:30 p. m. on the 2d. Early on the 3d, the Yauco, Guajanilla, Tallaboa, Canas, Portugues, and Inaboa Rivers on the coastal plains were in flood. There was considerable damage to roads and bridges. Floods occurred in Ponce, Puerto Rico, on the 16th from heavy rains falling in the area. In about one and one-half hours, 1. 83 inches of precipitation had fallen. Radar reports indicated that heavier rains were occurring in the mountains. Evacuation from rivers in the Ponce area and from the southeast coastal sections from Humacao to Salinas was ordered.

ATLANTIC SLOPE DRAINAGE

Heavy rains over the James Basin in Virginia on the 20th-21st resulted in some flooding in all subbasins, with the degree of flooding ranging from minor to serious. In comparison, the flooding in the upper James was comparable to floods of 1942, 1954, and 1955; in the James below Lynchburg, the flooding was comparable to or exceeded all flooding since the fall of 1944. Rainfall totals ranged from 3 inches in the upper basin to around 12 inches at Palmyra and 11 inches at State Farm in the lower basin. Rain in the Richmond area was heaviest over the Upham Brook Basin in Richmond's west end, where serious flash flooding occurred on the evening, night, and early morning hours of the 20th-21st. Composite rainfall total for this small 16 square mile basin was 6-1/2 inches for the flood period, and up to 8 inches at specific locations in the basin. At least 13 homes were evacuated where water level came up into first floors, untold basements and foundations of homes and business concerns were flooded; roads and culverts inundated, etc. Considering the seriousness of flooding, damages were relatively light and confined mostly to the cost of evacuating equipment and property, and cleanup of homes, buildings, and roads after flooding subsided. Rail traffic was suspended from Richmond to Lynchburg, and highway traffic was interrupted at many points throughout the basin. Damage costs extended to the close down of businesses and facilities during flooding. Cattle were evacuated throughout low-lying pasturelands and some reseeding of small grain crops was required after floods subsided.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Heavy rains (2 inches) during the period from the 28th to the 30th caused light flooding on the Pecatonica River at Martintown, Wis. A 2. 5-inch rain in the Turkey River Basin on the 12th caused near bankfull stage at Garber, Iowa. The crest of 16. 2 feet was within 0. 8 foot of flood stage.

Portions of the Illinois River continued above flood stage to the 10th, as a result of heavy rains in September when crests as much as 4 to 5 feet above flood stage were recorded. Considerable damage resulted to crops.

Missouri Basin.--Record flooding occurred on Stranger Creek in the Kansas River Basin with a crest near Tonganoxie, Kans., of 28. 72 feet on the 13th, exceeding the previous record stage of 27. 64 feet on July 12, 1951. Heavy flooding was also present in adjacent areas of the lower Delaware River Basin. Moderate overflows were recorded along most of the main channel of the Marais des Cygnes River during the middle of the month, and considerable flooding developed briefly on the Marmaton River at Ft. Scott at the end of the month. Light overflows were present on the 11th and 30th at Frankfort, Kans., on the Black Vermillion River. The heaviest 24-hour rainfall was on Stranger Creek and the lower Delaware Basin where amounts of 3 to more than 5 inches were recorded on the evening of the 12th. A bucket survey by staff engineers of the Kansas Water Resources Board indicated as much as 11 inches fell in the area around Springdale about 10 miles north of Tonganoxie, Kans. Flooding on the Marais des Cygnes River followed rains of 2 to 3 inches which were centered on the upper portion of the basin on the 10th. Heavy losses, approaching $300 thousand, were reported to have been incurred principally on Stranger Creek. Little additional damage occurred on the Marais des Cygnes and Marmaton Rivers as a consequence of the recent major flooding in September.

There were three periods of flooding in the lower Missouri Basin in Missouri. A complex frontal system moved slowly eastward through the Central Plains and lower Missouri Valley on September 29-30. This produced moderate to heavy rains in Missouri, causing flooding from September 30 through October 3. A similar situation on the 10th and 11th produced prolonged rains in Missouri, with flooding from the 11th to the 15th. On the 29th and 30th, a polar front moved southeastward through Missouri, causing general rains and flooding from the 30th into November. All of the flooding which occurred during October was over agricultural land which had been subjected to heavier floods in September. Consequently, there was little additional damage from the October floods.

Arkansas Basin.--There were two periods of flooding in the Arkansas Basin during October. The first was due to moderate to heavy rains from the 9th to the 13th and the second, to rains increasing in intensity from the 28th to the 31st. Flooding was mostly minor and no significant damage occurred. Flooding was confined to the tributaries from the Walnut River in Kansas to the Grand in Oklahoma. There was no flooding along the main stem of the Arkansas.

WEST GULF OF MEXICO DRAINAGE

A slowly moving cold front on the 25th caused showers over most of the upper Nueces, Frio, and Atascosa watersheds in Texas. Amounts of 3 to 4 inches resulted in flash flooding on the extreme upper Nueces and extreme upper Frio watersheds. The heaviest area of showers occurred on the upper Atascosa. At Poteet, 8. 5 inches was recorded in 24 hours with 7 inches recorded in 2 hours during the evening of the 25th. This was the heaviest rainfall in that area since July 1949. A sharp rise to bankfull stages with minor flooding occurred on the Atascosa through the 27th. Only minor damage resulted.

FLOOD STAGE DATA

(All dates in October unless otherwise specified)

River and station	Flood stage	Above flood stages -dates		Crest*	
		From—	To—	Stage	Date
	Ft.			Ft.	
ATLANTIC SLOPE DRAINAGE					
Rivanna: Palmyra, Va.	15	21	23	24.2	21
James: Lick Run, Va.				E22.0	21
Buchanan, Va.	17	21		#17.5	21
Holcombs Rock, Va.	22	21	22	22.1	21
Scottsville, Va.	20	21	22	E20.0	21
Bremo Bluff, Va.	19	21	23	25.7	22
Columbia, Va.	18	21	23	28.5	22
State Farm, Va.	12	21	23		
Cartersville, Va.	20	21	23	23.2	22
Richmond (Westham), Va.	12	21	24	18.0	23
Richmond (City Locks), Va.	9	21	24	16.7	23
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Pecatonica: Martintown, Wis.	11	31	1/	11.9	31
Illinois: Peoria, Ill.	18	Sept. 28	2	18.6	Sept. 29
Havanna, Ill.	14	Sept. 25	10	17.1	Sept. 30
Beardstown, Ill.	14	Sept. 26	10	17.4	1
Missouri Basin					
Platte: Agency, Mo.	20	11	12	20.8	12
Black Vermillion: Frankfort, Kans.	19	10 30	11 30	21.3 21.1	11 30
Delaware: Valley Falls, Kans.	22	30	30	22.0	30
Thompsonville, Kans.				30.3	13
Stranger Creek: Tonganoxie, Kans.	22	12 30	15 30	28.7 2/ 22.9	13 30
Marmaton: Ft. Scott, Kans.	38	31	31	41.6	31
Little Blue: Lake City, Mo.	18	30	1/	21.0	31
Wakenda Creek: Carrollton, Mo.	15	13 30	13 1/	19.3	13
MISSISSIPPI SYSTEM (Cont'd.)					
Missouri Basin (Cont'd.)					
Grand: Chillicothe, Mo.	24	30 11	2 12	28.1 26.25	1 11-12
Sumner, Mo.	26	1 11 30	3 15 31	30.9 30.2 29.2	2 13 31
Brunswick, Mo.	12	2 12	3 14	13.0 14.0	2 13
Blackwater: Blue Lick, Mo.	25	30	1/		
Petite Saline: Boonville, Mo.	16	30	31	16.9	31
Marais des Cygnes: Quenemo, Kans.	28	11	14	32.5 29.5	12 13
Ottawa, Kans.	T21	12	14	24.05	13
Osawatomie, Kans.	28	13	16	32.3	14
LaCygne, Kans.	25	13	17	28.7	16
Trading Post, Kans.	24	14	17	24.3	14
Osage: Schell City, Mo.	25	14	20	28.8	18
Arkansas Basin					
Walnut: Augusta, Kans.	23	11	11	25.6	11
Chikaskia: Blackwell, Okla.	26	13	13	26.1	13
Little Caney: Copan, Okla.	21	14 31	14 Nov. 1	21.4 21.6	14 1
Verdigris: Independence, Kans.	30	31	31	30.1	31
Neosho: Iola, Kans.	15	13	14	15.8	13
Chanute, Kans.	20	13	14	21.25	14
Grand: Commerce, Okla.	15	16	16	15.0	16
WEST GULF OF MEXICO DRAINAGE					
Atascosa: Whitsett, Tex.	20	27	28	22.5	27

* Provisional
\# Highest Stage Observed
1/ Continued at end of month
2/ Highest stage of record
E Estimated
T Tentative

RAWINSONDE DATA

Average monthly values

OCTOBER 1961

Standard pressure surface (mb)	ALBANY, N. Y. (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ALBUQUERQUE, N. MEX. (840 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	86	7.5	89	290	1.4	31	1,619	7.9	48	96	3.3
1,000--	31	148			235	1.9	31	154				
950----	31	570	9.0	73	310	7.2	31	584				
900----	31	1,019	7.8	69	319	9.1	31	1,039				
850----	31	1,489	6.0	67	309	11.7	31	1,520				
800----	31	1,984	4.1	57	299	12.4	31	2,025	9.9	38	207	4.1
750----	31	2,507	2.4	47	295	14.8	31	2,555	7.1	41	249	8.5
700----	31	3,063	- .3	42	290	15.0	31	3,123	3.7	39	259	11.1
650----	31	3,649	- 3.3	39	286	15.2	31	3,715	.1	37	253	14.6
600----	31	4,283	- 6.8	38	282	15.3	31	4,357	- 4.2	34	254	15.7
550----	31	4,951	-11.0	35	273	18.1	31	5,034	- 8.3		253	19.6
500----	31	5,684	-15.6		272	17.7	31	5,772	-13.0		254	22.7
450----	31	6,465	-21.1		253	18.7	31	6,560	-18.5		254	21.8
400----	31	7,332	-27.3		263	17.9	31	7,437	-24.9		259	21.4
350----	31	8,281	-33.9		272	18.3	31	8,394	-32.1		261	20.2
300----	31	9,345	-41.3		270	19.6	31	9,463	-40.5		266	23.9
250----	31	10,562	-49.2		272	22.2	31	10,682	-49.3		269	25.8
200----	31	12,004	-55.4		267	26.0	31	12,119	-56.7		265	34.2
175----	31	12,852	-57.1		261	27.2	31	12,959	-59.9		273	29.9
150----	31	13,822	-59.1		259	29.1	31	13,916	-62.9		275	29.7
125----	30	14,961	-60.0		261	28.8	31	15,031	-66.0		277	27.8
100----	30	16,355	-60.2		258	26.6	31	16,385	-66.5		279	22.2
80-----	30	17,752	-58.3		252	18.8	31	17,742	-63.6		274	13.8
70-----	30	18,596	-57.6		263	14.4	31	18,569	-62.4		277	9.1
60-----	30	19,568	-56.8		282	9.1	31	19,519	-60.5		287	4.1
50-----	30	20,724	-56.5		317	5.6	31	20,662	-58.0		289	1.0
40-----	29	22,135	-56.1		355	4.3	31	22,070	-56.8		89	.8
30-----	29	23,970	-54.5		11	6.2	29	23,899	-54.4		77	3.9
25-----	28	25,144	-53.1		16	8.0	29	25,070	-53.2		73	3.3
20-----	25	26,587	-52.1		9	7.6	27	26,510	-51.5		56	.8
15-----	23	28,479	-50.1		353	8.2	21	28,398	-49.3		92	3.1
10-----	10	31,125	-48.6									

Standard pressure surface (mb)	AMARILLO, TEXAS (893 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ANCHORAGE, ALASKA (1000 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,095	8.3	65	211	5.1	31	30	- 1.7	75	325	1.4
1,000--	31	150					31	29			24	2.1
950----	31	578					31	437	- 2.0	65	6	3.5
900----	31	1,035					31	866	- 3.8	65	357	2.7
850----	31	1,511	13.5	43	242	11.5	31	1,315	- 6.0	66	355	1.[illegible]
800----	31	2,021	11.9	38	251	10.7	31	1,788	- 8.5	65	296	.6
750----	31	2,552	8.7	38	244	13.6	31	2,285	-11.2	63	190	2.7
700----	31	3,126	5.3	34	252	15.3	31	2,812	-14.2	59	245	3.9
650----	31	3,720	1.7	30	251	15.0	31	3,368	-17.1	56	228	7.0
600----	31	4,368	- 2.4		246	14.6	31	3,967	-20.7	55	241	8.[illegible]
550----	31	5,044	- 6.6		248	16.1	31	4,600	-24.8	53	246	9.3
500----	31	5,791	-11.6		257	17.1	31	5,292	-29.2	48	231	14.8
450----	31	6,584	-17.5		260	18.7	31	6,032	-34.2	47	234	17.9
400----	31	7,462	-24.2		264	22.9	31	6,852	-39.8		241	21.8
350----	31	8,422	-31.3		270	26.2	31	7,753	-45.3		243	27.0
300----	31	9,495	-39.8		269	29.7	31	8,769	-50.2		244	31.1
250----	31	10,717	-48.9		267	37.7	31	9,956	-50.7		251	34.8
200----	31	12,156	-57.1		270	46.8	31	11,413	-49.7		255	40.8
175----	31	12,993	-60.6		267	45.5	31	12,288	-49.2		260	31.9
150----	31	13,947	-63.2		270	41.0	31	13,298	-50.0		260	34.6
125----	31	15,061	-65.7		266	35.0	31	14,489	-50.1		260	30.9
100----	30	16,414	-66.4		263	27.8	31	15,946	-50.1		261	29.9
80-----	25	17,777	-64.8		269	17.3	31	17,400	-51.0		264	29.9
70-----	25	18,607	-61.7		267	11.5	31	18,267	-51.6		266	30.5
60-----	23	19,554	-59.8		269	6.8	31	19,266	-52.2		269	29.1
50-----	23	20,698	-58.3		263	3.7	31	20,444	-52.8		268	25.8
40-----	23	22,109	-56.5		83	1.2	31	21,880	-53.4		273	27.8
30-----	20	23,955	-53.9		87	6.2	30	23,728	-53.9		276	27.0
25-----	20	25,130	-52.4		74	7.0	26	24,900	-53.6		279	25.1
20-----	16	26,574	-50.9		49	3.7	23	26,333	-53.9		281	27.2
15-----	10	28,447	-48.0				18	28,151	-53.1		283	30.3

Standard pressure surface (mb)	ANNETTE, ALASKA (1006 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ATHENS, GA. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	37	7.0	86	153	6.6	31	246	10.1	86	358	2.9
1,000--	30	82			161	8.7	31	174				
950----	30	504	4.6	81	179	15.0	31	604	14.3	61	36	2.5
900----	30	942	2.0	80	196	15.0	31	1,061	11.8	59	29	3.1
850----	30	1,402	- .7	80	216	16.1	31	1,538	9.8	54	10	5.1
800----	30	1,884	- 3.2	78	230	19.2	31	2,041	8.4	40	346	4.9
750----	30	2,393	- 5.9	73	238	22.3	31	2,571	6.7		313	7.0
700----	30	2,931	- 9.0	67	246	22.5	31	3,137	3.9		302	8.9
650----	30	3,499	-12.1	56	247	23.7	31	3,728	.2		296	8.9
600----	30	4,110	-15.7	51	251	23.5	31	4,373	- 3.6		290	13.8
550----	30	4,760	-19.6	50	265	23.9	31	5,046	- 7.7		282	15.3
500----	30	5,465	-24.3	47	271	23.9	31	5,791	-12.6		282	17.7
450----	30	6,225	-29.6	45	280	17.1	31	6,581	-18.1		283	20.2
400----	30	7,057	-35.2		295	22.0	31	7,458	-24.4		283	24.7
350----	30	7,976	-41.2		295	31.1	31	8,417	-31.7		282	28.0
300----	30	9,011	-46.3		298	41.8	31	9,488	-40.2		284	30.5
250----	30	10,210	-50.5		297	46.4	31	10,710	-48.3		284	35.8
200----	30	11,651	-54.2		293	46.8	31	12,158	-55.1		284	45.5
175----	30	12,505	-54.8		289	45.1	31	13,006	-58.2		281	41.0
150----	30	13,491	-54.2		276	38.3	31	13,969	-61.7		274	35.6
125----	28	14,654	-54.1		276	34.0	31	15,091	-64.7		276	32.1
100----	27	16,077	-54.3		275	31.3	31	16,448	-65.9		276	24.3
80-----	26	17,497	-54.9		277	27.6	31	17,807	-63.8		275	12.8
70-----	23	18,341	-54.9		277	21.2	31	18,636	-62.0		276	7.4
60-----	21	19,319	-54.2		277	20.2	31	19,586	-60.2		322	1.9
50-----	20	20,483	-54.3		279	18.8	31	20,727	-58.4		31	2.1
40-----	20	21,913	-54.4		274	15.0	30	22,139	-56.2		48	5.4
30-----	16	23,763	-54.5		288	14.4	29	23,985	-53.6		47	4.9
25-----	11	24,970	-54.0				28	25,164	-51.7		41	5.2
20-----	6	26,398	-54.6				23	26,627	-49.4		14	2.3
15-----							18	28,512	-46.6			
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Standard pressure surface (mb)	BARROW, ALASKA (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BARTER IS., ALASKA (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	- 9.2	84	138	6.0	31	15	-10.3	77	133	3.9
1,000--	31	88			112	6.4	31	89			109	3.7
950----	31	484	- 9.5	75	110	5.6	31	483	-10.5	75	77	4.7
900----	31	902	-11.6	73	85	4.3	31	900	-12.4	76	78	4.5
850----	31	1,338	-13.9	72	64	2.9	31	1,335	-14.3	75	87	3.5
800----	31	1,797	-16.0	70	33	3.3	31	1,793	-15.[illegible]	69	112	1.9
750----	31	[illegible],283	-18.0	63	13	3.1	31	2,279	-17.5	62	174	1.6
700----	31	2,795	-20.4	61	345	.6	31	2,793	-20.0	58	212	2.1
650----	31	3,337	-23.4	62	344	.8	31	3,336	-22.4	53	244	3.7
600----	31	3,923	-26.9	61	279	1.4	31	3,924	-25.6	48	240	5.4
550----	31	4,543	-30.8	61	240	3.1	31	4,545	-29.3	47	242	7.6
500----	31	5,217	-35.3	59	243	5.1	31	5,226	-33.6	46	238	11.1
450----	31	5,945	-40.2		251	6.0	31	5,953	-38.7		238	13.4
400----	31	6,739	-45.6		250	6.6	31	6,759	-44.3		239	15.9
350----	31	7,618	-51.0		243	8.9	31	7,642	-50.1		243	18.1
300----	31	8,610	-55.7		248	9.5	31	8,636	-55.4		254	22.2
250----	31	9,771	-54.8		258	9.5	31	9,794	-55.5		259	26.0
200----	31	11,214	-50.9		260	12.0	30	11,230	-51.5		261	21.2
175----	31	12,084	-50.5		259	13.6	30	12,098	-51.0		261	21.4
150----	31	13,090	-50.4		262	14.0	28	13,092	-51.1		263	22.2
125----	31	14,279	-50.7		260	16.9	28	14,278	-50.7		267	21.6
100----	31	15,732	-51.0		263	16.1	28	15,729	-51.3		268	22.7
80-----	31	17,180	-52.2		264	19.6	28	17,176	-52.3		268	22.3
70-----	31	18,044	-52.7		267	20.4	28	18,035	-52.8		269	22.5
60-----	31	19,037	-53.7		267	21.6	28	19,032	-53.6		270	27.0
50-----	30	20,210	-54.7		271	24.1	28	20,204	-54.3		272	27.2
40-----	30	21,637	-55.3		269	26.6	28	21,631	-55.4		273	29.0
30-----	29	23,466	-56.7		276	30.3	27	23,455	-56.7		272	34.2
25-----	26	24,601	-57.1		278	32.4	25	24,627	-56.8		276	37.3
20-----	13	26,017	-58.[illegible]		276	32.8	16	26,053	-57.4		274	40.0
15-----							8	27,793	-59.8			

Standard pressure surface (mb)	BETHEL, ALASKA (1001 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BISMARCK, N. DAK. (954 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	- 4.0	88	325	3.[illegible]	31	505	3.7	74	268	0.8
1,000--	30	49			302	7.[illegible]	31	117				
950----	30	454	- 4.8	79	4	8.4	31	536			276	2.3
900----	30	879	- 6.6	75	351	[illegible]	31	981	7.6	54	272	11.5
850----	30	1,324	- 8.1	63	316	6.0	31	1,451	6.2	50	284	13.6
800----	30	1,793	-10.6	55	297	7.8	31	1,947	4.4	48	281	16.3
750----	30	2,283	-13.0	47	299	9.5	31	2,463	1.5	46	282	16.9
700----	30	2,810	-15.7	43	294	11.1	31	3,023	- 1.9	46	284	18.7
650----	30	3,360	-18.9	44	298	10.7	31	3,602	- 5.3	48	278	21.2
600----	30	3,958	-22.2	43	287	12.2	31	4,234	- 8.8	47	276	26.0
550----	30	4,589	-26.2	43	286	15.5	31	4,894	-12.[illegible]	47	273	27.8
500----	30	5,277	-30.5		283	17.9	31	5,624	-17.5	43	275	28.8
450----	30	6,013	-35.4		280	20.0	31	6,387	-23.0	38	278	30.5
400----	30	6,831	-40.9		282	22.3	31	7,259	-29.5		282	31.9
350----	30	7,728	-46.5		277	23.5	31	8,198	-36.6		282	33.2
300----	30	[illegible],741	-50.7		270	30.1	31	9,249	-44.5		283	39.2
250----	30	9,928	-50.4		266	35.4	31	10,448	-52.1		284	40.6
200----	30	11,392	-48.6		267	39.4	31	11,877	-56.1		279	43.5
175----	29	12,265	-48.7		262	37.1	31	12,723	-57.5		278	43.9
150----	29	13,278	-48.9		263	35.2	30	13,697	-58.0		274	37.7
125----	28	14,471	-49.3		265	33.6	27	14,836	-58.[illegible]		270	30.9
100----	28	15,934	-49.5		266	32.6	26	16,235	-58.9		264	25.5
80-----	26	17,385	-50.5		268	28.6	26	17,641	-57.6		267	21.8
70-----	26	18,254	-51.0		266	29.9	25	18,486	-57.4		275	17.7
60-----	26	19,257	-51.3		266	30.3	24	19,456	-56.5		274	14.2
50-----	26	20,439	-52.2		277	27.6	24	20,614	-56.4		273	12.4
40-----	25	21,877	-52.7		271	30.7	24	22,035	-55.2		255	11.3
30-----	23	23,759	-52.2		274	27.4	21	23,875	-54.3		268	10.9
25-----	22	24,951	-52.0		279	27.4	17	25,070	-52.8		263	12.8
20-----	21	26,389	-52.1		283	27.0	14	26,529	-51.3		258	14.8
15-----	13	28,263	-50.4				11	28,400	-51.2		266	17.7
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Standard pressure surface (mb)	BOISE, IDAHO (918 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BROWNSVILLE, TEXAS (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	868	5.4	68	148	4.1	31	7	19.5	90	53	0.8
1,000--	31	162					31	141	21.8	80	90	2.9
950----	31	587					31	584	19.3	78	131	7.4
900----	31	1,033	8.2	58	140	2.1	31	1,050	16.3	73	132	8.0
850----	31	1,505	7.8	49	297	3.3	31	1,535	13.8	63	136	5.6
800----	31	2,002	5.1	49	285	5.4	31	2,046	12.9	36	94	2.9
750----	31	2,529	2.3	49	281	9.7	31	2,580	11.0	31	60	2.9
700----	31	3,082	- .8	50	276	12.8	31	3,160	8.1	32	11	3.3
650----	31	3,670	- 3.9	42	281	14.0	31	3,761	4.9		352	3.9
600----	31	4,298	- 8.0	43	276	15.2	31	4,417	1.3		352	3.7
550----	31	4,967	-12.1	42	282	16.9	31	5,101	- 2.9		297	4.7
500----	31	5,693	-16.5	40	283	20.0	31	5,862	- 7.7		272	7.8
450----	31	6,472	-22.0	38	284	21.[illegible]	31	6,670	-13.0		272	11.9
400----	31	7,335	-27.9	37	288	23.9	31	7,564	-19.4		271	17.7
350----	31	8,281	-34.9		292	21.6	31	8,542	-26.4		268	22.3
300----	30	9,347	-42.7		294	26.[illegible]	31	9,638	-34.7		269	28.0
250----	30	10,556	-50.7		291	26.4	31	10,886	-44.5		271	31.5
200----	30	11,988	-56.5		293	25.[illegible]	30	12,345	-55.7		277	37.5
175----	30	12,832	-58.3		296	27.0	30	13,184	-61.7		278	36.9
150----	30	13,798	-60.3		290	25.1	30	14,125	-67.7		272	31.1
125----	29	14,931	-61.8		287	20.4	30	15,207	-73.0		269	22.0
100----	29	16,312	-61.4		287	19.2	29	16,507	-74.7		268	12.6
80-----	28	17,701	-60.1		291	13.4	26	17,821	-70.4		303	2.5
70-----	28	18,544	-58.8		291	11.9	24	18,622	-66.[illegible]		16	3.1
60-----	27	19,509	-57.9		302	9.7	20	19,561	-62.0		75	5.2
50-----	26	20,663	-57.0		285	9.5	20	20,695	-59.4		84	4.7
40-----	25	22,080	-55.5		290	8.4	18	22,103	-56.1		80	6.4
30-----	20	23,919	-53.9		289	11.1	15	23,940	-52.2		80	5.6
25-----	16	25,102	-52.9		283	8.7	13	25,117	-50.0			
20-----	7	26,516	-51.8				10	26,583	-47.0			
15-----							7	28,528	-42.3			
10-----												

Standard pressure surface (mb)	BUFFALO, N. Y. (993 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	BURRWOOD, LA. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	218	8.8	79	218	2.9	31	3	21.0	81	65	7.0
1,000--	31	157					31	154	20.6	76	65	9.5
950----	31	580	10.4	70	247	9.3	31	597	17.7	73	75	10.7
900----	31	1,034	[illegible].4	66	261	12.0	31	1,058	15.1	66	101	[illegible].0
850----	31	1,504	5.8	63	268	14.2	31	1,540	13.1	53	123	4.5
800----	31	1,999	3.8	53	266	15.2	31	2,049	11.[illegible]	42	106	1.9
750----	31	2,515	1.7	42	270	15.3	31	2,584	9.2		32	2.5
700----	31	3,076	- .9	39	268	17.3	31	3,154	6.7		328	3.1
650----	31	3,660	- 4.0	41	272	16.9	31	3,758	3.7		322	4.7
600----	31	4,293	- 7.7	44	269	18.1	31	4,405	.0		322	6.6
550----	31	4,957	-11.9	43	273	18.1	31	5,088	- 4.2		310	[illegible].1
500----	31	5,689	-16.6	39	266	18.3	31	5,841	- 9.3		297	10.9
450----	31	6,467	-21.9		265	19.6	31	6,642	-14.9		290	15.9
400----	31	7,332	-27.8		264	21.6	31	7,530	-21.2		290	20.8
350----	31	8,279	-34.5		268	21.8	31	8,501	-28.[illegible]		285	28.8
300----	31	9,340	-42.1		260	24.1	31	9,589	-36.4		282	36.7
250----	31	10,553	-50.0		258	25.5	31	10,829	-45.7		282	44.7
200----	31	11,989	-55.9		262	29.3	31	12,283	-55.5		285	50.9
175----	31	12,836	-57.7		259	28.4	31	13,125	-60.3		284	48.2
150----	31	13,807	-58.6		256	26.8	31	14,075	-65.4		281	43.1
125----	31	14,949	-60.1		257	23.9	31	15,172	-69.8		277	35.2
100----	31	16,342	-59.5		255	19.4	31	16,496	-70.8		281	22.5
80-----	31	17,744	-58.0		256	14.2	29	17,834	-66.5		300	7.4
70-----	31	18,583	-57.0		257	13.4	28	18,654	-63.7		328	3.3
60-----	31	19,563	-56.7		258	10.1	28	19,597	-61.[illegible]		96	6.4
50-----	31	20,720	-56.0		257	6.4	28	20,736	-58.5		93	8.2
40-----	30	22,139	-55.2		281	4.5	27	22,148	-55.5		88	6.2
30-----	29	23,977	-54.2		318	3.9	27	24,000	-51.6		72	6.0
25-----	28	25,146	-53.4		332	5.2	26	25,191	-49.5		97	[illegible].7
20-----	27	26,580	-51.9		321	5.6	24	26,666	-47.1		256	1.7
15-----	20	28,433	-50.9		296	6.6	19	28,585	-43.8		323	3.9
10-----	5	31,037	-48.8									

Standard pressure surface (mb)	CAPE HATTERAS, N. C. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	15.1	87	359	4.3
1,000--	31	145	16.6	73	354	6.2
950----	31	576	14.0	74	349	6.2
900----	31	1,036	11.6	64	350	6.4
850----	31	1,513	9.9	51	324	5.6
800----	31	2,015	7.9	47	289	7.0
750----	30	2,545	5.9	40	284	7.2
700----	30	3,108	2.9	40	266	8.7
650----	30	3,702	- .2	36	268	11.5
600----	30	4,342	- 3.9	34	265	12.6
550----	30	5,015	- 8.[illegible]	27	262	14.8
500----	30	5,758	-12.7		259	19.0
450----	30	[illegible],547	-17.9		258	22.7
400----	30	7,426	-24.2		256	25.1
350----	30	8,386	-31.0		253	28.6
300----	30	9,462	-38.9		253	32.8
250----	30	10,691	-47.0		250	35.2
200----	30	12,145	-54.0		250	36.3
175----	30	12,995	-57.6		253	35.9
150----	30	13,960	-60.8		256	31.9
125----	30	15,086	-63.8		259	28.4
100----	30	16,451	-63.9		260	19.0
80-----	30	17,824	-62.1		261	10.1
70-----	30	18,651	-60.9		280	5.2
60-----	29	19,610	-59.4		341	2.5
50-----	29	20,756	-57.7		10	3.1
40-----	29	22,170	-55.5		48	4.3
30-----	27	24,016	-52.9		29	5.8
25-----	24	25,205	-51.0		349	3.1
20-----	18	26,667	-48.5		307	7.2
15-----	[illegible]	28,503	-46.8			
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

OCTOBER 1961

Standard pressure surface (mb.)	CARIBOU, ME. (993 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CHARLESTON, S. C. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	COLD BAY, ALASKA (1005 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	191	4.6	91	263	2.7	31	13	11.9	88	353	4.9	31	27	3.2	81	281	7.4
1,000--	31	133					31	158	16.4	75	28	8.5	31	72			273	7.0
950----	31	550	5.6	81	283	3.7	31	589	15.1	67	39	10.7	31	483	.8	78	292	12.0
900----	31	995	5.4	72	280	7.2	31	1,052	12.7	63	31	7.6	31	919	- 2.2	77	290	15.9
850----	31	1,461	3.7	69	276	11.7	31	1,531	11.0	47	350	5.6	31	1,371	- 4.7	72	282	15.5
800----	31	1,953	2.1	67	273	15.2	31	2,036	9.7	35	329	6.2	31	1,847	- 6.9	62	276	19.4
750----	31	2,471	.6	58	276	18.7	31	2,565	7.6		313	7.4	31	2,342	- 9.8	54	272	20.0
700----	31	3,024	- 1.9	51	269	19.2	31	3,136	4.9		311	7.4	31	2,877	-12.8	49	268	20.2
650----	31	3,608	- 4.7	43	266	19.4	31	3,732	1.5	27	315	8.4	31	3,436	-15.9	43	266	22.9
600----	31	4,238	- 7.7	38	268	22.5	31	4,378	- 2.5		305	11.3	31	4,038	-19.4	43	261	26.0
550----	31	4,905	-11.8	36	261	25.1	31	5,056	- 6.8		296	13.4	31	4,679	-23.0	41	260	29.1
500----	31	5,633	-16.6	35	262	27.0	31	5,801	-12.0		288	16.3	31	5,374	-26.9	43	259	33.8
450----	31	6,412	-22.3	33	263	30.1	31	6,595	-17.3		291	19.8	31	6,124	-31.2		258	39.2
400----	31	7,273	-28.2	34	257	31.9	31	7,474	-23.7		285	22.9	31	6,955	-35.9		263	46.6
350----	31	8,218	-34.7		257	35.6	31	8,435	-31.0		281	28.8	31	7,873	-41.1		260	57.5
300----	31	9,279	-41.8		252	42.9	31	9,510	-39.3		278	27.8	31	8,911	-45.4		256	57.9
250----	31	10,494	-49.1		250	42.9	31	10,737	-47.5		272	33.6	31	10,118	-48.5		260	64.1
200----	31	11,938	-55.0		254	42.6	31	12,188	-54.7		270	40.2	31	11,579	-50.9		255	61.0
175----	31	12,787	-56.8		250	40.0	31	13,035	-58.7		271	38.7	31	12,447	-51.1		255	53.4
150----	31	13,763	-57.7		250	39.1	31	13,996	-62.0		269	35.8	31	13,449	-51.7		255	50.5
125----	31	14,910	-59.0		254	28.2	31	15,115	-65.3		269	31.3	31	14,630	-52.1		258	41.4
100----	31	16,311	-58.7		251	25.8	31	16,469	-66.3		269	22.0	29	16,062	-52.5		263	44.3
80-----	31	17,718	-57.1		258	19.2	31	17,827	-64.0		268	10.5	28	17,503	-52.7		255	32.3
70-----	31	18,569	-56.6		264	15.2	31	18,651	-61.9		270	5.4	27	18,377	-53.0		263	29.1
60-----	31	19,544	-56.2		279	12.0	31	19,607	-60.4		23	2.5	27	19,363	-53.2		265	22.9
50-----	31	20,703	-56.1		281	6.8	31	20,750	-58.1		79	2.5	26	20,541	-53.1		261	20.8
40-----	29	22,122	-55.4		314	5.4	30	22,160	-55.8		6	3.3	26	21,978	-53.4		269	20.2
30-----	29	23,962	-54.4		349	6.0	27	24,005	-52.9		82	3.3	25	23,834	-53.0		277	19.6
25-----	29	25,133	-53.5		353	5.8	23	25,178	-51.0		277	2.7	22	25,025	-52.6		285	18.5
20-----	28	26,578	-52.6		315	7.0	23	26,636	-49.2		275	5.2	13	26,471	-52.0			
15-----	21	28,448	-51.9		295	13.0	16	28,536	-45.6		277	12.4						
10-----	6	31,104	-49.9															

Standard pressure surface (mb.)	COLUMBIA, MO. (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DAYTON, OHIO (985 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	238	9.9	89	180	3.1	31	297	8.8	85	260	1.6
1,000--	31	154					31	171				
950----	31	582	12.7	65	236	10.3	31	600	11.2	68	255	9.3
900----	31	1,038	11.5	57	256	15.3	31	1,050	9.4	64	260	13.8
850----	31	1,515	9.9	48	263	16.5	31	1,522	7.3	57	265	13.4
800----	31	2,016	7.6	45	268	15.5	31	2,020	5.4	49	269	13.0
750----	31	2,541	4.6	46	273	16.3	31	2,543	3.1	43	272	13.4
700----	31	3,104	1.3	44	275	19.4	31	3,102	.1	40	276	13.0
650----	31	3,695	- 1.8	41	271	22.7	31	3,690	- 3.4	44	276	13.6
600----	31	4,331	- 5.3	36	271	26.2	31	4,322	- 6.6	38	273	15.3
550----	31	5,003	- 9.3		274	28.2	31	4,993	-10.7	31	269	17.1
500----	31	5,740	-13.7		277	29.7	31	5,724	-15.4	27	273	21.2
450----	31	6,528	-18.9		280	30.5	31	6,505	-20.9	27	272	23.5
400----	31	7,401	-25.3		283	30.3	31	7,374	-27.1		275	24.7
350----	31	8,356	-32.6		276	31.9	31	8,324	-33.8		273	26.6
300----	31	9,425	-40.6		277	37.3	31	9,388	-41.7		271	27.0
250----	31	10,642	-49.6		275	45.7	31	10,601	-49.9		274	31.1
200----	30	12,076	-57.2		278	47.6	31	12,038	-56.3		276	35.9
175----	30	12,916	-59.5		277	47.4	31	12,883	-57.9		274	32.6
150----	30	13,877	-61.3		276	42.4	31	13,851	-59.7		271	34.2
125----	29	15,004	-62.6		274	37.1	31	14,987	-61.1		269	27.8
100----	29	16,377	-63.4		269	27.8	31	16,370	-61.3		267	22.5
80-----	29	17,755	-60.8		269	18.5	31	17,759	-59.9		266	16.1
70-----	29	18,589	-59.6		265	11.5	31	18,604	-58.2		266	11.1
60-----	28	19,551	-58.6		261	6.2	31	19,568	-57.2		264	7.2
50-----	26	20,700	-56.9		242	2.5	31	20,723	-56.4		260	3.7
40-----	25	22,117	-55.6		104	1.4	29	22,138	-55.7		346	1.9
30-----	21	23,956	-54.0		71	5.6	29	23,978	-53.7		34	3.7
25-----	17	25,137	-52.2		53	4.1	28	25,163	-52.1		30	4.7
20-----	15	26,585	-50.7		52	4.1	27	26,613	-50.9		3	6.0
15-----	6	28,513	-48.8				19	28,475	-49.5		315	7.0
10-----							9	31,066	-48.2			

Standard pressure surface (mb.)	DENVER, COLO. (839 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DODGE CITY, KANS. (926 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	EL PASO, TEXAS (884 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,611	3.8	63	207	3.7	31	792	7.6	73	231	2.5	31	1,197	11.4	48	126	1.6
1,000--	31	159					31	149					31	144				
950----	31	585					31	578					31	584				
900----	31	1,031					31	1,027	11.9	52	215	6.6	31	1,044				
850----	31	1,502					31	1,507	12.9	39	221	9.7	31	1,523	15.2	37	203	1.7
800----	31	2,000	8.7	41	231	4.1	30	2,015	10.8	34	238	10.9	31	2,034	12.5	38	231	5.6
750----	31	2,530	6.4	39	264	6.4	30	2,547	7.7	37	247	12.8	31	2,568	9.2	38	231	8.4
700----	31	3,095	2.6	41	270	10.1	30	3,113	3.9	32	248	15.3	31	3,141	5.5	36	230	10.7
650----	31	3,687	- .9	37	272	13.4	30	3,709	.5		252	14.6	31	3,738	1.5	35	235	12.8
600----	31	4,326	- 4.5	31	270	17.3	30	4,350	- 3.8		252	15.3	31	4,384	- 2.6		237	15.0
550----	31	4,999	- 8.9	33	265	20.2	30	5,026	- 8.3		250	18.1	31	5,061	- 6.5		247	17.5
500----	31	5,738	-14.1	30	262	21.2	30	5,765	-13.4		261	19.4	31	5,808	-11.4		250	19.4
450----	31	6,522	-19.7	31	261	22.7	30	6,552	-19.1		265	20.0	31	6,603	-17.1		248	22.7
400----	31	7,394	-26.3		261	25.1	29	7,429	-25.3		263	24.1	31	7,484	-23.4		252	25.6
350----	31	8,344	-33.9		259	28.0	29	8,384	-32.8		270	25.1	31	8,447	-30.7		249	30.7
300----	31	9,406	-42.4		256	32.3	29	9,450	-41.4		269	29.1	31	9,524	-38.7		252	38.7
250----	31	10,615	-51.2		260	38.1	29	10,662	-51.0		270	33.2	31	10,753	-47.6		254	48.6
200----	31	12,045	-57.2		261	39.6	29	12,090	-57.8		275	37.5	31	12,197	-56.4		254	54.8
175----	31	12,886	-59.1		261	35.9	29	12,927	-60.5		268	41.0	31	13,037	-60.6		254	55.0
150----	31	13,849	-61.0		262	32.3	29	13,883	-62.2		266	34.2	31	13,989	-64.3		254	48.4
125----	31	14,973	-63.5		269	26.0	29	15,004	-64.1		266	31.5	31	15,094	-67.6		261	40.6
100----	31	16,346	-62.7		267	20.4	29	16,365	-64.7		261	26.8	29	16,434	-69.1		267	24.5
80-----	31	17,724	-61.1		267	13.8	28	17,733	-62.6		269	19.6	28	17,774	-66.5		255	14.2
70-----	30	18,559	-59.6		269	11.7	28	18,575	-60.7		272	14.6	28	18,591	-63.9		252	8.2
60-----	30	19,523	-58.0		268	7.4	28	19,524	-58.6		267	9.7	28	19,535	-61.5		274	1.7
50-----	29	20,671	-56.6		259	5.8	28	20,674	-57.3		268	6.2	28	20,670	-59.6		111	2.7
40-----	28	22,085	-55.4		273	3.9	28	22,089	-56.0		262	3.9	28	22,072	-57.3		78	5.6
30-----	28	23,923	-54.1		174	.6	26	23,931	-53.8		356	2.3	27	23,901	-54.1		86	4.7
25-----	26	25,101	-52.7		38	.6	24	25,112	-52.7		47	2.3	27	25,073	-52.8		62	2.7
20-----	23	26,562	-51.4		99	1.4	22	26,551	-51.4		25	.6	27	26,517	-50.8		232	2.5
15-----	15	28,462	-49.2		330	1.9	16	28,458	-48.5		266	5.2	18	28,417	-48.0			
10-----							6	31,120	-46.2									

Standard pressure surface (mb.)	ELY, NEV. (810 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FAIRBANKS, ALASKA (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,908	- 0.6	62	188	4.1	31	135	- 6.5	79	336	2.1
1,000--	31	182					31	57				
950----	31	605					31	457	- 5.7	69	67	1.0
900----	31	1,052					31	879	- 8.4	73	202	3.3
850----	31	1,520					31	1,321	-10.2	76	231	5.4
800----	31	2,012	5.1	50	197	2.5	31	1,787	-11.8	75	234	6.4
750----	31	2,539	4.6	44	318	2.1	31	2,276	-13.5	71	234	9.1
700----	31	3,099	1.3	45	275	5.6	31	2,803	-16.2	67	231	10.1
650----	31	3,687	- 2.3	45	279	7.8	31	3,353	-19.2	63	240	11.5
600----	31	4,325	- 6.1	46	279	10.3	31	3,948	-23.0	59	243	13.0
550----	31	4,993	-10.2	38	281	12.6	31	4,576	-26.9	58	244	15.7
500----	31	5,728	-15.3	34	278	12.6	31	5,263	-31.4	54	244	16.7
450----	31	6,508	-21.1	31	282	11.9	31	5,996	-36.3	51	245	19.4
400----	31	7,375	-27.3		291	12.0	31	6,811	-41.7		245	23.5
350----	31	8,322	-34.3		284	15.5	31	7,704	-47.7		245	22.7
300----	31	9,384	-41.7		277	13.4	31	8,710	-53.0		252	29.1
250----	31	10,600	-49.2		296	12.0	30	9,887	-53.3		252	32.4
200----	30	12,044	-55.5		292	14.0	30	11,334	-50.5		259	29.9
175----	30	12,891	-58.2		277	15.9	30	12,206	-50.0		260	28.4
150----	30	13,856	-60.5		287	18.7	30	13,214	-50.0		261	26.8
125----	30	14,989	-62.1		283	15.7	30	14,406	-50.1		262	26.2
100----	30	16,364	-63.1		278	16.5	30	15,865	-50.2		263	26.4
80-----	29	17,747	-60.8		277	10.1	30	17,318	-51.2		264	27.2
70-----	29	18,587	-59.3		289	6.8	28	18,173	-51.7		267	26.6
60-----	29	19,550	-58.1		288	6.0	28	19,169	-52.2		266	27.0
50-----	29	20,701	-57.3		263	4.9	26	20,337	-53.5		272	27.8
40-----	29	22,118	-55.4		266	3.9	25	21,769	-54.1		276	28.2
30-----	27	23,961	-53.2		266	3.1	18	23,599	-55.0		282	32.8
25-----	25	25,140	-52.2		276	3.3	10	24,832	-53.9			
20-----	25	26,589	-51.1		235	2.1	5	26,234	-55.1			
15-----	14	28,500	-48.4									
10-----												

Standard pressure surface (mb.)	FLINT, MICH. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FORT WORTH, TEXAS (998 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GLASGOW, MONT. (933 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	234	8.4	86	229	3.9	31	180	15.0	84	161	1.9	31	696	2.7	76	308	1.4
1,000--	30	155					31	160			38	2.3	31	126				
950----	30	583	10.3	72	251	10.5	31	600	16.3	67	185	11.3	31	544				
900----	30	1,031	8.6	64	263	13.4	31	1,057	14.9	65	205	10.9	31	987	6.4	57	284	6.0
850----	30	1,502	6.6	59	259	14.4	31	1,540	12.9	59	219	8.7	31	1,459	5.9	52	294	16.1
800----	30	1,998	4.7	50	259	15.0	31	2,048	10.4	50	230	7.6	31	1,950	3.3	52	295	17.3
750----	30	2,521	2.3	43	259	16.7	31	2,585	8.3	41	250	6.4	31	2,469	.6	49	295	18.3
700----	30	3,077	- 1.0	44	262	17.9	31	3,151	5.4	32	275	6.0	31	3,022	- 2.5	50	290	21.6
650----	30	3,666	- 3.9	39	261	19.4	31	3,750	1.9	31	276	8.0	31	3,606	- 5.9	49	284	22.0
600----	30	4,293	- 7.5	36	262	21.4	31	4,393	- 2.1		271	9.7	31	4,230	- 9.3	45	279	23.9
550----	30	4,962	-11.9	37	260	23.5	31	5,074	- 6.3		265	11.3	31	4,890	-13.5	43	281	23.5
500----	30	5,689	-16.8	36	261	24.9	31	5,819	-11.0		268	15.5	31	5,615	-18.5	41	280	25.8
450----	30	6,465	-22.2	32	258	24.9	31	6,616	-16.9		267	18.3	31	6,385	-23.8	39	272	25.3
400----	30	7,328	-28.3		261	25.8	31	7,494	-23.4		271	22.9	31	7,243	-30.1	36	275	31.9
350----	30	8,272	-35.3		262	27.0	31	8,457	-30.4		272	29.1	31	8,181	-37.0		278	34.0
300----	30	9,330	-42.7		262	28.8	31	9,535	-38.7		272	36.9	31	9,230	-44.9		278	38.1
250----	30	10,541	-50.3		270	33.4	31	10,763	-47.8		271	48.2	30	10,438	-51.9		284	39.4
200----	30	11,976	-55.9		271	35.6	31	12,206	-56.6		274	56.9	30	11,871	-55.9		285	40.4
175----	30	12,823	-57.2		268	33.2	31	13,046	-60.3		273	53.4	30	12,719	-57.1		285	39.2
150----	30	13,796	-58.2		266	29.3	31	13,998	-64.0		270	47.0	30	13,692	-58.1		280	35.0
125----	30	14,940	-59.3		264	23.5	31	15,106	-67.1		272	38.7	30	14,838	-59.0		275	33.0
100----	30	16,336	-59.1		264	19.8	31	16,446	-68.4		275	25.5	30	16,238	-58.9		272	27.6
80-----	30	17,740	-57.9		268	14.0	28	17,788	-66.0		269	12.6	30	17,642	-57.6		270	22.2
70-----	30	18,593	-56.8		267	11.9	27	18,624	-62.5		264	7.0	30	18,489	-57.3		274	18.5
60-----	30	19,565	-55.8		259	9.1	27	19,564	-60.1		261	.8	30	19,460	-56.8		271	16.3
50-----	30	20,727	-55.2		259	7.0	27	20,706	-58.6		98	2.3	30	20,617	-56.0		266	15.5
40-----	30	22,155	-54.6		277	4.7	27	22,116	-56.3		65	4.5	28	22,041	-55.3		267	14.2
30-----	29	24,007	-53.2		346	2.7	27	23,957	-53.1		66	3.9	26	23,887	-53.6		272	14.6
25-----	29	25,184	-52.3		353	4.5	25	25,137	-51.3		76	2.9	22	25,071	-52.8		273	15.7
20-----	27	26,629	-51.0		326	5.2	24	26,594	-49.1		359	1.4	12	26,502	-52.1		260	16.7
15-----	21	28,526	-49.6		305	5.8	18	28,477	-47.1		303	5.2						
10-----	7	31,147	-47.6															

Standard pressure surface (mb.)	GRAND JUNCTION, COLO. (853 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREAT FALLS, MONT. (887 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,474	7.2	54	146	3.3	31	1,123	4.5	59	230	8.5
1,000--	31	146					31	135				
950----	31	577					31	558				
900----	31	1,030					31	1,006				
850----	31	1,507			126	6.2	31	1,474	5.8	47	248	17.1
800----	31	2,009	8.9	42	162	5.6	31	1,968	3.2	49	271	14.8
750----	31	2,535	5.9	43	220	4.9	31	2,485	.4	50	281	17.1
700----	31	3,102	2.1	44	242	10.3	31	3,040	- 2.4	48	282	17.7
650----	31	3,692	- 1.7	43	244	12.2	31	3,620	- 5.7	48	281	18.8
600----	31	4,329	- 5.7	44	250	15.3	31	4,248	- 9.8	46	283	22.0
550----	31	4,997	-10.0	43	250	19.0	31	4,907	-13.8	45	282	22.5
500----	31	5,735	-14.7	42	251	21.8	31	5,633	-18.3	43	277	26.0
450----	31	6,517	-20.2	40	250	23.7	31	6,406	-23.7	37	272	25.5
400----	31	7,387	-26.9		246	24.5	31	7,262	-30.0	37	275	26.6
350----	31	8,335	-34.4		247	25.3	31	8,200	-36.9		276	27.4
300----	31	9,395	-42.0		246	25.3	31	9,249	-44.5		279	30.5
250----	31	10,608	-50.0		254	28.4	31	10,452	-51.0		283	39.8
200----	31	12,044	-55.7		263	28.0	31	11,889	-55.4		283	38.9
175----	31	12,890	-58.2		265	27.6	31	12,737	-57.6		277	34.4
150----	31	13,855	-60.5		266	25.1	31	13,708	-58.6		278	36.1
125----	30	14,977	-62.6		266	22.9	31	14,853	-59.0		269	30.5
100----	29	16,346	-62.7		267	20.0	31	16,252	-58.9		271	26.2
80-----	28	17,725	-61.5		265	14.0	31	17,656	-58.0		265	21.8
70-----	28	18,554	-59.9		264	12.0	30	18,504	-57.2		270	19.8
60-----	25	19,517	-58.6		263	10.5	29	19,471	-56.8		272	15.9
50-----	20	20,663	-58.0		271	7.2	28	20,627	-56.1		262	13.6
40-----	22	22,074	-56.0		263	6.4	26	22,037	-55.4		252	12.6
30-----	20	23,911	-54.1		246	4.3	22	23,880	-54.3		256	13.6
25-----	18	25,080	-53.2		272	2.3	18	25,045	-53.1		267	13.4
20-----	16	26,526	-52.1		242	4.1	14	26,507	-52.0		256	18.3
15-----	8	28,429	-49.9				5	28,434	-50.6			
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

OCTOBER 1961

Standard pressure surface (mb)	GREEN BAY, WIS. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREENSBORO, N. C. (988 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	210	7.1	87	245	2.9	31	273	8.5	88	315	2.1
1,000--	31	134					31	168				
950----	31	558	7.7	75	267	7.8	31	597	12.9	63	308	5.8
900----	31	1,003	7.2	63	278	10.7	31	1,050	10.6	61	332	7.0
850----	31	1,473	3.9	57	275	16.1	31	1,525	8.7	53	337	7.4
800----	31	1,970	3.9	54	270	18.1	31	2,026	7.1	41	322	7.6
750----	31	2,489	1.3	50	271	19.6	31	2,555	5.4	32	313	8.0
700----	31	3,043	- 1.6	49	269	20.2	31	3,116	2.5	31	302	8.7
650----	31	3,623	- 5.0	47	268	22.7	31	3,712	- .7	30	300	10.9
600----	31	4,254	- 8.8	45	267	24.1	31	4,349	- 4.5	30	290	12.8
550----	31	4,919	-12.8	42	268	24.7	31	5,025	- 8.8	31	289	15.2
500----	31	5,645	-17.4	38	266	26.8	31	5,761	-14.2	31	289	15.9
450----	31	6,423	-22.7	35	269	27.8	31	6,549	-19.6		290	19.0
400----	31	7,280	-28.8		268	29.5	31	7,418	-25.7		282	22.9
350----	31	8,222	-35.7		268	33.8	31	8,373	-32.3		287	22.7
300----	31	9,276	-43.4		268	35.9	31	9,443	-40.2		289	25.6
250----	31	10,481	-51.2		270	39.1	31	10,665	-48.4		284	27.2
200----	31	11,912	-56.7		271	38.9	31	12,112	-54.8		275	32.3
175----	31	12,757	-57.2		274	38.5	31	12,961	-57.5		273	35.4
150----	31	13,730	-58.3		275	34.2	31	13,928	-60.8		269	33.2
125----	31	14,872	-59.1		275	27.8	31	15,055	-63.5		267	29.5
100----	31	16,272	-59.3		269	21.0	31	16,422	-64.3		268	22.9
80-----	31	17,676	-57.7		267	18.7	31	17,795	-62.1		268	13.8
70-----	31	18,522	-56.9		266	14.8	31	18,629	-60.9		268	8.9
60-----	31	19,500	-56.3		268	11.7	31	19,583	-59.5		273	3.7
50-----	31	20,661	-55.5		264	9.3	31	20,726	-58.5		357	1.4
40-----	31	22,087	-54.7		267	8.2	30	22,135	-56.8		47	5.1
30-----	31	23,934	-53.6		286	6.6	29	23,975	-54.2		73	3.5
25-----	29	25,121	-52.5		296	6.0	27	25,140	-52.2		64	3.7
20-----	28	26,580	-51.2		307	7.0	26	26,597	-50.3		356	3.5
15-----	17	28,493	-49.3		298	7.2	25	28,491	-47.6		341	5.1
10-----							19	31,194	-44.0		284	14.2

Standard pressure surface (mb)	HILO, HAWAII (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	INTERNAT. FALLS, MINN. (971 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	11	21.4	89	229	4.9	31	360	3.3	85	189	2.1
1,000--	30	123	22.7	81	218	4.9	31	119				
950----	30	572	20.5	81	153	5.4	31	540	4.4	79	202	4.9
900----	30	1,037	17.6	83	131	6.2	31	979	5.0	66	245	9.5
850----	30	1,524	14.8	84	142	5.8	31	1,444	3.3	63	266	11.5
800----	30	2,036	12.5	74	148	5.8	31	1,935	1.9	52	281	12.8
750----	30	2,581	10.0	66	158	6.6	31	2,455	- .2	45	275	16.3
700----	30	3,149	7.4	57	163	5.6	31	3,003	- 3.0	41	276	18.8
650----	30	3,756	3.9	58	192	4.3	31	3,581	- 6.3	43	277	21.2
600----	30	4,403	- .1	53	232	5.6	31	4,209	- 9.9	44	278	23.9
550----	30	5,092	- 3.9	47	245	9.9	31	4,868	-14.0	46	277	26.2
500----	30	5,844	- 8.5	45	252	18.8	31	5,593	-18.4	45	276	28.6
450----	30	6,647	-13.6	40	259	18.5	31	6,367	-23.5	42	278	30.9
400----	30	7,541	-19.8	37	258	24.3	31	7,224	-29.7	44	275	34.0
350----	30	8,519	-26.5	36	266	31.[illegible]	31	8,162	-36.9		273	32.6
300----	30	9,616	-34.5		264	39.6	31	9,210	-44.8		273	35.2
250----	30	10,864	-44.3		266	41.6	31	10,409	-51.8		275	36.9
200----	30	12,322	-55.8		270	51.1	31	11,842	-54.7		275	39.4
175----	30	13,160	-61.7		269	49.2	31	12,695	-55.7		274	36.3
150----	30	14,101	-67.1		271	39.6	31	13,675	-56.2		271	34.0
125----	30	15,188	-71.6		273	28.4	31	14,832	-56.3		273	27.2
100----	25	16,502	-71.6		270	15.0	31	16,246	-57.2		265	20.0
80-----	22	17,831	-69.1		355	1.9	31	17,662	-56.3		269	16.3
70-----	20	18,635	-66.3		94	5.1	31	18,514	-56.0		274	14.6
60-----	20	19,576	-63.0		97	7.2	31	19,494	-55.4		267	13.8
50-----	19	20,710	-60.0		102	8.7	30	20,657	-55.0		269	12.0
40-----	19	22,112	-57.0		95	12.0	28	22,091	-54.1		268	11.7
30-----	19	23,951	-53.0		89	15.5	27	23,948	-53.1		262	12.8
25-----	16	25,134	-50.8		96	17.7	26	25,124	-53.0		268	13.0
20-----	14	26,604	-48.3		99	19.0	23	26,580	-52.2		260	12.6
15-----	10	28,512	-45.9				15	28,455	-51.8		275	21.0
10-----							5	31,145	-49.5			

Standard pressure surface (mb)	JACKASS FLATS, NEV. (891 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	JACKSON, MISS. (1008 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,100	11.3	33	42	7.8	31	101	11.5	87	46	1.2
1,000--	31	126					31	165	13.9	76	85	2.9
950----	31	561					31	602	15.4	61	112	5.4
900----	31	1,021					31	1,058	13.6	55	131	2.7
850----	31	1,502	14.3	26	73	5.4	31	1,538	11.9	45	182	.[illegible]
800----	31	2,010	10.7	28	121	2.1	31	2,044	9.6	42	313	2.5
750----	31	2,539	7.0	31	307	1.7	31	2,577	7.1	36	287	4.9
700----	31	3,108	3.5	32	305	3.5	31	3,142	4.7	28	299	7.0
650----	31	3,699	- .3	34	283	4.5	31	3,741	1.5		300	9.3
600----	31	4,340	- 4.2		277	6.4	31	4,383	- 2.3		294	9.5
550----	31	5,010	- 8.8		282	8.9	31	5,059	- 6.4		288	12.6
500----	31	5,751	-14.1		280	11.9	31	5,807	-11.3		283	16.9
450----	31	6,532	-20.1		299	9.3	31	6,602	-17.1		283	19.6
400----	31	7,404	-26.7		295	11.9	31	7,481	-23.4		286	24.5
350----	31	8,354	-33.7		301	12.8	31	8,444	-30.6		286	30.9
300----	31	9,418	-41.1		301	13.6	31	9,521	-38.8		283	37.1
250----	31	10,637	-48.8		294	13.4	31	10,749	-47.4		286	44.3
200----	31	12,078	-55.4		282	15.0	31	12,197	-55.9		286	52.5
175----	31	12,924	-57.9		272	16.1	31	13,039	-59.8		287	49.0
150----	31	13,890	-60.3		270	21.4	30	14,030	-63.4		287	44.9
125----	31	15,020	-62.5		271	20.0	30	15,139	-67.4		283	33.2
100----	31	16,390	-63.8		279	15.9	30	16,447	-67.9		279	23.5
80-----	30	17,762	-62.5		287	9.5	30	17,823	-65.4		283	8.4
70-----	30	18,591	-60.9		289	7.4	30	18,642	-63.2		319	2.1
60-----	30	19,550	-59.5		294	5.2	30	19,593	-60.7		65	3.7
50-----	30	20,697	-58.0		287	3.7	30	20,733	-58.4		63	4.5
40-----	29	22,109	-56.4		265	3.1	30	22,146	-55.7		67	5.[illegible]
30-----	28	23,947	-54.3		250	3.5	30	23,993	-51.9		48	4.1
25-----	24	25,112	-53.1		235	1.9	30	25,180	-49.8		38	2.1
20-----	18	26,568	-51.9		338	1.0	29	26,646	-47.6		290	5.8
15-----	12	28,469	-50.5				19	28,572	-44.5		283	13.2
10-----												

Standard pressure surface (mb)	JACKSONVILLE, FLA. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	JOHNSTON IS., PACIFIC AREA (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	15.1	93	340	6.2	30	3	26.3	82	86	11.5
1,000--	31	156	18.0	80	8	9.1	30	106	25.5	82	88	12.6
950----	31	591	16.3	74	48	11.5	30	552	22.2	81	92	15.2
900----	31	1,054	14.1	67	47	7.2	30	1,026	19.0	77	96	14.4
850----	31	1,536	12.3	63	3	4.1	30	1,516	16.2	74	98	11.1
800----	31	2,042	10.1	51	323	3.9	30	2,031	13.5	71	102	7.8
750----	31	2,572	8.3	33	336	4.9	30	2,566	11.1	58	99	6.2
700----	31	3,145	5.5		332	5.8	30	3,147	8.6	51	82	4.1
650----	31	3,739	2.1		316	7.6	30	3,750	5.2	48	62	4.1
600----	31	4,389	- 1.6		302	8.7	30	4,406	1.5	45	41	3.1
550----	31	5,066	- 5.7		300	11.3	30	5,096	- 2.7	46	342	1.7
500----	31	5,817	-10.6		295	15.0	30	5,852	- 7.0	38	317	2.5
450----	31	6,609	-16.2		289	18.5	30	6,663	-12.1	34	279	3.1
400----	31	7,497	-22.6		280	22.9	30	7,558	-18.1	37	272	9.3
350----	31	8,463	-29.5		281	28.0	30	8,542	-24.9	34	269	11.5
300----	31	9,545	-37.6		279	34.2	30	9,645	-33.2		260	17.7
250----	31	10,779	-46.4		274	39.6	30	10,901	-43.3		259	24.5
200----	31	12,231	-55.0		274	45.7	30	12,366	-55.0		269	28.8
175----	31	13,073	-59.1		274	45.7	30	13,207	-61.5		267	34.2
150----	31	14,030	-63.4		272	40.2	30	14,148	-68.3		270	28.4
125----	30	15,139	-67.4		275	33.8	30	15,228	-73.3		275	19.4
100----	30	16,478	-68.6		277	21.8	26	16,527	-74.9		294	8.2
80-----	30	17,823	-65.4		283	8.4	23	17,832	-70.3		6	2.1
70-----	30	18,642	-63.2		319	2.1	21	18,633	-67.0		80	3.3
60-----	30	19,593	-60.7		65	3.7	21	19,570	-63.9		84	4.1
50-----	30	20,733	-58.4		63	4.5	20	20,699	-60.1		100	7.4
40-----	30	22,146	-55.7		67	5.[illegible]	19	22,107	-56.3		88	10.7
30-----	30	23,993	-51.9		48	4.1	18	23,937	-53.6		96	12.6
25-----	30	25,180	-49.8		38	2.1	15	25,115	-50.9		86	15.9
20-----	29	26,646	-47.6		290	5.8	9	26,560	-48.4			
15-----	19	28,572	-44.5		283	13.2						
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Standard pressure surface (mb)	KING SALMON, ALASKA (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	KOTZEBUE, ALASKA (1008 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	15	- 3.4	85	53	1.4	31	5	- 6.6	77	69	6.2
1,000--	31	40			248	1.6	31	63			69	6.2
950----	31	445	- 2.7	68	328	5.4	31	463	- 7.3	67	74	3.5
900----	31	875	- 5.0	67	314	7.2	31	884	- 8.8	69	42	1.0
850----	31	1,323	- 6.8	63	295	11.7	31	1,323	-11.4	67	337	1.4
800----	31	1,794	- 8.7	60	274	10.1	31	1,787	-13.1	58	325	3.3
750----	31	2,294	-11.1	54	282	12.8	31	2,276	-15.7	60	332	4.1
700----	31	2,820	-13.9	52	285	15.5	31	2,794	-18.2	55	331	3.3
650----	31	3,374	-17.3	51	273	16.5	31	3,342	-21.6	51	300	2.9
600----	31	3,975	-20.8	48	266	17.3	31	3,929	-25.[illegible]	47	295	4.3
550----	31	4,606	-24.8	40	267	18.7	31	4,550	-29.3	43	291	5.8
500----	31	5,300	-29.1	38	267	21.6	31	5,229	-33.8	42	284	7.0
450----	31	[illegible],043	-33.9	39	265	24.5	31	5,955	-38.8		286	8.2
400----	31	6,863	-38.9		258	27.2	31	6,760	-44.4		282	8.9
350----	31	7,771	-43.6		260	33.8	31	7,643	-49.3		265	9.1
300----	31	8,797	-47.5		257	42.6	31	8,642	-53.7		244	10.9
250----	31	10,000	-48.5		258	49.0	31	9,813	-52.5		252	18.1
200----	31	11,468	-48.9		261	46.8	31	11,266	-49.8		259	19.8
175----	31	12,338	-49.7		261	44.7	31	12,140	-49.6		263	21.0
150----	30	13,347	-49.6		261	41.8	31	13,149	-49.5		256	20.8
125----	29	14,534	-49.6		267	38.1	31	14,342	-49.7		270	21.0
100----	23	16,015	-50.7		264	33.2	31	15,801	-50.1		262	23.9
80-----	21	17,461	-50.9		260	29.3	31	17,256	-50.7		261	23.9
70-----	20	18,334	-51.6		263	27.4	31	18,128	-51.2		265	24.7
60-----	17	19,338	-51.5		265	24.5	31	19,125	-51.9		270	23.3
50-----	17	20,521	-52.4		265	22.7	31	20,304	-52.5		263	28.4
40-----	16	21,953	-53.1		271	22.7	30	21,736	-53.5		272	27.8
30-----	14	23,797	-54.1		279	25.1	28	23,577	-54.4		277	32.1
25-----	13	24,975	-53.7		279	24.5	26	24,758	-54.0		274	34.8
20-----	9	26,420	-53.5				26	26,182	-54.1		279	36.3
15-----							14	28,004	-53.2			
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Standard pressure surface (mb)	LAKE CHARLES, LA. (1019 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LANDER, WYO. (829 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	15.[illegible]	87	40	4.5	31	1,696	1.6	67	260	2.9
1,000--	31	162	17.8	70	75	7.4	31	156				
950----	31	603	16.5	63	107	7.8	31	575				
900----	31	1,061	14.1	59	117	4.7	31	1,022				
850----	31	1,543	12.6	46	141	2.3	31	1,492				
800----	31	2,051	10.9	38	321	.6	31	1,985	5.3	48	254	3.1
750----	31	2,590	8.6	35	334	2.9	31	2,506	3.4	45	285	9.3
700----	31	3,156	6.1		299	4.1	31	3,069	.5	44	285	9.9
650----	31	3,763	2.9		294	5.1	31	3,653	- 3.3	44	285	13.[illegible]
600----	31	4,405	- .9		289	7.4	31	4,290	- 6.9	40	286	17.1
550----	31	5,092	- 5.0		287	9.9	31	4,957	-10.6	37	281	18.1
500----	31	5,838	- 9.[illegible]		281	12.2	31	5,693	-15.2	37	268	21.0
450----	31	6,646	-15.3		281	17.7	31	6,475	-21.0	36	267	22.9
400----	31	7,524	-21.9		280	23.1	31	7,341	-27.6	34	265	25.8
350----	31	8,493	-29.2	32	279	30.3	31	8,287	-35.1		261	26.8
300----	31	9,576	-37.1		278	37.9	31	9,344	-43.4		269	27.4
250----	31	10,812	-46.1		280	45.3	31	10,548	-51.5		273	29.5
200----	31	12,265	-55.5		282	54.8	31	11,978	-56.8		273	29.7
175----	31	13,106	-60.3		281	54.4	31	12,822	-58.3		275	28.8
150----	31	14,056	-65.2		279	48.0	31	13,789	-59.6		272	28.8
125----	31	15,155	-69.2		278	35.8	31	14,924	-61.9		269	25.3
100----	31	16,487	-70.0		276	22.3	31	16,305	-61.4		269	20.8
80-----	31	17,823	-67.2		279	12.2	31	17,692	-59.9		268	15.7
70-----	31	18,650	-64.5		291	4.9	30	18,539	-59.2		260	12.6
60-----	31	19,586	-61.2		59	1.9	30	19,502	-58.4		260	10.5
50-----	31	20,727	-58.6		94	4.1	30	20,652	-57.0		258	9.7
40-----	30	22,142	-56.0		75	3.9	30	22,068	-55.7		256	9.7
30-----	30	23,987	-52.6		66	3.5	26	23,911	-53.8		263	9.5
25-----	30	25,171	-50.7		29	2.7	23	25,082	-52.7		265	11.3
20-----	27	26,638	-48.4		348	2.1	15	26,514	-52.2		266	12.0
15-----	22	28,543	-45.8		284	7.8	5	28,375	-49.9			
10-----	9	31,276	-42.5									

Standard pressure surface (mb)	LAS VEGAS, NEV. (938 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LIHUE, HAWAII (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	660	12.8	37	262	5.1	31	36	23.3	82	23	4.1
1,000--	31	118					31	126	23.1	81	57	6.0
950----	31	554					31	572	20.2	81	86	9.3
900----	31	1,016	17.0	28	342	5.[illegible]	31	1,038	16.7	81	93	9.5
850----	31	1,500	14.3	29	355	5.2	31	1,523	13.8	80	99	8.2
800----	31	2,009	10.7	33	356	2.1	31	2,033	11.2	76	111	7.2
750----	31	2,539	7.1	36	226	1.2	31	2,571	8.8	58	133	5.2
700----	31	3,106	3.5	36	263	3.3	31	3,140	5.9	49	167	5.4
650----	31	3,699	- .1	33	261	4.9	31	3,740	2.5	44	200	4.5
600----	31	4,340	- 4.4	33	263	6.8	31	4,386	- 1.3	43	245	5.1
550----	31	5,011	- 9.1		267	9.3	30	5,070	- 5.3	39	264	8.4
500----	31	5,750	-14.6		271	11.5	30	5,820	- 9.6		277	10.3
450----	31	6,534	-20.4		268	12.4	30	6,622	-14.6		277	12.2
400----	31	7,401	-26.8		270	15.9	30	7,510	-20.5		287	16.9
350----	31	8,351	-33.6		269	18.3	30	8,484	-27.2		285	23.5
300----	31	9,416	-40.7		269	21.2	30	9,576	-35.5		283	31.9
250----	31	10,635	-49.0		266	22.9	29	10,822	-44.9		282	40.2
200----	31	12,077	-55.5		260	27.2	29	12,279	-55.5		280	45.7
175----	30	12,927	-58.2		260	26.0	29	13,119	-61.1		281	40.4
150----	30	13,891	-60.8		261	26.2	29	14,066	-65.[illegible]		280	30.9
125----	30	15,018	-63.6		265	25.3	29	15,160	-70.2		280	22.5
100----	30	16,383	-64.3		267	19.2	29	16,482	-70.9		284	8.9
80-----	28	17,752	-63.0		270	10.9	28	17,811	-68.4		322	2.1
70-----	27	18,586	-61.6		266	8.0	28	18,615	-65.6		52	4.1
60-----	27	19,535	-59.7		260	5.6	26	19,559	-62.9		97	8.2
50-----	27	20,679	-58.1		259	3.1	25	20,690	-60.1		97	11.3
40-----	27	22,088	-56.5			.0	24	22,094	-56.4		96	12.8
30-----	26	23,922	-54.0		94	2.1	23	23,935	-52.9		84	13.6
25-----	18	25,119	-52.4		101	2.5	21	25,117	-50.8		92	15.2
20-----	9	26,555	-50.7				19	26,585	-47.8		83	11.7
15-----							16	28,492	-45.[illegible]		88	12.2
10-----							5	31,233	-42.0			

Standard pressure surface (mb)	LITTLE ROCK, ARK. (1011 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	79	11.[illegible]	88	290	1.0
1,000--	31	173	14.0	74	184	.8
950----	31	602	14.3	61	227	5.2
900----	31	1,063	12.8	54	235	7.2
850----	31	1,542	10.[illegible]	53	242	6.4
800----	31	2,046	8.7	48	237	8.0
750----	31	2,575	6.4	42	274	8.4
700----	31	3,141	3.7	35	274	9.7
650----	31	3,731	.4	28	274	10.1
600----	31	4,378	- 3.2		283	12.6
550----	31	5,049	- 7.3		285	15.5
500----	31	5,799	-12.2		284	18.5
450----	31	6,589	-17.7		279	21.0
400----	31	7,468	-24.1		275	23.7
350----	31	8,428	-31.5		280	28.8
300----	30	9,503	-39.6		282	34.4
250----	30	10,727	-48.4		277	41.2
200----	30	12,171	-55.9		281	46.0
175----	29	13,015	59.2		275	43.7
150----	29	13,973	-62.8		276	45.1
125----	29	15,089	-65.3		274	35.0
100----	29	16,445	-66.2		279	25.8
80-----	27	17,808	-63.7		274	15.5
70-----	27	18,629	-62.0		275	10.3
60-----	27	19,587	-59.7		287	4.5
50-----	27	20,732	-58.0		5	1.2
40-----	27	22,143	-56.4		61	1.6
30-----	27	23,982	-53.3		45	1.9
25-----	23	25,160	-51.7		6	2.5
20-----	22	26,607	-50.7		339	2.5
15-----	18	28,522	-46.4		19	2.9
10-----	[illegible]	31,236	-43.7			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	McGRATH, ALASKA (995 MB.)						MEDFORD, OREG. (972 MB.)						MIAMI, FLA. (1014 MB.)						MIDLAND, TEXAS (917 MB.)						MONTGOMERY, ALA. (1013 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	103	- 6.7	77	289	0.6	30	401	6.1	88	229	0.8	31	4	22.0	83	24	4.1	31	871	11.1	76	129	1.9	31	61	10.7	88	360	2.1
1,000--	31	60			214	2.1	30	168					31	126	22.8	76	44	7.0	31	145					31	171	13.6	75	38	4.9
950----	31	463	- 6.9	72	357	.8	30	594	8.7	76	265	1.7	31	570	20.2	77	62	11.5	31	581					31	606	15.4	57	77	7.2
900----	31	882	- 8.6	72	61	.6	30	1,040	9.1	68	231	2.5	31	1,039	17.1	76	72	10.3	31	1,036	14.7	60	162	7.6	31	1,065	13.7	55	56	3.3
850----	31	1,324	-10.2	69	302	1.4	30	1,513	7.8	63	254	4.9	31	1,525	14.4	68	76	7.2	31	1,520	15.2	47	199	10.3	31	1,544	11.6	46	3	4.1
800----	31	1,790	-11.8	65	271	3.3	30	2,012	5.5	60	281	6.8	31	2,036	12.3	59	72	4.9	31	2,032	13.0	39	226	8.0	31	2,050	9.7	36	336	5.2
750----	31	2,287	-13.5	56	270	5.6	30	2,534	2.8	54	290	9.1	31	2,572	9.8	49	68	3.7	31	2,573	9.6	37	251	8.9	31	2,583	7.3	32	323	6.4
700----	31	2,805	-16.3	54	263	6.4	30	3,093	- .2	50	286	12.2	31	3,147	7.0	40	46	1.7	31	3,140	6.2	36	254	10.5	31	3,148	4.5		308	6.6
650----	31	3,359	-19.4	54	256	6.2	30	3,677	- 3.3	45	291	14.0	31	3,752	4.2	32	340	3.7	31	3,741	2.1	37	253	12.6	31	3,747	1.4		303	8.4
600----	31	3,950	-22.9	51	244	10.3	30	4,313	- 6.8	42	291	16.7	31	4,401	.5	32	307	5.1	31	4,385	- 1.9		253	13.6	31	4,389	- 2.4		296	11.3
550----	31	4,582	-26.8	48	240	13.4	30	4,980	-11.0	40	296	20.2	31	5,089	- 3.5	33	290	7.8	31	5,066	- 6.0		252	13.4	31	5,068	- 6.5		290	13.6
500----	31	5,265	-31.2	46	241	14.6	30	5,714	-15.2	39	301	22.7	31	5,844	- 8.0	28	284	11.7	31	5,812	-10.6		253	17.7	31	5,813	-11.2		282	16.3
450----	31	6,005	-36.1	49	239	17.3	30	6,494	-20.5	36	305	24.1	31	6,646	-13.4	29	283	14.4	31	6,610	-16.5		260	19.4	31	6,608	-16.9		285	21.4
400----	31	6,814	-41.5		243	20.2	30	7,364	-26.9		306	22.7	31	7,543	-19.7		283	20.4	31	7,489	-23.0		259	24.7	31	7,488	-23.5		283	25.3
350----	31	7,709	-47.1		246	25.1	30	8,314	-34.0		284	23.9	31	8,520	-26.8		279	25.8	31	8,453	-30.2		260	32.3	31	8,451	-30.5		283	30.7
300----	31	8,717	-52.0		246	26.6	30	9,376	-42.2		271	22.0	31	9,613	-35.2		281	27.4	31	9,531	-37.9		258	42.7	31	9,529	-38.6		283	36.7
250----	31	9,898	-51.3		252	30.5	30	10,587	-50.8		267	16.9	31	10,859	-44.7		273	34.0	31	10,764	-46.8		260	52.7	31	10,758	-47.1		283	42.7
200----	31	11,356	-49.3		260	31.5	30	12,020	-56.6		265	21.6	31	12,315	-55.7		269	36.1	31	12,210	-56.5		260	60.2	31	12,209	-55.1		283	48.4
175----	31	12,232	-48.9		261	31.5	30	12,863	-59.1		271	19.0	31	13,154	-61.5		268	35.8	31	13,050	-60.6		261	62.6	31	13,055	-58.9		282	46.2
150----	31	13,244	-49.1		261	31.1	30	13,825	-60.8		268	19.6	31	14,097	-67.2		269	33.4	31	14,000	-64.3		266	54.4	31	14,013	-62.8		281	41.2
125----	31	14,439	-49.4		262	29.1	30	14,955	-62.4		273	20.8	31	15,183	-71.9		271	27.2	31	15,106	-67.8		264	42.9	31	15,126	-66.0		276	34.2
100----	31	15,900	-50.0		263	29.7	30	16,333	-62.3		268	18.5	31	16,492	-73.3		292	12.6	31	16,443	-69.0		264	29.3	31	16,473	-67.7		273	24.3
80-----	31	17,356	-50.7		263	29.0	30	17,718	-60.1		273	14.0	31	17,810	-68.8		22	2.1	31	17,782	-66.6		268	13.4	31	17,823	-64.9		284	12.6
70-----	31	18,230	-51.2		265	29.7	30	18,562	-60.1		267	11.1	31	18,615	-66.0		87	4.3	30	18,602	-64.0		271	6.2	31	18,647	-62.8		279	6.8
60-----	31	19,226	-51.8		268	29.3	30	19,521	-58.8		271	9.3	31	19,557	-62.4		85	6.2	30	19,544	-61.3		310	2.1	31	19,595	-60.7		333	1.2
50-----	31	20,406	-52.4		269	27.6	30	20,672	-56.9		272	8.7	31	20,691	-59.4		81	7.4	29	20,684	-58.8		81	2.5	31	20,735	-58.5		29	1.6
40-----	30	21,849	-52.8		271	26.8	29	22,092	-55.7		266	11.1	31	22,100	-55.6		77	8.2	28	22,095	-56.6		70	5.1	31	22,146	-56.3		45	3.5
30-----	25	23,685	-53.7		274	28.0	27	23,938	-53.7		264	11.5	31	23,948	-51.5		78	8.7	27	23,928	-54.4		69	3.9	31	23,987	-52.7		31	4.5
25-----	23	24,870	-52.9		269	23.9	26	25,115	-52.6		261	12.6	26	25,133	-49.1		79	6.2	25	25,102	-52.5		72	5.2	31	25,167	-51.2		27	3.5
20-----	16	26,314	-52.8		271	24.3	26	26,559	-51.9		270	10.5	17	26,600	-46.4		133	4.9	22	26,554	-49.8		102	3.9	30	26,623	-49.1		308	3.3
15-----							8	28,429	-51.7				8	28,575	-42.6				16	28,477	-46.9				28	28,521	-46.1		296	12.4
10-----													7	31,359	-35.3										5	31,266	-42.4			
7------													5	33,846	-32.1															

Standard pressure surface (mb.)	NANTUCKET, MASS. (1015 MB.)						NASHVILLE, TENN. (999 MB.)						N. Y. INT. AP, IDLEWILD (1017 MB.)						NOME, ALASKA (1007 MB.)						NORFOLK, VA. (1018 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	14	12.1	91	313	3.3	29	177	10.3	84		0.0	31	5	12.2	80	324	6.4	31	7	- 3.9	78	18	1.9	31	9	12.2	90	309	2.5
1,000--	31	136	12.9	83	278	5.2	29	171			163	.6	31	149	12.3	73	327	8.4	31	58			348	4.5	31	159	14.7	75	312	4.1
950----	31	563	11.7	74	298	8.2	29	599	13.8	60	253	6.6	31	582	11.1	65	336	11.1	31	462	- 5.1	71	23	2.1	31	592	13.1	68	322	6.6
900----	31	1,018	10.1	65	312	7.4	29	1,059	11.8	60	265	7.0	31	1,029	9.3	63	343	8.8	31	886	- 7.6	73	321	1.4	31	1,045	10.7	60	340	7.4
850----	31	1,493	8.6	57	296	9.1	29	1,535	9.3	56	289	7.2	31	1,501	7.2	61	318	8.7	31	1,329	-10.2	72	310	3.1	31	1,521	8.8	52	329	7.0
800----	31	1,993	6.7	52	288	11.3	29	2,036	7.3	49	291	8.0	31	1,999	5.6	49	297	10.1	31	1,794	-12.3	65	302	3.7	31	2,021	6.9	43	308	7.0
750----	31	2,518	4.5	44	281	10.3	29	2,563	4.9	43	296	8.0	31	2,526	3.3	45	289	11.5	31	2,286	-15.1	60	303	6.2	31	2,548	4.5	38	294	8.2
700----	31	3,081	1.5	41	275	10.7	29	3,126	2.0	38	289	8.7	31	3,082	.7	42	291	11.5	31	2,803	-17.9	56	292	6.8	31	3,109	1.6	37	278	8.9
650----	31	3,670	- 2.1	42	272	11.3	29	3,715	- 1.0	34	286	11.5	31	3,672	- 2.7	41	281	12.2	31	3,351	-21.0	53	295	5.8	31	3,701	- 1.5	32	290	11.1
600----	31	4,306	- 5.7	41	276	14.0	29	4,355	- 4.6		282	13.4	31	4,305	- 6.5	40	280	13.4	31	3,941	-24.5	48	290	9.1	31	4,336	- 4.9	31	288	13.4
550----	30	4,979	- 9.7	38	267	14.1	29	5,026	- 8.8		281	14.0	31	4,973	-10.6	37	276	14.8	31	4,568	-28.3	44	287	10.1	31	5,012	- 9.1	29	279	15.3
500----	30	5,716	-14.2	34	262	17.3	28	5,765	-13.7		276	17.1	31	5,706	-15.3		272	14.8	31	5,247	-32.9	44	274	12.0	31	5,746	-14.0	30	275	15.5
450----	30	6,497	-19.7		255	19.2	28	6,552	-19.1		275	20.6	31	6,483	-21.0		268	15.9	31	5,974	-37.9		303	13.8	31	6,535	-19.4		271	19.6
400----	30	7,373	-25.8		244	18.1	28	7,424	-25.1		279	24.3	31	7,353	-26.8		269	18.5	31	6,784	-42.9		296	15.8	30	7,400	-25.7		273	21.6
350----	30	8,328	-32.7		242	22.2	28	8,381	-32.0		280	27.2	31	8,304	-33.4		263	19.4	31	7,674	-48.1		291	16.9	30	8,355	-33.0		268	23.9
300----	30	9,397	-40.2		235	23.7	28	9,453	-39.9		280	32.1	31	9,370	-40.8		261	18.7	31	8,679	-52.4		284	19.2	30	9,422	-40.8		267	24.9
250----	30	10,620	-48.1		246	28.0	28	10,676	-48.1		283	35.8	31	10,589	-48.6		262	21.4	31	9,857	-51.7		279	22.7	30	10,642	-48.8		262	28.6
200----	30	12,068	-55.1		239	32.1	28	12,122	-55.7		284	44.7	31	12,035	-54.8		255	25.6	31	11,313	-48.8		275	23.1	30	12,090	-54.2		259	35.4
175----	28	12,906	-57.5		243	31.5	28	12,966	-58.6		285	42.9	31	12,884	-57.1		254	28.8	31	12,190	-49.1		273	24.1	30	12,941	-57.2		257	33.4
150----	28	13,874	-59.8		247	29.3	28	13,928	-61.6		279	39.1	30	13,858	-59.7		255	31.9	31	13,202	-49.1		270	23.7	30	13,911	-60.0		256	34.4
125----	28	15,009	-61.4		247	23.9	28	15,050	-64.2		276	35.0	30	14,994	-61.2		259	28.8	31	14,397	-49.3		271	24.5	30	15,042	-62.6		259	28.0
100----	28	16,392	-61.3		247	20.2	28	16,415	-64.5		275	24.3	29	16,378	-61.2		257	20.8	31	15,860	-49.5		267	24.7	30	16,415	-62.9		257	20.4
80-----	28	17,782	-59.6		256	13.4	28	17,784	-62.4		269	15.9	29	17,769	-59.2		258	13.8	31	17,320	-50.5		268	25.1	30	17,796	-60.9		256	11.7
70-----	28	18,622	-58.3		260	9.3	28	18,617	-60.7		269	10.3	28	18,619	-58.4		266	10.5	31	18,193	-51.1		271	25.5	29	18,640	-59.9		260	7.4
60-----	28	19,590	-57.9		281	5.2	28	19,572	-59.4		266	5.2	28	19,581	-57.4		269	8.0	31	19,191	-51.6		275	24.1	29	19,597	-58.6		288	3.1
50-----	28	20,741	-56.9		331	3.1	28	20,718	-57.8		46	.6	28	20,733	-57.1		299	3.9	31	20,374	-52.1		275	26.6	29	20,746	-57.6		19	1.7
40-----	27	22,154	-56.2		360	5.2	26	22,129	-56.4		66	4.9	28	22,148	-55.9		7	4.3	31	21,815	-52.6		276	27.0	29	22,159	-56.0		41	4.7
30-----	25	23,999	-53.9		20	6.2	26	23,963	-54.0		57	7.0	27	23,981	-54.2		35	6.8	29	23,677	-53.0		277	29.3	29	24,001	-53.2		33	6.4
25-----	24	25,165	-53.2		8	8.0	26	25,138	-52.2		48	6.0	25	25,158	-52.9		36	6.2	28	24,853	-52.8		280	32.3	28	25,175	-51.5		19	4.7
20-----	24	26,606	-51.7		352	7.0	23	26,574	-50.5		25	5.6	21	26,598	-51.4		13	5.6	23	26,286	-53.1		279	32.8	26	26,630	-49.4		1	5.2
15-----	14	28,468	-49.8		297	12.6	14	28,434	-48.5		313	9.3	12	28,420	-50.6		323	3.9	9	28,174	-51.2				17	28,517	-46.7		287	13.6

Standard pressure surface (mb.)	NORTH PLATTE, NEBR. (918 MB.)						OAKLAND, CALIF. (1015 MB.)						OKLAHOMA CITY, OKLA. (973 MB.)						OMAHA, NEBR. (969 MB.)						PEORIA, ILL. (995 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	848	2.7	83	354	3.1	31	6	12.3	72	15	0.8	31	392	12.4	84	151	4.5	31	403	7.8	82	202	4.3	31	201	8.3	91	211	3.3
1,000--	31	144					31	132	13.9	66	9	1.7	31	159					31	139					31	159				
950----	31	563					31	564	15.6	45	351	5.2	31	592	14.3	61	168	6.8	31	566	10.0	64	218	6.6	31	586	11.0	69	256	12.6
900----	31	1,007	8.0	63	312	5.1	31	1,024	14.5	36	345	6.4	31	1,050	14.3	54	210	14.2	31	1,016	11.0	49	244	13.6	31	1,037	9.7	61	267	15.3
850----	31	1,481	9.9	47	289	8.2	31	1,505	12.3	30	325	5.8	31	1,532	12.8	48	223	11.9	31	1,492	9.6	43	256	14.6	31	1,511	8.8	54	268	15.2
800----	31	1,984	8.5	45	275	9.3	31	2,010	9.7	26	312	6.2	31	2,039	10.4	45	243	9.7	31	1,993	7.1	42	259	14.2	31	2,010	5.7	48	270	18.3
750----	31	2,510	5.3	41	265	12.0	31	2,539	6.7	27	300	6.2	31	2,573	7.9	41	254	11.5	31	2,520	4.3	38	265	15.0	31	2,535	3.2	43	269	19.8
700----	31	3,076	2.3	38	265	15.2	31	3,107	3.2	29	318	5.6	31	3,140	4.3	39	260	12.4	31	3,080	1.1	34	269	18.1	31	3,093	.2	40	269	21.8
650----	31	3,664	- 1.3	38	267	17.9	31	3,695	- .2	29	319	8.7	31	3,732	1.0	34	262	11.7	31	3,671	- 2.6	30	272	20.8	31	3,684	- 2.9	37	272	23.9
600----	31	4,304	- 5.4	39	266	21.6	31	4,341	- 4.1	32	315	10.9	31	4,379	- 3.0	32	260	15.2	31	4,304	- 6.6	31	273	22.5	31	4,315	- 6.3	36	269	24.1
550----	31	4,977	- 9.7	37	267	22.9	31	5,011	- 8.1		318	13.4	31	5,053	- 7.1		266	16.7	31	4,974	-10.9	30	275	24.3	31	4,985	-10.6	38	267	25.3
500----	31	5,712	-14.7	37	269	26.2	31	5,757	-13.0		314	15.0	31	5,800	-11.8		263	18.8	31	5,706	-15.2		273	25.3	31	5,718	-15.1	35	272	26.6
450----	31	6,493	-20.3	36	271	28.8	31	6,540	-18.7		302	16.9	31	6,593	-17.5		267	20.6	30	6,487	-20.7		275	27.0	31	6,502	-20.6		273	28.2
400----	31	7,365	-26.8	37	268	31.5	31	7,419	-25.4		299	17.3	31	7,470	-24.2		266	25.1	30	7,355	-26.8		274	31.5	31	7,369	-26.7		276	29.7
350----	31	8,314	-34.0		268	31.7	31	8,375	-32.7		304	18.5	31	8,430	-31.4		271	28.2	30	8,304	-34.0		276	34.8	31	8,319	-33.7		278	32.6
300----	31	9,376	-42.3		269	32.3	31	9,442	-41.1		285	18.5	31	9,503	-39.7		275	33.8	30	9,366	-42.1		276	38.3	31	9,383	-41.3		280	35.4
250----	31	10,585	-50.9		269	34.4	31	10,657	-50.6		288	22.9	31	10,726	-48.9		274	41.0	30	10,576	-50.8		275	41.6	31	10,596	-50.0		277	37.7
200----	31	12,013	-57.5		275	40.4	31	12,087	-57.5		277	25.6	31	12,164	-57.1		270	52.1	30	12,005	-56.8		276	42.6	31	12,030	-56.4		277	41.6
175----	31	12,853	-58.9		285	38.1	31	12,928	-59.1		277	26.2	31	13,003	-60.1		270	46.8	30	12,848	-58.7		271	40.6	31	12,874	-58.2		275	40.6
150----	31	13,817	-60.6		278	34.2	30	13,886	-61.2		274	24.7	31	13,959	-62.9		267	43.1	30	13,811	-60.3		272	33.6	31	13,839	-60.2		274	36.1
125----	31	14,946	-62.4		274	28.0	30	15,013	-63.5		272	22.5	31	15,076	-65.3		268	34.8	30	14,941	-62.2		272	29.3	31	14,974	-61.3		275	30.9
100----	31	16,324	-62.6		272	19.6	30	16,382	-63.8		273	21.6	29	16,430	-65.6		271	25.8	30	16,321	-61.4		273	23.1	31	16,357	-61.6		272	23.7
80-----	31	17,708	-60.3		271	16.1	28	17,762	-62.1		283	14.4	27	17,792	-63.9		268	15.7	30	17,709	-60.3		272	18.8	30	17,749	-59.5		267	14.8
70-----	30	18,546	-59.3		270	12.8	28	18,593	-60.8		282	11.3	27	18,624	-61.7		267	12.2	30	18,548	-58.8		273	14.8	30	18,594	-58.1		268	11.5
60-----	29	19,513	-57.8		265	11.1	28	19,551	-59.2		278	8.9	24	19,584	-59.2		267	4.9	30	19,515	-57.8		273	9.3	29	19,565	-57.0		26.	9.3
50-----	29	20,664	-56.5		256	8.2	28	20,697	-57.6		279	6.6	24	20,732	-57.2		243	.6	30	20,668	-56.6		268	7.2	29	20,723	-56.2		259	6.0
40-----	29	22,086	-55.2		250	3.9	28	22,112	-55.8		266	5.6	22	22,149	-56.1		71	2.3	30	22,088	-55.3		270	4.5	29	22,146	-55.0		288	2.5
30-----	27	23,931	-53.5		259	3.3	24	23,963	-53.8		265	3.1	21	23,989	-53.6		82	5.8	26	23,929	-53.6		278	3.1	28	23,994	-53.3		45	2.1
25-----	25	25,113	-52.2		256	2.9	22	25,145	-52.5		285	3.3	19	25,162	-51.7		86	4.3	22	25,095	-52.7		286	3.3	26	25,184	-52.0		27	2.9
20-----	22	26,571	-50.9		284	4.9	14	26,604	-51.1				14	26,593	-49.8		86	2.3	20	26,553	-51.6		291	3.7	24	26,637	-50.5		23	4.3
15-----	16	28,477	-48.9		239	3.3							6	28,459	-48.1				17	28,421	-50.6		280	5.4	22	28,530	-48.7		318	5.8
10-----																									7	31,234	-46.1			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

OCTOBER 1961

PITTSBURGH, PA.
(978 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	353	7.6	87	261	2.3
1,000--	31	171				
950----	31	597	10.6	70	268	9.7
900----	31	1,045	9.3	67	277	12.8
850----	31	1,518	6.7	64	285	13.0
800----	31	2,014	4.9	51	282	11.5
750----	31	2,538	2.3	46	278	11.9
700----	31	3,094	- .7	43	276	14.0
650----	31	3,680	- 3.7	37	278	14.6
600----	31	4,311	- 7.5	37	282	14.6
550----	31	4,980	-11.3	30	283	17.5
500----	31	5,710	-15.8		281	18.5
450----	31	6,492	-21.2		280	19.0
400----	31	7,357	-27.1		286	22.3
350----	31	8,305	-34.0		290	24.1
300----	31	9,367	-41.8		289	26.0
250----	31	10,581	-49.8		278	29.0
200----	31	12,017	-56.3		274	31.3
175----	31	12,861	-58.1		272	31.7
150----	31	13,829	-59.8		265	30.7
125----	31	14,964	-61.2		264	27.2
100----	31	16,350	-61.1		260	23.1
80-----	30	17,745	-59.2		263	15.0
70-----	30	18,589	-57.9		263	10.1
60-----	30	19,558	-57.6		271	5.8
50-----	30	20,710	-57.2		324	2.5
40-----	30	22,125	-56.3		18	2.5
30-----	29	23,956	-54.4		28	5.2
25-----	27	25,131	-53.1		34	5.8
20-----	26	26,574	-51.5		34	8.0
15-----	22	28,462	-49.5		9	8.7
10-----	9	31,097	-47.3			
7------						

POINT ARGUELLO, CALIF.
(1002 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	113	10.9	83	43	2.3
1,000--	31	127			27	2.9
950----	31	568	16.3	50	24	6.0
900----	31	1,023	17.0	32	21	6.0
850----	31	1,507	14.1	31	16	5.4
800----	31	2,016	11.2	27	2	4.5
750----	31	2,551	8.0	30	341	4.7
700----	31	3,118	4.0	33	324	6.2
650----	31	3,714	.0	34	319	6.2
600----	31	4,353	- 3.9	33	310	7.2
550----	31	5,027	- 8.1	29	303	9.5
500----	31	5,769	-13.1	29	305	12.0
450----	31	6,560	-18.8		314	16.1
400----	31	7,430	-25.5		315	16.9
350----	31	8,385	-32.7		305	17.1
300----	31	9,451	-40.8		305	18.8
250----	31	10,668	-49.8		296	21.4
200----	31	12,102	-57.0		282	20.8
175----	31	12,943	-59.0		274	20.0
150----	31	13,906	-61.2		262	20.8
125----	31	15,029	-64.1		270	21.2
100----	28	16,388	-64.7		273	16.3
80-----	28	17,755	-63.0		281	11.5
70-----	28	18,587	-61.3		273	7.4
60-----	26	19,537	-59.9		288	5.1
50-----	26	20,680	-57.9		270	1.9
40-----	26	22,092	-56.1		40	1.4
30-----	25	23,929	-53.9		89	3.7
25-----	25	25,102	-52.7		15	1.0
20-----	25	26,548	-51.1		282	3.3
15-----	22	28,423	-48.4		279	11.9
10-----	18	31,101	-44.4		270	23.7
7------	7	33,588	-41.0			

PORTLAND, ME.
(1015 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	20	7.0	90	317	4.3
1,000--	31	140	9.5	79	331	4.3
950----	31	564	8.8	74	338	6.0
900----	31	1,014	8.1	65	321	4.1
850----	31	1,485	6.7	58	297	6.2
800----	31	1,981	5.2	48	285	10.9
750----	31	2,503	2.6	44	283	10.9
700----	31	3,062	- .1	42	284	11.7
650----	31	3,647	- 3.3	39	275	12.4
600----	31	4,282	- 6.6	35	271	17.1
550----	31	4,949	-10.4	32	274	17.1
500----	31	5,685	-15.2		268	19.0
450----	31	6,463	-20.6		269	19.8
400----	31	7,335	-26.9		263	19.6
350----	31	8,286	-33.5		256	20.8
300----	31	9,352	-40.9		246	22.9
250----	31	10,571	-49.3		235	28.8
200----	31	12,016	-55.[illegible]		240	31.7
175----	31	12,864	-57.5		245	31.3
150----	31	13,835	-58.7		243	29.9
125----	29	14,969	-59.8		246	26.2
100----	29	16,362	-59.9		248	20.6
80-----	29	17,763	-57.8		254	14.0
70-----	29	18,607	-57.0		271	9.9
60-----	29	19,584	-56.7		285	6.4
50-----	29	20,740	-56.4		327	4.3
40-----	29	22,159	-55.6		349	5.2
30-----	27	23,993	-54.0		341	6.0
25-----	25	25,162	-53.2		348	7.4
20-----	23	26,601	-52.0		332	6.2
15-----	10	28,410	-50.6			
10-----						
7------						

RAPID CITY, S. DAK.
(904 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	966	5.6	62	303	4.1
1,000--	31	129				
950----	31	551				
900----	31	999			322	4.3
850----	31	1,473	8.6	44	291	10.1
800----	31	1,972	6.1	44	293	12.4
750----	31	2,493	3.2	45	291	12.0
700----	31	3,054	.3	44	290	14.6
650----	31	3,639	- 3.3	38	280	19.0
600----	31	4,274	- 6.9	35	277	22.0
550----	31	4,942	-11.3	37	272	25.1
500----	31	5,672	-16.1		270	26.4
450----	31	6,449	-21.7		271	27.8
400----	31	7,315	-28.1		274	29.0
350----	31	8,259	-35.1		276	31.5
300----	31	9,316	-43.0		274	35.8
250----	31	10,521	-51.5		280	36.7
200----	31	11,951	-56.6		277	35.4
175----	31	12,794	-58.1		274	34.2
150----	31	13,763	-58.8		274	33.0
125----	31	14,904	-60.2		273	30.9
100----	31	16,291	-60.8		272	23.1
80-----	29	17,688	-59.3		268	18.8
70-----	29	18,530	-58.4		268	16.1
60-----	29	19,497	-57.3		265	12.8
50-----	29	20,651	-56.4		265	11.1
40-----	29	22,070	-55.4		257	10.5
30-----	24	23,915	-53.5		249	8.7
25-----	20	25,092	-52.6		254	8.5
20-----	18	26,548	-51.7		254	7.2
15-----	9	28,417	-50.0			
10-----						
7------						

ST. CLOUD, MINN.
(978 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	316	4.4	86		0.0
1,000--	31	129				
950----	31	554	7.6	69	256	1.0
900----	31	996	7.6	57	262	10.3
850----	31	1,466	5.9	51	262	11.5
800----	31	1,961	3.9	45	254	14.2
750----	31	2,481	1.0	48	266	15.7
700----	31	3,036	- 1.7	42	275	17.1
650----	31	3,616	- 4.8	40	276	20.6
600----	31	4,248	- 8.6	40	276	22.2
550----	31	4,909	-12.8	34	278	24.9
500----	31	5,638	-17.6	34	276	27.4
450----	31	6,415	-23.0	38	276	28.6
400----	31	7,272	-29.2		278	29.0
350----	31	8,213	-36.0		281	29.0
300----	31	9,266	-43.7		283	31.1
250----	31	10,469	-51.3		279	34.6
200----	31	11,900	-55.7		276	36.9
175----	31	12,748	-56.8		275	34.0
150----	31	13,722	-57.8		277	32.6
125----	30	14,869	-59.0		280	28.6
100----	27	16,277	-59.1		274	21.4
80-----	26	17,687	-57.9		271	16.9
70-----	26	18,538	-57.0		271	16.1
60-----	26	19,508	-56.5		272	14.0
50-----	26	20,666	-55.7		263	12.2
40-----	26	22,091	-54.7		262	11.9
30-----	24	23,938	-53.0		264	12.0
25-----	23	25,123	-52.1		258	11.7
20-----	23	26,571	-51.0		269	11.5
15-----	18	28,465	-49.7		271	15.0
10-----						
7------						

ST. PAUL IS., ALASKA
(1006 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	10	3.1	86	248	5.4
1,000--	31	60			236	7.0
950----	31	473	.1	82	259	5.2
900----	31	905	- 2.9	81	290	5.1
850----	31	1,356	- 5.9	81	278	8.2
800----	31	1,829	- 8.5	73	276	10.1
750----	31	2,326	-11.3	69	282	10.3
700----	31	2,854	-14.1	62	274	11.9
650----	31	3,410	-17.3	59	268	14.8
600----	31	4,009	-20.8	56	277	15.2
550----	31	4,642	-24.7	55	276	18.1
500----	31	5,336	-29.0	50	277	19.4
450----	31	6,074	-33.9	46	275	23.7
400----	31	6,899	-38.9		272	29.5
350----	31	7,806	-43.7		267	38.5
300----	31	8,833	-47.1		274	44.5
250----	31	10,034	-48.6		270	54.0
200----	31	11,499	-49.3		273	49.5
175----	31	12,374	-49.3		275	43.9
150----	30	13,377	-49.6		275	36.5
125----	29	14,565	-50.0		263	33.8
100----	29	16,022	-50.4		267	36.1
80-----	29	17,476	-51.1		263	33.0
70-----	29	18,346	-51.0		274	25.5
60-----	28	19,346	-51.2		267	23.3
50-----	28	20,532	-51.6		284	24.1
40-----	27	21,977	-51.9		276	25.8
30-----	23	23,843	-51.9		274	20.8
25-----	19	25,035	-51.2		292	20.2
20-----	14	26,500	-50.8			
15-----						
10-----						

SALEM, OREG.
(1011 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	61	7.1	90	196	2.5
1,000--	31	152	9.4	80	213	1.6
950----	31	575	9.6	72	272	2.5
900----	31	1,027	[illegible].7	66	266	5.2
850----	31	1,499	6.9	56	263	8.2
800----	31	1,994	4.2	54	268	11.1
750----	31	2,515	1.5	50	272	13.8
700----	31	3,070	- 1.3	41	278	15.7
650----	31	3,651	- 4.7	40	283	16.9
600----	31	4,282	- 8.3	33	286	19.6
550----	31	4,945	-12.4	35	285	23.1
500----	31	5,674	-17.0	34	291	26.0
450----	31	6,451	-22.1	36	286	28.6
400----	31	7,313	-28.1		286	31.3
350----	31	8,258	-34.9		288	33.[illegible]
300----	31	9,318	-42.1		292	35.4
250----	31	10,531	-49.9		289	31.7
200----	31	11,969	-55.9		273	28.4
175----	31	12,815	-58.1		267	27.6
150----	31	13,782	-60.2		269	26.4
125----	31	14,916	-61.6		277	23.1
100----	31	16,300	-60.9		273	19.6
80-----	31	17,691	-59.1		277	15.2
70-----	31	18,535	-58.8		273	14.0
60-----	31	19,496	-58.4		274	14.6
50-----	30	20,651	-56.9		276	11.1
40-----	29	22,070	-56.3		274	10.5
30-----	29	23,906	-53.9		275	13.6
25-----	29	25,079	-53.0		275	12.6
20-----	22	26,537	-52.6		266	15.5
15-----	12	28,437	-50.6		264	17.1
10-----						

SALT LAKE CITY, UTAH
(873 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	1,288	5.8	69	157	4.5
1,000--	31	162				
950----	31	585				
900----	31	1,037				
850----	31	1,509	9.1	47	168	5.2
800----	31	2,010	7.0	43	206	4.9
750----	31	2,537	4.0	45	250	5.6
700----	31	3,097	.4	46	266	9.1
650----	31	3,682	- 3.3	47	268	10.1
600----	31	4,316	- 7.5	46	266	12.6
550----	31	4,983	-11.5	43	267	16.1
500----	31	5,714	-15.9	39	269	19.8
450----	31	6,492	-21.3	37	264	22.0
400----	31	7,363	-27.7		260	21.4
350----	31	8,306	-34.5		256	21.4
300----	31	9,365	-42.0		277	16.9
250----	31	10,578	-49.8		278	17.9
200----	31	12,016	-55.4		272	17.9
175----	31	12,862	-57.7		272	21.6
150----	31	13,830	-59.7		272	26.8
125----	31	14,963	-62.2		270	22.0
100----	31	16,340	-62.0		269	19.0
80-----	31	17,724	-60.3		271	12.6
70-----	30	18,562	-59.5		275	11.5
60-----	29	19,527	-58.1		275	9.7
50-----	29	20,678	-56.9		267	8.5
40-----	27	22,092	-55.6		255	7.6
30-----	24	23,935	-53.9		262	4.5
25-----	23	25,111	-52.6		271	4.9
20-----	21	26,556	-51.6		272	5.2
15-----	15	28,449	-50.3			
10-----						

SAN ANTONIO, TEXAS
(990 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	243	16.6	86	14	1.7
1,000--	29	156				
950----	29	596	16.7	76	156	7.8
900----	29	1,054	14.6	71	168	8.9
850----	29	1,537	12.8	63	181	5.8
800----	29	2,046	12.1	42	199	4.5
750----	29	2,582	9.7	37	211	3.3
700----	29	3,155	6.6	36	278	3.5
650----	29	3,757	3.0		295	4.5
600----	29	4,405	- .9		281	6.2
550----	29	5,088	- 5.2		281	9.5
500----	28	5,838	- 9.5		276	12.6
450----	28	6,643	-15.1		271	15.9
400----	28	7,526	-21.6		272	20.2
350----	28	8,496	-28.5		271	26.4
300----	28	9,581	-37.0		270	35.9
250----	28	10,818	-46.1		274	45.9
200----	27	12,268	-55.7		273	58.5
175----	27	13,110	-60.5		271	58.1
150----	27	14,059	-65.5		273	51.1
125----	26	15,157	-69.9		273	36.1
100----	25	16,483	-71.4		275	22.7
80-----	24	17,809	-68.7		278	8.5
70-----	24	18,623	-65.7		274	4.7
60-----	24	19,557	-62.2		1	2.1
50-----	23	20,693	-59.3		99	5.1
40-----	23	22,099	-56.3		71	3.1
30-----	21	23,929	-53.4		94	2.3
25-----	20	25,111	-51.3		93	2.5
20-----	18	26,576	-48.7		291	2.1
15-----	12	28,491	-46.0		296	6.6
10-----	6	31,203	-42.5			

SAN DIEGO, CALIF.
(999 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	124	14.0	82	360	1.0
1,000--	31	117			345	1.4
950----	31	552	16.8	57	138	1.0
900----	31	1,015	16.7	39	129	.8
850----	31	1,499	14.6	33	245	1.9
800----	31	2,009	12.0	26	266	4.3
750----	31	2,539	8.4	26	277	5.2
700----	31	3,113	4.7	28	270	6.8
650----	31	3,703	.9	31	271	8.4
600----	31	4,352	- 3.4	33	271	8.9
550----	31	5,021	- 7.8	30	272	11.5
500----	31	5,770	-12.8		277	13.0
450----	31	6,554	-18.3		270	15.0
400----	31	7,435	-24.9		274	17.1
350----	31	8,393	-32.2		270	20.6
300----	31	9,465	-40.0		268	23.1
250----	31	10,688	-48.4		268	28.0
200----	31	12,132	-56.0		263	30.1
175----	31	12,976	-58.8		258	32.6
150----	31	13,938	-61.5		254	30.9
125----	31	15,062	-64.2		260	28.4
100----	31	16,423	-65.6		264	27.6
80-----	31	17,781	-64.3		271	12.2
70-----	31	18,611	-62.1		269	8.2
60-----	31	19,559	-60.1		270	5.6
50-----	31	20,701	-58.4		305	1.0
40-----	29	22,110	-56.3		69	1.4
30-----	29	23,946	-54.2		79	3.7
25-----	27	25,126	-52.1		67	3.3
20-----	20	26,581	-50.3		46	3.9
15-----	5	28,504	-47.3			
10-----						

SAN JUAN, P. R.
(1013 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	6	24.6	88	126	1.6
1,000--	30	117	24.9	81	105	5.2
950----	30	565	22.3	78	101	13.0
900----	30	1,036	19.3	76	104	13.8
850----	30	1,526	16.5	70	105	14.0
800----	30	2,041	13.9	63	101	11.3
750----	30	2,583	11.1	57	99	8.9
700----	30	3,157	8.2	50	99	7.8
650----	30	3,760	4.7	48	87	6.2
600----	30	4,415	1.4	49	80	5.6
550----	30	5,099	- 2.7	45	71	4.7
500----	30	5,861	- 7.0	37	77	3.3
450----	30	6,672	-11.9	38	53	3.1
400----	30	7,569	-17.6	31	55	3.3
350----	30	8,554	-24.7		321	2.7
300----	30	9,658	-32.9		304	5.2
250----	29	10,914	-43.0		312	10.1
200----	28	12,377	-55.2		331	15.0
175----	28	13,217	-61.3		329	16.5
150----	27	14,160	-67.8		341	18.8
125----	27	15,241	-73.2		352	9.7
100----	27	16,539	-75.0		341	7.4
80-----	26	17,854	-69.7		8	6.2
70-----	26	18,660	-65.2		35	4.[illegible]
60-----	25	19,609	-61.5		41	6.2
50-----	25	20,748	-58.3		66	11.1
40-----	25	22,165	-54.8		77	11.5
30-----	23	24,031	-50.0		93	14.2
25-----	21	25,225	-47.8		86	14.0
20-----	18	26,709	-45.2		75	13.6
15-----	7	28,634	-40.8			

SANTA MONICA, CALIF.
(1010 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	38	15.0	74	28	2.7
1,000--	31	123	16.0	69	49	2.5
950----	31	559	17.0	48	80	4.1
900----	31	1,020	16.1	36	58	3.5
850----	31	1,504	13.9	29	46	1.0
800----	31	2,012	11.0	27	285	1.9
750----	31	2,544	7.8	28	307	3.7
700----	31	3,112	4.0	29	297	4.9
650----	31	3,705	- .1	32	291	7.2
600----	31	4,347	- 4.2	30	293	7.8
550----	31	5,019	- 8.8	30	284	9.1
500----	31	5,759	-13.6		289	10.9
450----	31	6,545	-19.2		291	14.6
400----	31	7,418	-25.6		284	16.7
350----	31	8,372	-32.7		279	19.0
300----	31	9,440	-40.4		280	22.2
250----	31	10,661	-48.6		280	24.9
200----	31	12,102	-55.9		268	27.4
175----	31	12,947	-58.5		265	25.5
150----	31	13,909	-60.9		261	24.3
125----	31	15,033	-64.1		264	24.9
100----	30	16,394	-65.4		270	18.8
80-----	30	17,755	-63.7		276	10.9
70-----	30	18,579	-62.3		272	7.2
60-----	30	19,533	-60.1		265	5.2
50-----	30	20,675	-58.0		260	2.9
40-----	30	22,085	-56.2			.0
30-----	30	23,921	-54.1		78	2.5
25-----	27	25,089	-52.7		104	3.5
20-----	26	26,532	-51.0		337	1.7
15-----	20	28,401	-49.4		275	6.4

SAULT STE. MARIE, MICH.
(989 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	221	6.0	85	34	0.8
1,000--	31	132				
950----	31	551	6.1	76	248	5.1
900----	31	997	5.0	73	260	11.3
850----	31	1,463	3.9	66	263	14.8
800----	31	1,954	2.0	63	262	16.7
750----	31	2,470	- .3	51	262	17.5
700----	31	3,023	- 2.8	44	265	20.0
650----	31	3,603	- 5.8	43	266	20.[illegible]
600----	31	4,232	- 9.2	39	264	23.7
550----	31	4,896	-13.1	40	260	27.2
500----	31	5,621	-17.7	40	269	29.1
450----	31	6,394	-23.3	40	271	30.1
400----	31	7,253	-29.7	40	269	30.5
350----	31	8,192	-36.5		273	34.6
300----	31	9,244	-43.8		262	33.2
250----	31	10,449	-51.0		263	35.8
200----	31	11,884	-55.6		268	38.7
175----	31	12,733	-56.1		265	36.9
150----	31	13,712	-57.1		262	35.0
125----	30	14,860	-57.6		261	28.0
100----	30	16,269	-57.2		264	23.5
80-----	30	17,683	-56.4		258	23.3
70-----	30	18,532	-56.1		255	16.5
60-----	30	19,514	-55.2		251	14.6
50-----	30	20,678	-54.9		263	11.7
40-----	30	22,107	-54.5		268	11.3
30-----	29	23,959	-53.6		269	11.3
25-----	29	25,134	-52.8		277	10.5
20-----	29	26,577	-51.9		277	11.3
15-----	23	28,440	-51.8		272	14.0

SEATTLE, WASH.
(1003 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	31	125	7.8	87	166	2.1
1,000--	31	148			81	1.4
950----	31	572	8.0	77	209	5.4
900----	31	1,018	6.3	74	238	7.2
850----	31	1,485	4.2	69	255	8.9
800----	31	1,978	2.3	58	265	12.4
750----	31	2,494	- .3	50	272	14.4
700----	31	3,046	- 3.1	47	275	17.7
650----	31	3,625	- 6.3	48	274	20.8
600----	31	4,252	-10.1	44	278	24.7
550----	31	4,915	-14.2	42	280	27.0
500----	31	5,636	-18.7	35	280	29.5
450----	31	6,406	-24.0		282	32.3
400----	31	7,264	-29.8		286	35.8
350----	31	8,204	-35.9		285	38.3
300----	31	9,259	-42.8		287	42.0
250----	31	10,471	-49.[illegible]		292	44.7
200----	31	11,913	-54.9		289	40.0
175----	31	12,762	-57.4		287	38.5
150----	31	13,730	-59.1		286	35.9
125----	31	14,871	-59.6		286	31.5
100----	31	16,264	-59.8		284	27.2
80-----	31	17,665	-57.8		283	21.2
70-----	31	18,516	-57.5		277	17.9
60-----	31	19,483	-56.9		278	16.5
50-----	30	20,640	-56.4		277	14.2
40-----	28	22,060	-56.0		277	12.2
30-----	23	23,902	-54.3		284	10.3
25-----	19	25,074	-53.5		289	7.6
20-----	12	26,486	-54.2		305	5.1
15-----	5	28,335	-54.4			

SHEMYA, ALASKA
(1009 MB.)

Standard pressure surface (mb)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	37	5.4	81	258	10.3
1,000--	30	111			270	10.9
950----	30	525	1.5	82	264	14.4
900----	30	961	- 1.8	82	271	17.5
850----	30	1,414	- 4.3	78	274	19.4
800----	30	1,890	- 6.2	65	274	19.8
750----	30	2,394	- 8.4	55	276	22.7
700----	30	2,926	-11.0	49	278	24.1
650----	30	3,488	-14.3	44	275	26.8
600----	30	4,095	-18.0	43	274	31.5
550----	30	4,739	-21.7	40	270	33.2
500----	30	5,437	-25.9	38	276	37.1
450----	30	6,183	-30.8		275	40.8
400----	30	7,020	-36.2		274	46.0
350----	30	7,936	-41.4		274	51.5
300----	30	8,972	-46.0		276	57.1
250----	30	10,175	-49.2		275	59.8
200----	30	11,632	-50.4		276	60.6
175----	30	12,503	-50.9		276	52.7
150----	30	13,504	-51.7		276	48.6
125----	30	14,683	-52.0		273	45.7
100----	30	16,124	-52.5		273	36.1
80-----	28	17,560	-52.6		274	31.7
70-----	28	18,431	-52.4		276	25.5
60-----	28	19,420	-52.5		278	21.8
50-----	28	20,598	-52.3		277	22.5
40-----	27	22,046	-51.[illegible]		285	18.7
30-----	25	23,914	-50.4		297	15.0
25-----	25	25,104	-49.9		303	16.5
20-----	21	26,579	-49.5		300	16.9
15-----	7	28,503	-48.7			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

OCTOBER 1961

Standard pressure surface (mb.)	SHREVEPORT, LA. (1011 MB.)						SPOKANE, WASH. (933 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	76	14.6	87	118	2.7	31	722	3.3	80	162	3.3
1,000--	31	172	16.0	75	135	4.3	31	155				
950----	31	610	15.7	59	178	8.2	31	576				
900----	31	1,067	13.7	53	185	5.4	31	1,017	6.0	69	199	6.4
850----	31	1,548	11.8	46	222	3.3	31	1,485	4.6	60	228	11.1
800----	31	2,053	9.8	42	255	3.1	31	1,977	2.4	56	249	11.5
750----	31	2,585	7.5	39	263	5.1	31	2,496	- .2	51	257	13.0
700----	31	3,153	4.7	34	275	6.2	31	3,046	- 3.1	46	262	16.3
650----	31	3,752	1.3	31	275	7.4	31	3,628	- 6.1	42	271	18.8
600----	31	4,394	- 2.2		281	9.5	31	4,252	- 9.6	40	274	22.9
550----	31	5,077	- 6.4		280	11.9	31	4,915	-13.7	39	270	27.4
500----	31	5,819	-11.4		279	14.6	31	5,637	-18.5	39	277	26.8
450----	31	6,611	-17.0		277	18.3	31	6,411	-24.1	42	278	29.0
400----	31	7,493	-23.6		278	22.9	31	7,264	-30.0	42	277	32.8
350----	31	8,456	-30.6		277	29.1	31	8,203	-36.5		279	35.6
300----	31	9,534	-38.6		281	34.6	31	9,255	-43.4		286	40.2
250----	31	10,763	-47.4		278	44.5	31	10,463	-49.9		288	39.6
200----	31	12,207	-56.4		281	52.8	31	11,903	-55.3		286	39.1
175----	31	13,048	-60.2		279	49.5	31	12,750	-57.3		284	38.7
150----	31	14,001	-63.9		277	46.8	31	13,722	-58.4		283	35.9
125----	31	15,109	-67.7		276	37.1	31	14,866	-59.2		284	29.3
100----	30	16,446	-68.8		277	27.6	31	16,264	-59.2		278	22.5
80-----	29	17,787	-66.2		275	13.6	31	17,664	-57.8		273	20.4
70-----	28	18,609	-63.9		276	8.0	31	18,514	-57.0		274	17.9
60-----	28	19,550	-61.4		289	3.3	31	19,484	-56.8		272	13.8
50-----	27	20,689	-59.2		94	.6	31	20,640	-56.2		271	12.0
40-----	27	22,095	-56.7		40	1.7	31	22,059	-55.2		271	11.9
30-----	26	23,930	-54.1		34	2.3	27	23,908	-53.7		277	9.9
25-----	25	25,110	-52.3		348	2.5	19	25,090	-53.1		278	9.7
20-----	24	26,558	-50.2		329	2.7	7	26,542	-51.4			
15-----	17	28,442	-47.6		287	6.6						

Standard pressure surface (mb.)	TAMPA, FLA. (1016 MB.)						TATOOSH IS., WASH. (1013 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	18.6	85	30	7.8	31	31	9.0	88	148	6.0
1,000--	31	147	20.0	80	43	10.5	31	140	9.2	82	159	6.6
950----	31	588	18.7	75	62	10.9	31	563	7.9	76	228	7.4
900----	31	1,053	16.1	72	69	6.8	31	1,009	5.9	72	252	9.1
850----	31	1,538	13.7	64	51	4.3	31	1,476	3.6	64	263	11.7
800----	31	2,047	11.2	56	29	3.3	31	1,966	1.7	56	271	15.2
750----	31	2,582	9.6	38	358	3.9	31	2,481	- .8	51	275	16.9
700----	31	3,155	7.0		351	3.9	31	3,033	- 3.6	51	270	19.8
650----	31	3,758	3.6		3	5.1	31	3,610	- 6.8	50	269	23.5
600----	31	4,407	.0		322	6.4	31	4,236	-10.5	46	272	26.0
550----	31	5,093	- 4.2		301	8.4	31	4,894	-14.3	40	270	30.7
500----	31	5,844	- 9.0		298	11.3	31	5,618	-18.8	39	270	34.0
450----	31	6,652	-14.2		286	15.9	31	6,386	-24.2	38	274	34.0
400----	30	7,538	-20.4		279	20.8	31	7,245	-30.2		274	39.6
350----	30	8,513	-27.4		281	26.0	31	8,182	-36.5		280	45.1
300----	30	9,605	-35.5		282	32.3	31	9,235	-43.0		279	48.4
250----	30	10,849	-44.6		278	39.4	31	10,445	-49.8		279	42.7
200----	30	12,312	-54.4		274	43.1	31	11,883	-55.6		279	38.5
175----	30	13,158	-59.4		273	41.4	31	12,728	-57.8		276	38.7
150----	28	14,114	-64.5		269	35.4	31	13,697	-59.2		277	37.1
125----	27	15,217	-68.9		274	28.8	31	14,837	-59.6		280	30.9
100----	27	16,544	-70.6		274	18.7	31	16,231	-59.4		278	26.0
80-----	27	17,878	-67.2		294	4.9	31	17,629	-58.7		278	21.2
70-----	27	18,697	-64.1		43	2.3	30	18,477	-57.8		278	18.1
60-----	27	19,639	-61.7		73	4.9	30	19,448	-57.0		280	14.2
50-----	27	20,775	-59.2		69	6.6	29	20,598	-56.7		277	12.8
40-----	27	22,186	-55.7		61	8.0	28	22,013	-55.5		273	13.2
30-----	27	24,032	-52.1		67	7.0	21	23,877	-54.4		274	9.9
25-----	25	25,226	-49.3		74	6.2	16	25,055	-53.7			
20-----	22	26,697	-47.7		130	.8						
15-----	14	28,607	-44.2									

Standard pressure surface (mb.)	TOPEKA, KANS. (986 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	269	8.9	88	194	2.9
1,000--	31	153				
950----	31	584	11.8	63	220	11.3
900----	31	1,035	12.1	51	233	15.5
850----	31	1,513	10.4	46	247	14.4
800----	31	2,015	8.1	43	256	13.4
750----	31	2,542	5.0	44	262	15.5
700----	31	3,105	1.9	38	270	19.4
650----	30	3,695	- 1.4	33	274	20.4
600----	30	4,332	- 5.6	34	276	22.7
550----	30	5,004	- 9.6		275	25.8
500----	30	5,740	-13.7		274	27.4
450----	30	6,524	-19.3		274	28.8
400----	30	7,399	-25.9		276	29.5
350----	30	8,351	-33.2		275	33.2
300----	30	9,416	-41.4		269	36.3
250----	30	10,630	-50.3		270	40.0
200----	30	12,062	-57.2		273	45.5
175----	30	12,903	-59.6		273	44.3
150----	30	13,864	-61.1		272	39.4
125----	30	14,991	-63.0		272	32.6
100----	29	16,360	-63.1		266	26.2
80-----	28	17,747	-60.4		267	17.1
70-----	27	18,588	-59.3		259	10.9
60-----	26	19,556	-57.5		266	8.2
50-----	26	20,712	-56.3		252	3.9
40-----	26	22,133	-55.0			.0
30-----	25	23,979	-53.2		66	2.5
25-----	25	25,157	-51.9		66	3.1
20-----	19	26,651	-49.5		87	4.9
15-----	10	28,590	-46.6			

Standard pressure surface (mb.)	TUCSON, ARIZ. (924 MB.)						WASHINGTON, D. C. (1009 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	781	14.7	41	138	7.4	31	84	7.0	90	2	3.3
1,000--	31	114					31	161	11.3	75	347	4.3
950----	31	552					31	593	12.3	62	335	7.0
900----	31	1,015	18.8	33	138	8.4	31	1,043	9.8	64	325	8.9
850----	31	1,504	16.6	34	150	4.9	31	1,517	7.8	60	325	9.1
800----	31	2,017	13.1	38	180	7.2	31	2,015	5.9	47	314	9.9
750----	31	2,554	9.2	38	200	9.5	31	2,538	3.7	41	308	10.7
700----	31	3,123	5.6	33	205	13.4	31	3,099	.8	38	294	10.1
650----	31	3,722	2.1		215	14.4	31	3,688	- 2.5	37	290	11.1
600----	31	4,368	- 1.5		225	15.5	31	4,322	- 5.9	29	285	13.2
550----	31	5,047	- 6.0		232	17.1	31	4,996	- 9.9		282	15.0
500----	31	5,795	-11.1		236	20.0	31	5,727	-14.7		281	17.3
450----	31	6,589	-17.0		236	24.9	31	6,508	-20.1		275	17.[illegible]
400----	31	7,471	-23.3		250	26.0	31	7,379	-26.4		281	19.8
350----	31	8,433	-30.7		254	28.0	31	8,331	-33.1		278	18.7
300----	31	9,507	-39.3		252	34.8	31	9,397	-40.8		282	20.2
250----	31	10,730	-47.[illegible]		254	38.7	31	10,615	-48.9		283	24.3
200----	31	12,175	-55.6		255	46.0	31	12,059	-54.9		272	25.5
175----	31	13,018	-59.1		255	40.4	30	12,909	-57.2		260	27.8
150----	31	13,976	-62.3		256	38.5	30	13,879	-59.3		261	28.0
125----	31	15,092	-65.7		258	31.5	30	15,015	-61.6		259	24.1
100----	31	16,441	-67.1		261	23.5	30	16,398	-61.7		260	19.0
80-----	31	17,795	-64.4		263	12.2	30	17,784	-59.7		261	14.0
70-----	31	18,625	-62.4		266	6.8	30	18,624	-58.9		258	10.1
60-----	30	19,575	-60.3		254	2.3	30	19,588	-58.3		264	5.1
50-----	30	20,719	-58.2		48	2.1	30	20,736	-57.8		344	2.5
40-----	29	22,137	-56.2		94	4.5	30	22,147	-56.5		19	4.7
30-----	28	23,977	-53.2		76	4.9	27	23,975	-54.3		33	5.6
25-----	27	25,163	-51.1		68	3.5	27	25,146	-52.9		26	5.4
20-----	22	26,630	-49.[illegible]		61	4.5	27	26,592	-51.0		11	6.0
15-----							24	28,482	-48.6		357	5.2
10-----							9	31,139	-45.5			

Standard pressure surface (mb.)	WINNEMUCCA, NEV. (872 MB.)						YAKUTAT, ALASKA (1002 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,310	3.3	60	347	0.6	31	12	2.8	91	108	3.3
1,000--	30	175					31	26			139	1.6
950----	30	597					31	443	3.1	76	129	5.8
900----	30	1,046					31	880	.2	75	153	6.4
850----	30	1,516	8.7	43	296	1.7	31	1,336	- 2.8	76	190	8.2
800----	30	2,016	6.9	42	289	4.3	31	1,814	- 5.[illegible]	75	194	8.5
750----	30	2,539	3.4	46	285	8.0	31	2,315	- 9.0	69	213	9.1
700----	30	3,099	- .1	48	286	9.7	31	2,848	-12.3	65	225	10.1
650----	30	3,685	- 3.4	45	288	12.8	31	3,407	-15.9	57	227	13.0
600----	30	4,317	- 7.1	44	293	12.4	31	4,010	-19.7	53	238	15.3
550----	30	4,985	-11.3	38	297	13.6	31	4,647	-23.6	54	241	20.[illegible]
500----	30	5,715	-16.0	33	296	15.5	31	5,341	-28.2	52	248	20.8
450----	30	6,493	-21.5		292	18.5	31	6,084	-33.1	49	250	24.7
400----	30	7,357	-27.8		296	21.6	31	6,909	-38.[illegible]		252	31.3
350----	30	[illegible],303	-34.5		295	21.0	31	7,817	-44.[illegible]		255	40.2
300----	30	9,364	-42.2		286	22.0	31	8,841	-48.5		260	50.7
250----	30	10,574	-50.[illegible]		283	23.7	31	10,035	-50.3		264	55.4
200----	30	12,005	-56.5		270	28.6	31	11,489	-50.5		271	45.1
175----	30	12,849	-58.6		263	29.3	31	12,359	-50.5		271	42.7
150----	30	13,813	-60.7		270	25.[illegible]	30	13,359	-50.7		268	38.3
125----	30	14,944	-62.1		269	24.7	30	14,546	-51.1		268	35.9
100----	30	16,321	-62.3		267	21.4	30	15,996	-51.0		266	34.0
80-----	30	17,705	-60.8		274	13.6	28	17,445	-51.3		270	27.4
70-----	30	18,545	-59.5		261	11.9	25	18,308	-52.1		268	27.6
60-----	30	19,502	-58.8		260	11.3	25	19,304	-52.5		269	26.[illegible]
50-----	29	20,648	-57.3		264	8.9	23	20,476	-53.0		272	24.7
40-----	28	22,063	-55.6		266	4.9	23	21,909	-54.2		271	23.7
30-----	24	23,914	-53.4		272	5.4	20	23,757	-54.2		280	24.3
25-----	22	25,088	-52.4		292	7.2	16	24,974	-52.5		285	19.2
20-----	13	26,583	-50.6				14	26,404	-52.3		286	21.8
15-----												
10-----												

Standard pressure surface (mb.)	YUMA, ARIZ. (995 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	105	17.7	32	355	2.5
1,000--	30	87				
950----	30	535	23.0	24	3	3.9
900----	30	1,000	20.2	23	24	1.4
850----	30	1,489	17.0	22	184	1.7
800----	30	2,002	13.5	22	205	4.9
750----	30	2,541	9.6	23	211	4.5
700----	30	3,109	5.8	24	235	5.2
650----	30	3,710	1.7	26	244	7.0
600----	30	4,351	- 2.8	26	239	10.3
550----	30	5,031	- 7.7	28	245	11.5
500----	30	5,768	-12.8	29	243	15.5
450----	30	6,563	-18.3	27	242	16.1
400----	30	7,432	-24.7	29	246	19.0
350----	30	8,390	-32.1	32	243	21.4
300----	30	9,460	-40.0	30	247	25.8
250----	30	10,682	-48.5		251	29.1
200----	29	12,120	-55.7		250	33.4
175----	29	12,964	-58.9		251	37.3
150----	28	13,924	-61.2		254	42.0
125----	23	15,023	-64.2		267	31.5
100----	19	16,373	-65.3		263	24.7
80-----	18	17,743	-64.1		273	16.3
70-----	15	18,557	-62.9		266	11.5
60-----	14	19,499	-60.9		267	9.7
50-----	13	20,633	-59.5		282	10.5
40-----	12	22,025	-57.6			
30-----	11	23,854	-55.0			
25-----	11	25,023	-53.6			
20-----	9	26,468	-51.6			
15-----	9	28,345	-49.5			
10-----						

Note: All observations scheduled at 1200, G. C. T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots. The resultant wind speed is biased toward a lower value as the number of observations on which the resultant is based lessens. The amount of bias increases with the number of observations that are terminated due to low angle limitations.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun. OCTOBER 1961

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance: A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Oct.									
1	0.95	1.01	1.16	1.28	1.45	1.33	1.16	1.02	0.92
2	.98	1.08	1.19	1.33	1.45	1.32	1.18	1.06	.96
3	1.00	1.09	1.19	1.33	1.47	1.35	1.23	1.09	1.00
4	1.02	1.13	1.24	1.32	1.46	----	----	----	----
5	.97	1.10	1.21	1.32	1.45	----	1.20	1.07	.96
6	.97	1.07	----	1.33	1.44	1.28	----	.99	.85
7	.90	1.02	1.14	1.29	1.40	1.22	----	----	----
8	.95	1.06	1.14	1.28	1.40	----	----	----	----
10	.95	1.08	1.15	1.31	1.43	1.33	1.21	1.11	.97
11	1.14	1.15	1.23	1.34	1.47	1.30	1.18	1.09	.97
12	1.01	1.13	1.21	1.35	1.44	----	----	----	----
13	.99	1.11	1.19	1.31	1.40	1.27	1.19	1.09	.97
14	.97	1.09	1.17	1.31	1.42	1.32	1.17	1.05	.95
15	1.00	1.12	1.21	1.35	1.45	1.37	1.26	1.17	1.03
16	.98	1.09	1.18	1.31	1.42	1.33	1.18	1.09	.99
17	1.01	1.13	1.19	1.34	1.43	1.33	----	----	----
18	1.04	1.13	1.23	1.37	----	----	----	----	----
19	.89	1.01	1.12	1.26	1.36	1.32	1.18	1.07	.95
20	.92	1.02	1.13	1.25	1.39	1.28	1.11	.99	.85
21	.86	.99	1.11	1.28	1.39	1.32	1.14	1.03	.90
22	----	----	----	----	----	----	----	----	.96
23	----	----	----	1.35	1.44	1.37	1.20	1.09	.99
24	1.07	1.18	1.25	1.38	1.47	1.33	1.20	1.10	.99
25	.96	1.07	1.19	1.30	(1.31)	(1.28)	(1.16)	(1.06)	----
26	.74	.88	1.00	1.13	----	----	----	----	----
Averages	0.96	1.08	1.12	1.37	1.43	1.32	1.19	1.07	0.90

BLUE HILL OBS., MASS.

	Air mass: 4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Oct.									
1	----	----	----	----	1.32	1.20	1.03	0.88	0.75
5	1.01	1.10	1.20	1.34	1.40	1.27	1.05	.94	.83
6	.69	.78	.93	1.10	1.21	1.10	.89	.76	.64
7	.74	.83	.96	1.13	----	----	----	----	----
9	.66	.78	.91	1.11	----	1.07	.95	.83	.74
10	.88	.96	1.07	1.24	----	.87	.69	.55	.45
16	.93	1.05	1.16	1.30	1.37	1.29	1.12	1.01	.89
17	.86	.93	1.03	1.21	1.32	1.21	1.03	.93	.84
18	.77	.88	1.03	1.17	1.23	1.15	.93	.74	.61
19	.75	.83	.96	1.15	1.21	1.08	.89	.77	.67
25	.93	1.01	1.16	1.30	1.34	1.20	.96	.76	.62
27	.88	.95	1.08	1.23	1.29	1.20	1.04	.88	.81
28	.98	1.06	1.18	1.29	1.32	1.23	1.00	.82	.77
29	----	----	----	1.05	1.13	1.06	.81	.69	.61
31	.89	1.00	1.15	1.28	1.30	----	----	----	----
Averages	0.84	0.94	1.06	1.21	1.29	1.15	0.95	0.81	0.71

MAUNA LOA OBS., HAWAII

	Air mass: 3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Oct.									
1	1.15	1.23	----	----	----	----	----	----	----
2	----	----	----	1.46	----	----	----	----	----
4	1.23	1.31	1.41	1.51	----	----	----	----	1.18
5	1.24	1.32	1.42	1.51	----	----	----	----	----
6	1.26	1.32	1.40	----	----	----	----	----	----
7	1.19	1.27	1.37	1.49	----	----	----	----	----
8	1.18	1.25	1.34	1.46	1.58	----	----	----	----
9	1.19	1.27	1.36	1.48	1.60	1.47	1.36	1.26	1.17
10	1.21	1.29	1.37	1.47	----	----	----	----	----
11	1.19	----	1.35	1.46	----	----	----	----	----
14	----	----	----	1.45	----	----	----	----	----
15	1.17	1.24	----	----	----	----	----	----	----
16	1.19	1.25	1.34	1.46	----	----	----	----	----
22	1.17	1.26	1.35	1.47	----	----	----	----	----
23	1.20	1.28	1.37	1.47	----	----	----	----	----
24	1.19	1.27	1.36	1.48	----	----	----	----	----
25	1.17	1.25	1.34	1.46	----	----	----	----	----
30	----	----	----	1.43	----	----	----	----	----
Averages	1.20	1.27	1.37	1.47	1.59	1.47	1.36	1.26	1.18

HILO, HAWAII

	Air mass								
Oct.									
1	0.82	----	1.02	1.17	1.38	----	----	----	----
4	----	----	----	----	1.37	----	----	----	----
5	.84	0.92	1.03	1.17	1.30	----	----	----	----
Averages	0.83	0.92	1.03	1.17	1.35	----	----	----	----

TUCSON, ARIZ.

Date	Sun's zenith distance: A M 78.7°	75.7°	70.7°	60.0°	*	P M 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Oct.									
1	0.95	1.05	1.16	1.29	1.45	----	----	----	----
2	.88	.98	----	----	----	1.22	1.06	0.93	0.81
3	.90	1.01	1.13	1.28	1.41	1.25	1.05	.89	.76
4	.90	1.00	1.12	----	----	----	.98	.85	.74
7	.83	----	----	1.23	----	----	----	----	----
9	----	.89	----	----	----	----	----	----	----
10	.87	.98	1.08	----	1.44	----	1.09	----	.86
11	.90	1.01	1.14	----	1.38	----	----	----	.77
12	.83	.93	1.04	1.24	1.36	----	----	----	----
13	.80	----	----	----	----	----	----	1.00	.90
15	.94	1.04	1.15	1.30	1.44	1.29	1.14	1.01	.91
16	1.03	1.12	1.23	1.36	1.49	1.32	1.21	1.05	.95
17	----	----	----	----	----	----	1.09	.97	.89
18	.88	.99	1.10	----	1.38	----	----	----	----
19	.90	1.00	----	----	----	----	----	----	----
20	.83	.93	----	----	----	----	----	----	----
21	1.03	1.11	1.23	----	----	----	----	----	----
22	.92	1.03	1.15	1.30	----	----	----	1.06	.98
23	.95	1.03	1.14	1.31	----	----	----	----	----
24	.86	.97	1.07	----	1.40	----	1.14	.95	.81
25	.89	.98	----	----	----	----	----	----	----
27	----	----	----	----	1.44	----	1.15	1.06	.98
28	1.03	1.11	1.22	----	----	----	----	----	----
Averages	0.91	1.01	1.14	1.29	1.42	1.27	1.11	0.98	0.86

MADISON, WIS.

	Air mass: 4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Oct.									
5	----	----	----	----	S 1.36	S 1.10	S 1.07	S 0.94	S0.80
6	S 0.79	S 0.94	S 1.06	S 1.23	S 1.34	S 1.22	S 1.05	S .93	S .79
7	S .85	----	----	----	----	----	----	----	----
8	----	----	----	----	----	S 1.26	S 1.10	S .96	S .83
12	S .86	S .98	S 1.10	S 1.30	S 1.36	----	----	----	----
14	----	----	----	----	----	S 1.23	----	----	----
15	----	----	----	----	S 1.38	S 1.30	S 1.12	S .98	S .88
16	----	----	----	----	M 1.26	M 1.07	M 1.08	M .68	M .58
17	S .86	S .96	S 1.12	1.26	1.36	----	S 1.08	S .94	S .83
18	S .75	S .83	S .96	S 1.15	M 1.26	----	----	----	----
26	----	----	----	S 1.38	----	----	----	----	----
Averages	0.82	0.93	1.06	1.26	1.33	1.20	1.08	0.91	0.79

OMAHA, NEBR.

	Air mass: 4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Oct.									
2	S 0.70	S 0.80	S 0.93	S 1.11	----	----	----	----	----
3	S .65	S .73	S .91	S 1.08	S 1.22	----	----	----	----
4	H .56	H .71	----	----	----	----	----	----	----
5	----	----	----	----	S 1.19	1.06	0.77	----	----
6	M .58	M .69	M .84	S 1.05	S 1.21	----	----	----	----
7	----	----	M .63	M .93	----	----	----	----	----
11	S .69	S .78	S .93	S 1.14	S 1.25	S 1.10	S .94	+	S .68
12	M .38	M .52	----	----	----	----	----	----	----
13	----	----	----	----	----	.99	.83	+	----
14	S .53	S .70	S .87	S 1.08	M 1.20	M 1.10	M .93	M .79	M .67
15	S .69	S .77	S .93	S 1.17	S 1.30	S 1.14	S .95	M .82	M .66
16	S .67	S .80	S .93	S 1.13	M 1.21	S 1.14	S .94	S .82	M .66
17	S .76	S .84	----	----	S 1.12	S 1.00	M .82	M .65	+
19	M .73	M .76	M .94	M 1.16	----	S 1.16	S .99	S .86	S .74
20		INOPERABLE				S 1.08	M .83	M .70	M .65
21	----	M .53	M .69	M .83	M 1.04	M .86	M .63	----	----
23	S .71	S .77	----	S 1.12	S 1.19	S 1.05	S .81	S .67	M .51
24	----	----	----	----	S 1.08	----	----	----	----
25	S .62	S .77	S .90	S 1.09	S 1.13	S 1.13	S .95	S .80	‡
26	S .71	S .81	S .95	S 1.12	M 1.11	S 1.00	----	----	----
31	----	----	----	----	H 1.08	----	----	----	----
Averages	0.64	0.73	0.78	1.08	1.17	1.06	0.87	0.76	0.65

GUAM, M. I.

	Air mass: 4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92

No observations - intermittent recorder failure - cloudy every day.

+ Wind mast
‡ Off target
H Haze
( ) Clouds present
S Slight haze - indeterminable
M Moderate haze - indeterminable
* Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 8, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

OCTOBER 1961

1961	Albuquerque, N. Mex.	Ames, Iowa	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill Obs., Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Caribou, Me.	Charleston, S. C.	Cleveland, Ohio	Columbia, Mo.	Corvallis, Oreg.	Davis, Calif.	Dodge City, Kans.	East Lansing, Mich.	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Flaming Gorge, Utah	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.
Oct. 1-----	586	365	92	530	427	477	59	168	357	388	451	352	497	682	341	131	17	418	425	492	---	58	572	537	66	412	366	412	613	334	499	416	417	557
Oct. 2-----	598	421	28	525	380	430	106	225	341	204	433	164	368	677	246	205	256	387	374	481	527	298	581	538	142	521	163	(378)	600	390	585	348	352	506
Oct. 3-----	584	407	25	331	412	149	56	153	415	85	---	61	435	659	52	336	48	497	401	412	514	398	603	512	88	506	551	(352)	491	385	566	392	58	143
Oct. 4-----	562	389	255	580	349	496	43	175	349	98	---	120	444	680	68	397	251	471	391	444	518	372	590	507	107	492	544	(387)	593	298	567	378	548	595
Oct. 5-----	551	413	47	546	129	522	50	104	403	440	---	453	452	692	---	532	367	468	369	471	509	382	523	505	81	479	548	(297)	522	377	556	389	527	611
Oct. 6-----	547	414	319	516	295	512	52	134	387	387	---	394	417	688	310	529	420	471	274	450	480	424	549	474	72	404	527	(378)	343	99	540	152	505	593
Oct. 7-----	551	---	101	341	370	503	52	77	65	355	---	354	488	624	368	496	389	465	278	481	488	417	547	251	79	60	507	(371)	484	57	365	---	479	581
Average-------	568	402	124	481	338	441	60	148	331	280	---	271	443	672	231	375	250	454	359	462	506	335	567	475	91	411	458	(368)	521	277	525	346	412	512
Oct. 8-----	521	---	32	516	208	428	45	170	---	133	---	127	418	691	268	439	365	414	351	483	415	421	406	222	67	---	256	404	388	299	208	---	495	498
Oct. 9-----	362	---	175	470	92	420	45	155	---	351	---	314	508	690	202	490	372	341	212	467	---	363	358	244	140	329	81	394	515	369	389	---	476	541
Oct. 10-----	555	---	84	524	141	471	50	179	285	360	---	364	497	690	257	433	311	143	127	447	446	326	558	464	150	353	187	392	480	177	397	241	462	552
Oct. 11-----	547	393	241	498	150	---	37	221	304	71	---	56	---	681	377	455	329	452	165	206	481	383	540	460	148	355	286	363	343	228	524	300	444	538
Oct. 12-----	520	320	66	490	62	---	53	215	254	157	---	137	491	549	291	464	366	381	84	418	474	402	535	432	97	374	451	(376)	268	330	453	225	450	527
Oct. 13-----	529	353	13	439	343	405	45	197	338	312	---	319	390	663	313	452	191	351	246	424	458	71	525	455	43	411	450	374	240	332	497	305	438	519
Oct. 14-----	520	403	12	113	337	350	68	194	348	84	---	77	339	682	18	219	65	457	324	416	469	222	463	450	63	409	511	362	223	324	497	328	127	472
Average-------	508	367	89	436	191	415	49	190	306	210	---	199	440	664	247	422	285	363	215	409	457	313	483	389	101	372	318	(381)	351	294	423	280	413	521
Oct. 15-----	527	377	120	551	65	466	22	97	354	43	---	51	397	664	41	499	14	438	269	407	433	121	530	443	107	411	492	359	456	324	499	322	502	565
Oct. 16-----	512	373	95	541	221	440	78	128	346	344	---	355	470	653	149	466	271	431	178	402	466	385	524	440	---	427	485	330	521	311	500	303	468	530
Oct. 17-----	508	369	209	508	339	423	13	154	194	357	---	343	435	692	61	445	343	428	328	422	454	366	519	429	86	---	493	345	433	---	492	184	456	506
Oct. 18-----	458	173	167	501	332	391	33	100	312	344	---	340	396	650	306	396	345	412	306	396	449	356	295	433	62	426	467	345	465	---	480	319	436	493
Oct. 19-----	490	386	273	483	248	373	34	19	342	337	---	324	379	679	272	422	268	443	151	383	447	184	497	414	---	364	479	245	406	314	440	307	376	487
Oct. 20-----	489	362	263	517	122	222	22	22	264	30	---	36	462	685	44	395	104	402	153	81	398	51	493	275	40	360	479	258	541	294	413	53	296	329
Oct. 21-----	489	325	101	494	238	405	38	77	280	108	---	107	407	684	279	236	21	379	136	423	423	45	491	349	54	415	461	214	507	47	185	84	169	485
Average-------	496	338	175	513	224	389	34	85	299	223	---	222	421	672	164	408	195	419	217	359	439	216	478	397	70	401	479	299	476	258	430	225	386	485
Oct. 22-----	473	233	158	489	62	416	86	106	256	29	---	30	473	664	319	423	312	368	119	421	322	267	490	444	33	350	448	360	502	167	437	285	431	490
Oct. 23-----	494	356	148	464	218	401	36	101	311	35	---	39	393	646	---	429	255	177	160	389	432	228	474	325	30	223	431	342	416	264	442	147	424	473
Oct. 24-----	492	282	37	298	224	375	22	101	156	175	---	202	395	652	122	400	188	96	263	403	404	317	477	404	44	311	320	327	372	131	467	249	397	440
Oct. 25-----	478	347	81	415	90	316	13	(180)	320	334	---	313	344	606	118	380	87	407	107	260	422	153	353	351	46	363	344	272	429	302	---	217	388	369
Oct. 26-----	449	340	118	448	195	435	13	37	269	70	---	70	171	697	36	407	75	403	149	203	411	100	405	114	36	285	411	289	431	164	---	208	454	508
Oct. 27-----	371	186	217	455	107	427	24	195	165	308	---	240	399	695	133	442	261	242	144	221	139	306	377	242	47	233	308	324	435	224	---	158	449	498
Oct. 28-----	353	106	30	438	220	335	20	124	138	312	---	319	380	698	291	394	215	117	216	349	329	58	448	204	23	143	191	260	465	109	---	45	391	398
Average-------	444	264	113	430	159	387	31	(121)	231	180	---	174	365	665	170	411	199	259	165	321	351	204	432	298	37	272	350	311	436	195	---	187	419	454
Oct. 29-----	211	73	33	435	283	376	13	123	58	264	---	246	402	694	144	---	239	184	270	380	112	60	460	217	36	115	134	280	312	209	106	280	406	434
Oct. 30-----	440	183	14	427	276	315	12	156	259	97	---	88	412	689	86	361	32	75	248	366	90	60	327	389	41	364	250	304	454	231	287	226	385	382
Oct. 31-----	357	200	185	435	85	300	15	31	251	278	---	288	348	696	112	365	251	78	117	361	206	288	438	125	94	186	199	304	443	235	245	198	347	361
Nov. 1-----	355	59	205	431	159	290	9	66	280	246	---	268	289	698	66	368	310	139	184	179	137	276	316	127	30	285	183	219	414	107	219	44	321	359
Nov. 2-----	251	52	28	428	68	327	31	32	---	287	---	266	310	670	207	357	190	44	143	236	163	135	274	384	107	338	137	275	434	187	309	208	334	418
Nov. 3-----	443	324	152	383	243	231	36	16	272	153	---	119	246	683	114	287	159	379	124	247	371	34	443	203	108	132	357	265	395	205	208	167	214	316
Nov. 1-----	388	170	32	394	239	165	33	50	168	170	---	182	95	674	114	361	288	332	251	237	323	285	443	373	31	353	345	267	437	130	308	239	244	361
Average-------	349	152	93	419	194	286	21	68	215	214	---	208	300	686	120	350	210	176	191	287	200	162	386	260	64	253	229	273	413	186	240	195	322	376

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

OCTOBER 1961

1961	Cape Hatteras, N. C.	Hilo, Hawaii	Indianapolis, Ind.	Inyokern China Lake, Calif.	Ithaca, N. Y.	Lake Charles, La.	Lander, Wyo.	Laramie, Wyo.	Las Vegas, Nev.	Lemont, Ill.	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif.	Los Angeles, Calif. (Urban)	Madison, Wis.	Manhattan, Kans.	Matanuska, Alaska	Mauna Loa Obs., Hawaii	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	North Omaha, Nebr.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Page, Ariz.	Phoenix, Ariz.	Portland, Me.	Prosser, Wash.	Pullman, Wash.	Rapid City, S. Dak.	Riverside, Calif.	St. Cloud, Minn.
Oct. 1-----	---	567	157	618	357	367	305	224	543	224	---	287	401	456	122	211	62	---	450	359	501	107	415	244	368	522	518	522	355	466	425	317	446	380
Oct. 2-----	---	(413)	346	---	---	161	478	468	551	217	---	82	486	485	281	462	72	---	425	418	550	81	143	411	47	498	528	519	152	397	412	450	485	381
Oct. 3-----	411	340	382	503	---	530	448	422	492	322	354	534	497	498	335	454	219	---	377	509	541	416	97	437	53	520	528	507	81	449	415	443	481	422
Oct. 4-----	39	550	357	610	90	537	451	425	482	384	550	499	417	466	383	418	111	---	414	527	545	476	112	389	446	493	510	514	207	426	409	383	467	327
Oct. 5-----	583	551	421	482	373	511	448	428	521	353	530	510	373	385	434	436	232	---	409	441	537	437	447	397	402	514	498	491	463	351	351	421	377	401
Oct. 6-----	554	414	432	581	403	448	283	400	508	374	533	492	409	380	434	419	232	383	290	511	514	462	401	399	391	469	488	472	400	383	300	399	435	398
Oct. 7-----	551	477	409	---	403	385	149	282	427	356	---	483	251	137	442	403	51	609	---	370	486	428	360	368	370	479	462	477	382	249	187	252	201	374
Average-------	427	(473)	358	559	325	420	366	378	503	319	492	412	405	401	347	400	140	---	394	418	525	344	282	378	297	499	504	500	292	389	357	381	413	383
Oct. 8-----	521	305	412	302	284	295	139	100	237	337	525	85	485	477	415	387	174	613	430	398	423	425	136	153	320	441	208	358	209	421	272	49	324	166
Oct. 9-----	513	374	379	517	382	303	356	302	309	305	512	333	467	392	376	79	210	630	405	433	280	424	358	106	383	58	(268)	489	220	309	335	189	472	225
Oct. 10-----	373	231	377	568	321	355	349	164	500	287	497	245	488	466	163	83	212	(358)	68	435	497	426	388	48	391	228	481	497	384	148	43	393	460	54
Oct. 11-----	329	456	268	541	354	433	342	403	462	346	---	140	467	458	385	414	200	---	227	507	491	287	321	385	391	479	478	470	114	---	272	279	452	143
Oct. 12-----	240	218	382	524	305	457	362	159	469	339	482	363	439	413	395	210	132	269	140	330	349	384	300	147	373	392	453	465	141	104	69	226	425	181
Oct. 13-----	421	316	87	546	364	467	403	349	481	36	418	339	446	442	277	404	82	418	290	499	421	365	279	365	380	420	456	471	352	346	346	359	441	256
Oct. 14-----	319	366	253	537	25	475	410	387	472	325	370	474	417	415	417	304	82	598	374	487	479	368	77	371	337	470	450	435	31	346	350	369	437	368
Average-------	388	324	308	505	291	398	337	266	418	282	467	283	458	438	347	269	156	(481)	277	441	420	383	266	225	368	355	(399)	455	207	279	241	266	430	199
Oct. 15-----	504	(390)	408	523	84	493	392	383	466	334	513	475	416	427	389	408	70	418	365	264	486	424	65	366	427	450	448	459	44	334	332	370	411	360
Oct. 16-----	521	264	379	512	206	473	389	378	477	310	---	448	440	424	331	391	22	635	307	453	485	400	391	360	393	459	449	468	223	169	250	361	370	352
Oct. 17-----	508	286	387	496	358	457	280	364	437	315	486	446	266	325	375	390	165	413	188	387	477	411	374	355	369	458	446	454	361	349	338	355	364	346
Oct. 18-----	498	189	386	472	358	445	401	378	468	304	480	424	271	313	337	372	186	(171)	285	421	428	402	351	81	364	445	---	442	359	341	336	279	350	293
Oct. 19-----	461	459	66	408	353	405	363	367	406	29	119	461	398	372	39	394	71	316	262	510	440	199	336	367	231	466	(428)	431	348	209	300	367	329	359
Oct. 20-----	313	277	78	435	238	466	300	262	443	7	---	498	151	157	85	387	54	232	339	(528)	461	129	66	356	112	444	417	435	65	328	68	327	356	347
Oct. 21-----	312	(391)	160	434	143	451	312	244	322	21	---	438	80	94	97	359	19	257	182	537	446	121	113	322	63	420	225	426	200	198	232	283	165	288
Average-------	445	(322)	266	469	249	456	348	339	431	189	399	456	289	302	236	386	84	(349)	276	(443)	460	298	242	315	280	449	(402)	445	229	275	265	334	335	335
Oct. 22-----	84	(288)	217	508	344	431	387	372	457	254	---	399	434	432	172	324	39	414	191	518	423	324	41	233	375	420	431	429	243	166	129	345	402	108
Oct. 23-----	64	---	275	513	372	372	277	180	453	4	(451)	384	419	408	257	368	51	286	174	483	445	357	73	344	346	395	447	386	312	302	126	310	407	325
Oct. 24-----	470	182	209	497	325	404	377	282	432	210	422	295	401	390	261	219	199	533	313	486	402	349	263	313	333	356	430	424	184	314	252	249	390	89
Oct. 25-----	440	200	296	460	266	288	271	303	422	159	184	361	363	379	160	378	30	399	145	414	227	178	(331)	341	291	424	411	416	347	143	113	347	404	191
Oct. 26-----	388	234	383	197	54	312	330	241	225	308	473	452	185	172	367	356	97	286	210	489	229	408	82	323	393	419	240	337	33	156	81	209	191	334
Oct. 27-----	474	210	330	433	238	401	218	230	398	118	447	420	381	362	168	121	36	342	58	364	259	383	315	126	363	132	395	403	207	131	220	198	325	132
Oct. 28-----	460	158	134	319	235	240	98	138	381	34	247	301	327	364	81	281	37	276	228	166	418	251	334	100	272	108	396	261	346	273	106	22	246	188
Average-------	340	(212)	264	418	262	350	280	249	395	155	(371)	373	358	358	209	292	70	362	188	417	343	321	(206)	254	339	322	393	379	239	212	147	240	338	195
Oct. 29-----	444	414	281	314	267	---	203	164	283	86	324	159	355	367	37	45	---	237	202	370	403	278	247	31	288	115	160	336	275	241	219	136	308	40
Oct. 30-----	443	355	87	359	---	300	366	304	421	17	(211)	225	343	348	63	41	124	277	305	465	122	93	180	136	106	---	94	103	100	188	258	351	248	290
Oct. 31-----	(374)	281	291	201	147	203	372	335	167	136	---	254	182	168	220	135	155	183	248	440	---	181	284	281	---	---	267	408	192	226	196	314	82	218
Nov. 1-----	286	256	112	298	124	308	178	304	359	66	172	201	269	203	121	199	48	111	121	419	104	155	241	102	---	104	309	356	267	267	60	280	235	187
Nov. 2-----	382	195	196	445	228	116	337	274	410	148	342	197	328	336	49	51	81	159	220	---	334	299	289	---	247	214	---	377	290	179	256	246	363	21
Nov. 3-----	411	109	28	439	222	191	270	131	362	86	110	342	352	357	252	333	42	472	118	465	304	16	94	---	240	369	383	383	87	274	140	300	363	212
Nov. 4-----	411	251	343	441	---	125	337	244	387	259	173	361	309	312	159	224	31	579	192	231	403	109	225	117	95	360	385	377	89	275	238	256	290	231
Average-------	(393)	266	191	357	198	207	295	251	341	114	222	249	306	299	129	147	80	288	201	398	279	162	223	133	195	233	266	334	186	236	195	269	270	171

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

	Salt Lake City, Utah	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Seattle, Wash.	Seattle-Tacoma, Wash.	Shreveport, La.	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Swan Island, W. I.	Tampa, Fla.	Tucson, Ariz.	Washington, D. C. (Obs & Test Dev Ctr)
1961															
Oct. 1	473	480	482	129	348	381	388	107	274	419	491	352	553	588	250
Oct. 2	511	144	432	141	75	352	349	57	391	184	501	431	522	567	124
Oct. 3	482	564	488	180	53	363	378	506	392	55	488	330	549	(567)	43
Oct. 4	474	543	493	317	298	329	366	483	399	402	478	282	555	555	521
Oct. 5	474	512	416	355	363	43	75	484	289	401	480	435	464	538	353
Oct. 6	392	480	413	347	325	200	191	470	341	445	439	466	476	530	433
Oct. 7	74	500	410	376	309	198	161	429	318	436	443	423	421	534	419
Average	411	460	448	264	253	267	273	362	344	335	474	388	506	(554)	306
Oct. 8	328	352	501	369	80	221	247	279	238	271	423	398	479	342	309
Oct. 9	215	263	497	125	335	101	85	361	232	404	77	504	480	543	357
Oct. 10	376	107	496	174	320	150	125	302	121	385	155	268	498	550	412
Oct. 11	209	356	475	153	303	204	193	338	292	400	454	417	392	526	386
Oct. 12	426	430	454	230	95	103	64	416	76	349	394	389	353	522	218
Oct. 13	436	458	461	92	222	329	344	411	326	332	437	211	---	517	338
Oct. 14	430	498	465	285	59	333	335	457	320	59	443	90	383	488	27
Average	346	352	479	204	202	206	199	366	229	314	340	325	431	498	292
Oct. 15	422	500	412	200	158	247	241	459	285	191	431	220	449	522	329
Oct. 16	420	498	423	---	335	32	79	437	278	370	434	387	414	528	---
Oct. 17	409	487	418	313	297	275	298	440	338	403	414	189	438	515	416
Oct. 18	426	478	208	277	298	310	320	424	308	398	415	327	---	494	---
Oct. 19	383	465	240	---	309	148	---	419	253	374	425	142	452	(486)	400
Oct. 20	380	463	130	---	214	185	184	439	193	332	404	300	508	478	239
Oct. 21	193	443	348	314	72	183	155	416	264	136	390	299	488	497	---
Average	376	476	311	276	240	197	213	433	274	315	416	266	458	(503)	346
Oct. 22	372	456	435	318	43	64	73	404	175	383	350	204	501	484	208
Oct. 23	135	284	437	---	76	168	296	396	202	399	388	410	471	463	363
Oct. 24	381	308	415	207	280	208	259	307	291	348	378	248	344	483	324
Oct. 25	361	217	400	80	247	47	73	183	109	304	406	95	450	469	264
Oct. 26	127	75	267	160	169	127	147	337	127	96	383	324	430	423	282
Oct. 27	55	235	(405)	196	231	125	172	379	176	156	166	335	386	464	376
Oct. 28	120	224	387	19	259	129	126	265	114	300	158	212	275	467	317
Average	221	257	(393)	163	186	124	164	325	171	284	318	261	408	465	305
Oct. 29	278	234	427	21	239	236	244	223	171	332	147	190	325	82	376
Oct. 30	352	269	363	122	178	238	231	242	166	62	183	15	430	126	205
Oct. 31	237	254	387	124	227	73	128	151	73	293	84	295	463	411	304
Nov. 1	128	275	141	140	148	172	165	262	174	258	76	370	462	352	338
Nov. 2	319	206	387	11	239	92	98	113	240	297	125	449	466	391	233
Nov. 3	114	443	393	30	133	172	246	285	181	141	374	441	437	446	118
Nov. 4	---	420	328	112	65	140	255	143	257	46	291	338	404	(418)	181
Average	238	300	347	80	175	160	195	203	180	204	183	300	427	(318)	251

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

TOTAL OZONE DATA

Total amount of ozone in the atmosphere, expressed in terms of integrated depth, in units of 10^{-3} centimeter. These data are given as daily averages obtained from measurements with a Dobson Ozone Spectrophotometer using the sun or zenith cloud (see explanation below) as a light source.

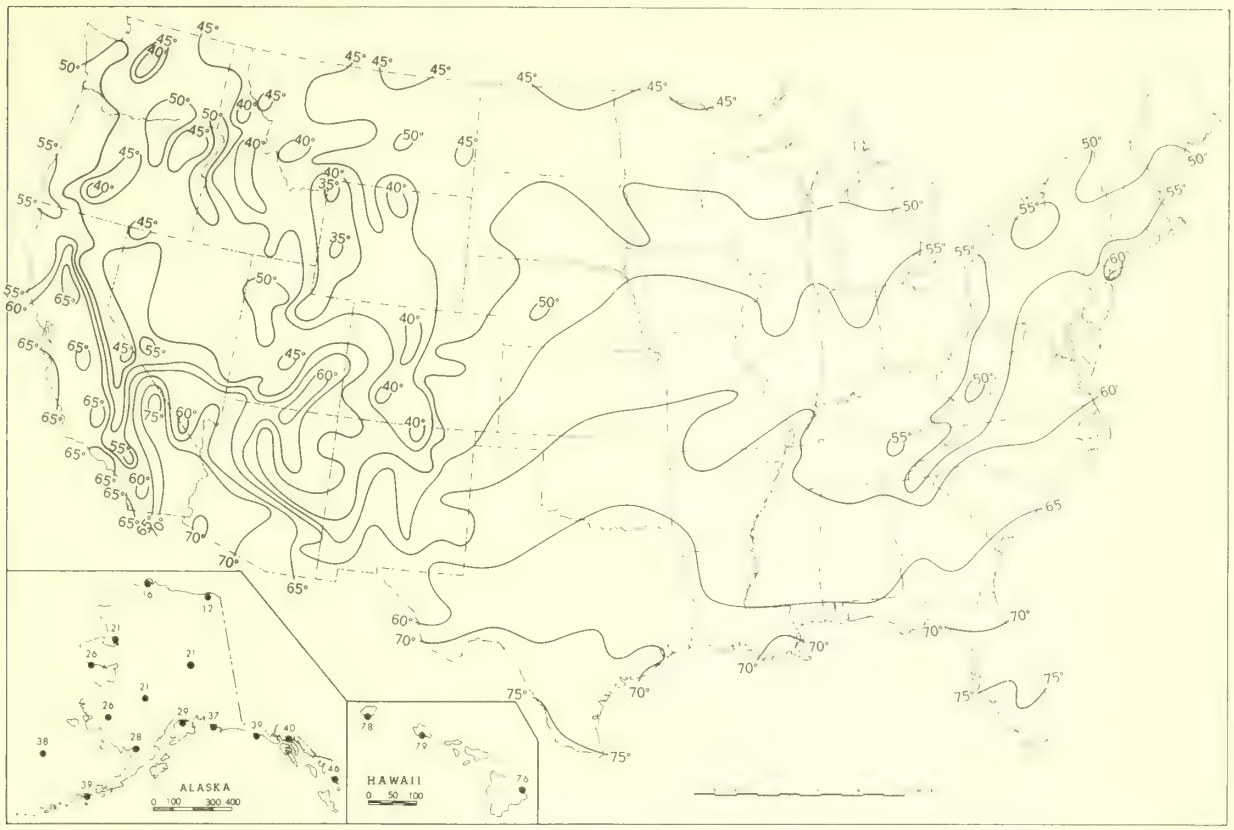
OCTOBER 1961

Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Bismarck, N. Dak.	338	---	308	282	262	291	---	---	296	---	---	354	304	294	282	273	286	337	278	278	262	257	301	---	290	285	316	---	---	281	---
Caribou, Maine	278	---	---	---	331	328	281	---	---	287	287	286	271	---	---	---	---	263	282	---	276	---	259	---	---	---	---	286	288	---	306
Green Bay, Wis.	---	328	---	314	285	279	282	277	271	---	274	265	---	305	270	267	264	273	---	---	265	265	230	269	---	296	---	---	---	286	---
Mauna Loa, Hawaii	273	278	277	293	294	280	279	278	283	284	---	---	---	273	270	266	257	---	---	---	---	276	274	274	274	---	---	---	---	---	---
Midland, Texas	201	230	201	204	205	203	194	167	---	183	186	192	189	192	202	198	199	177	185	191	202	178	191	207	---	---	---	206	195	---	---
Nashville, Tenn.	---	---	280	292	299	301	292	290	276	270	---	257	264	290	273	272	266	266	282	---	---	268	267	280	---	283	---	---	252	---	---

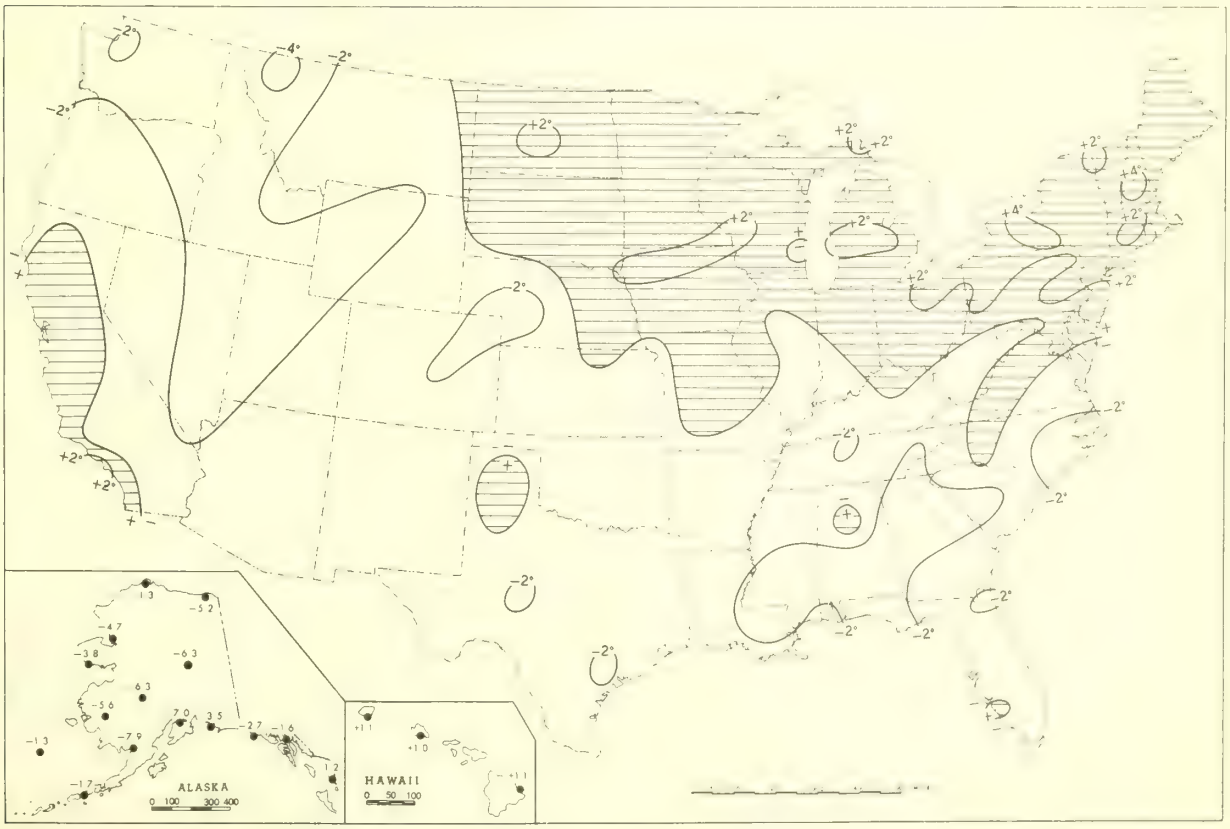
The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from the ground to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column of air is expressed in terms of thickness it would occupy if it were compressed to standard pressure and temperature.

The standard method of observation is that using A (3055 Å and 3254 Å) and D (3176 Å and 3398 Å) wave length pairs. On cloudy days when no observations can be obtained directly upon the sun, observations are taken by using light from the zenith cloud. These observations are not quite as reliable as the sunlight observations; therefore, average values based upon zenith cloud observations are denoted with an asterisk. A detailed description of the spectrophotometer and observational procedures may be found in the "Observer's Handbook of the Ozone Spectrophotometer," Annals of the International Geophysical Year, Volume V, Pergamon Press, 1957.

Chart I. A. Average Temperature (°F.) at Surface, October 1961.



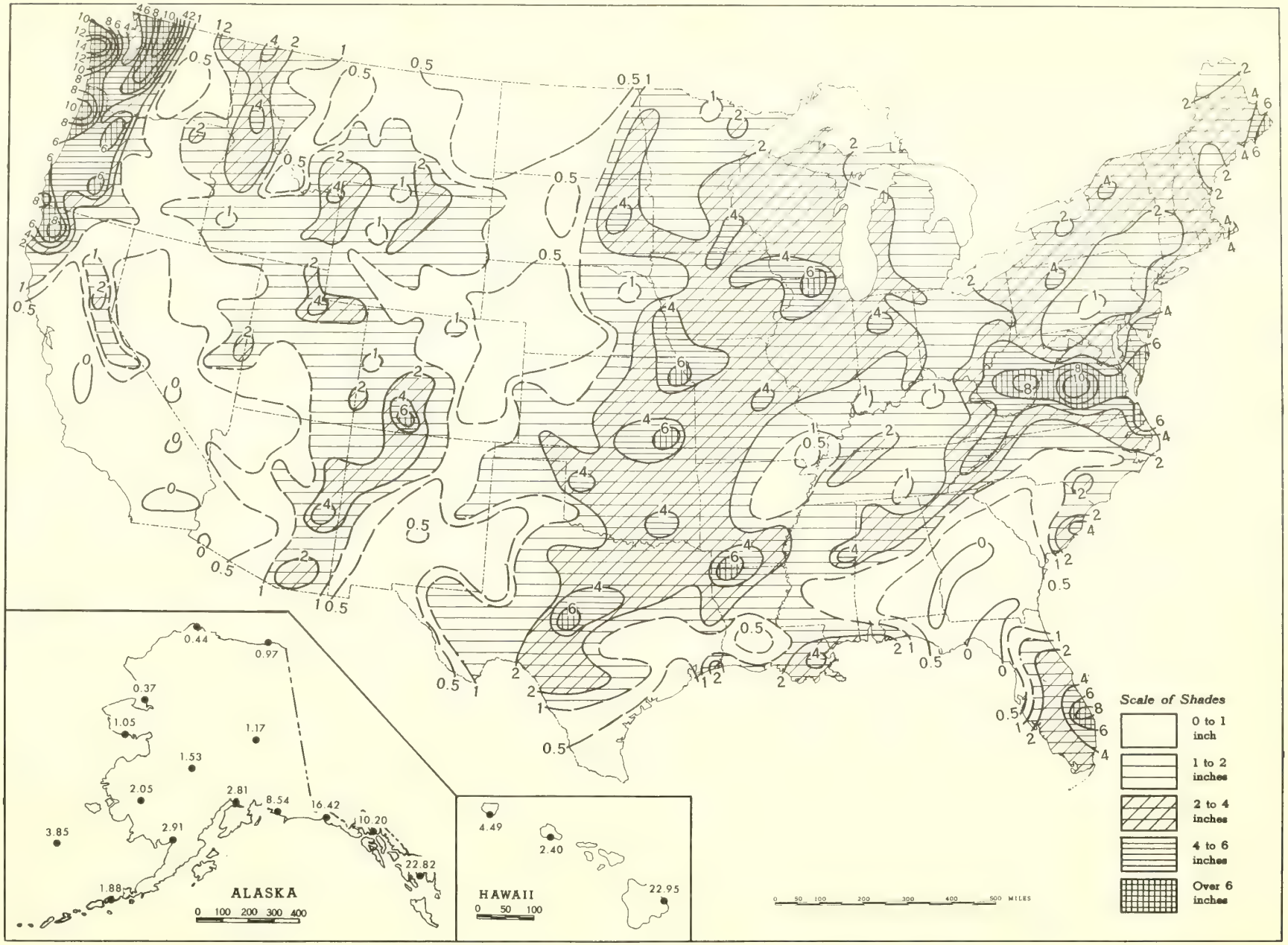
B. Departure of Average Temperature from Normal (°F.), October 1961.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

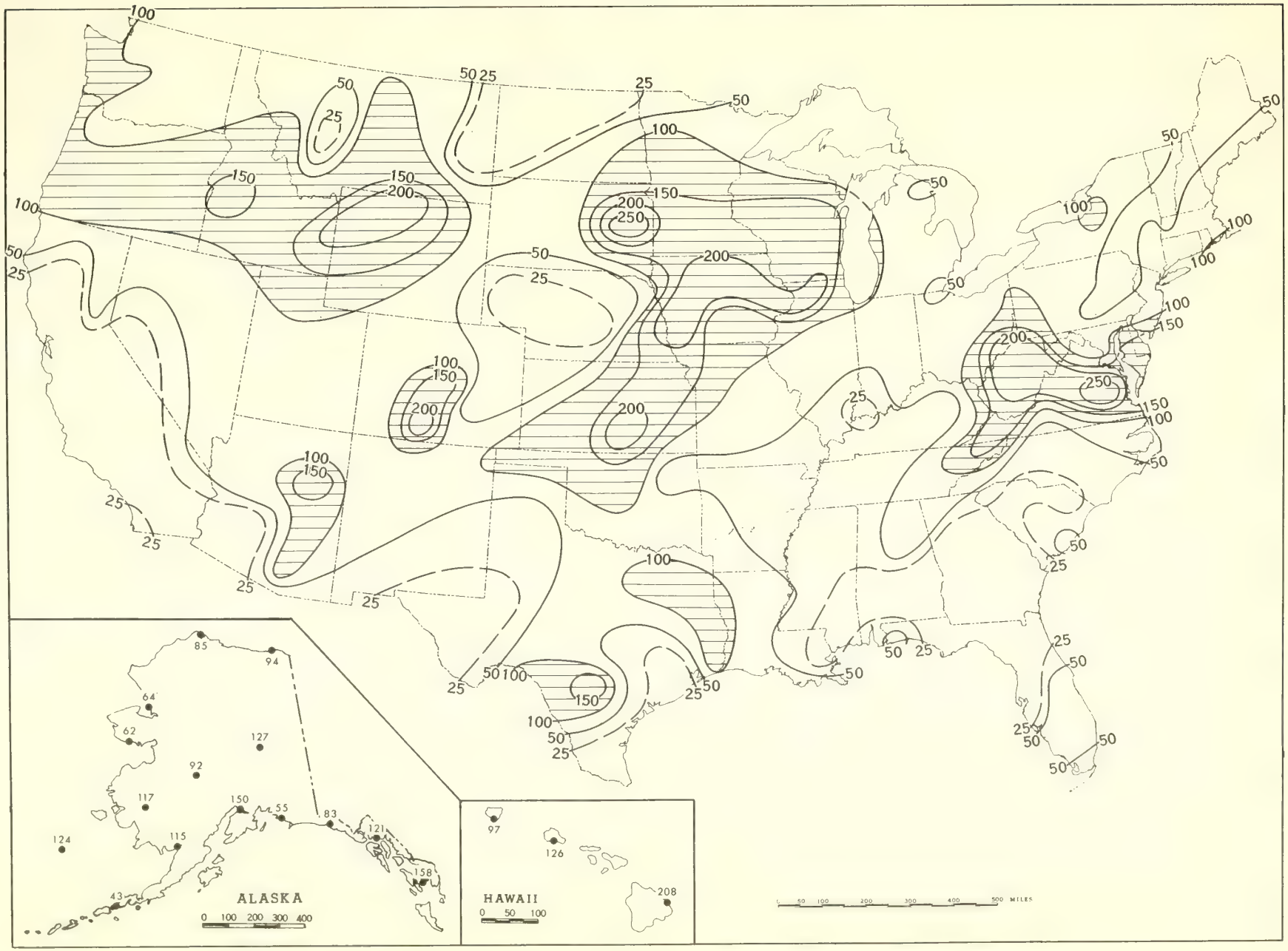
B. Departures from normal are based on the 30-yr. normals (1921-50) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), October 1961.



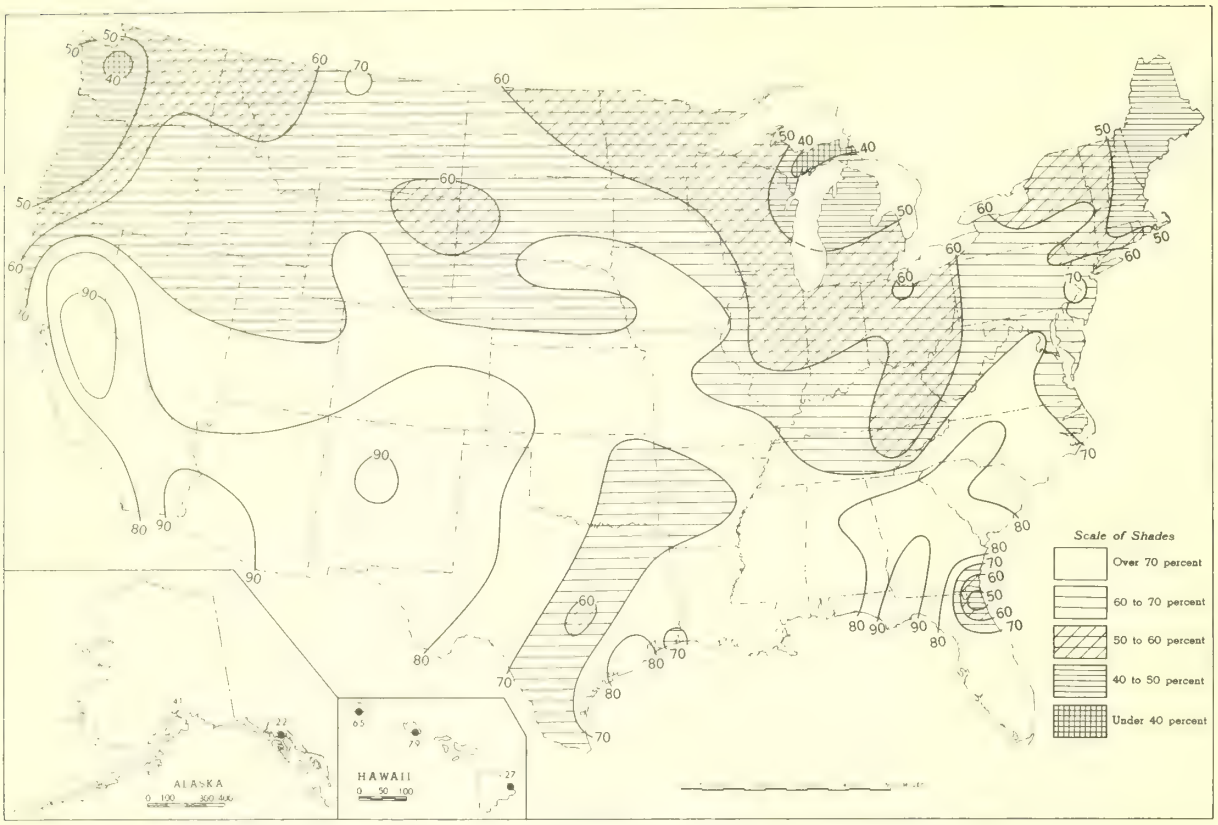
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, October 1961.

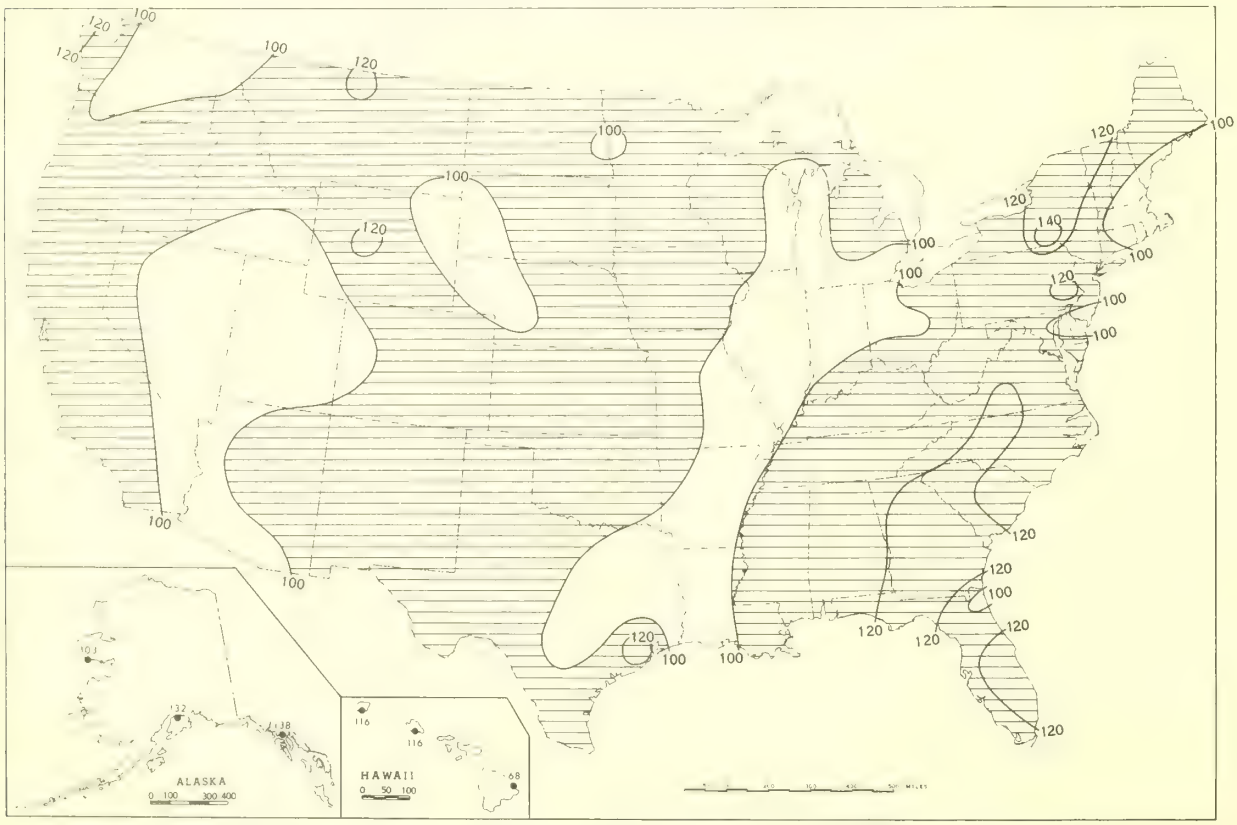


Normal monthly precipitation amounts are computed from the records for 1921-50 for first-order Weather Bureau stations.

Chart VI. A. Percentage of Possible Sunshine, October 1961.

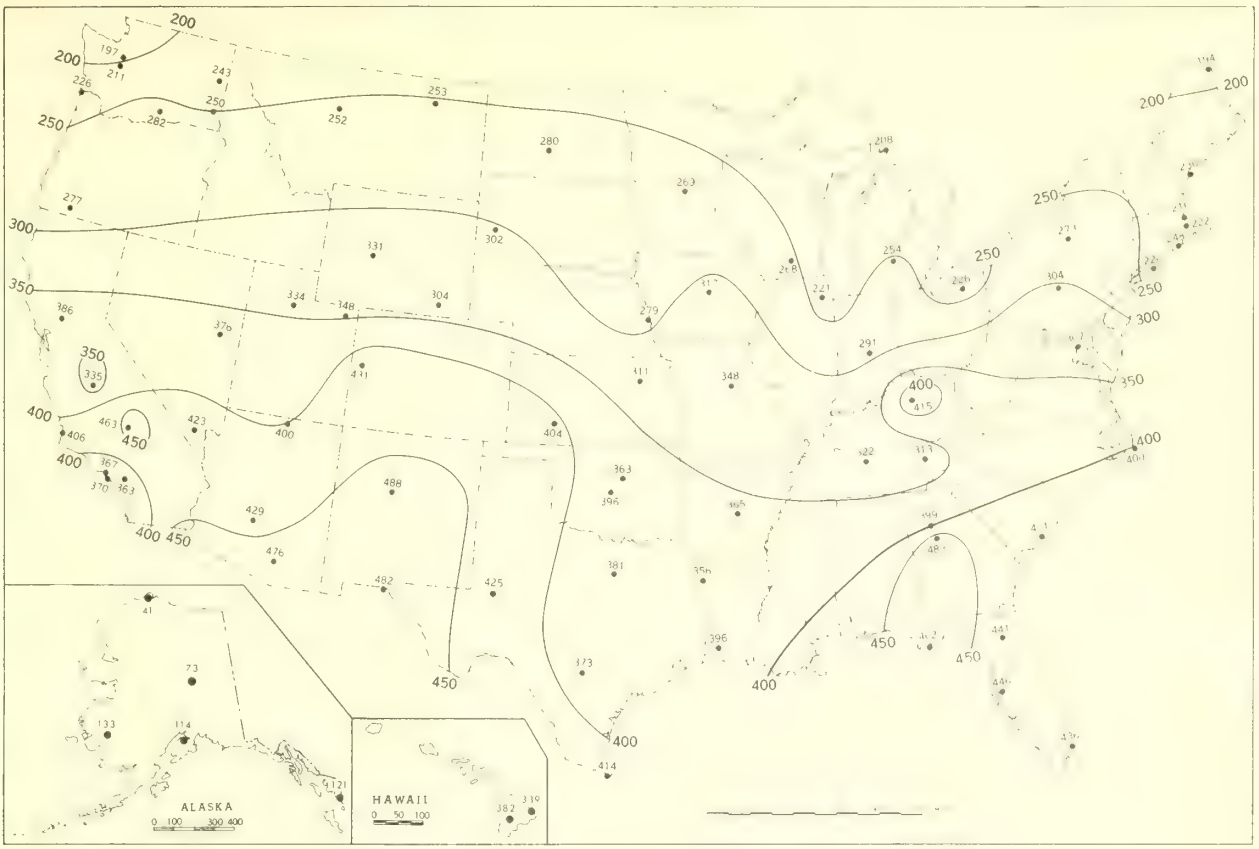


B. Percentage of Mean Monthly Sunshine, October 1961.



A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, October 1961.

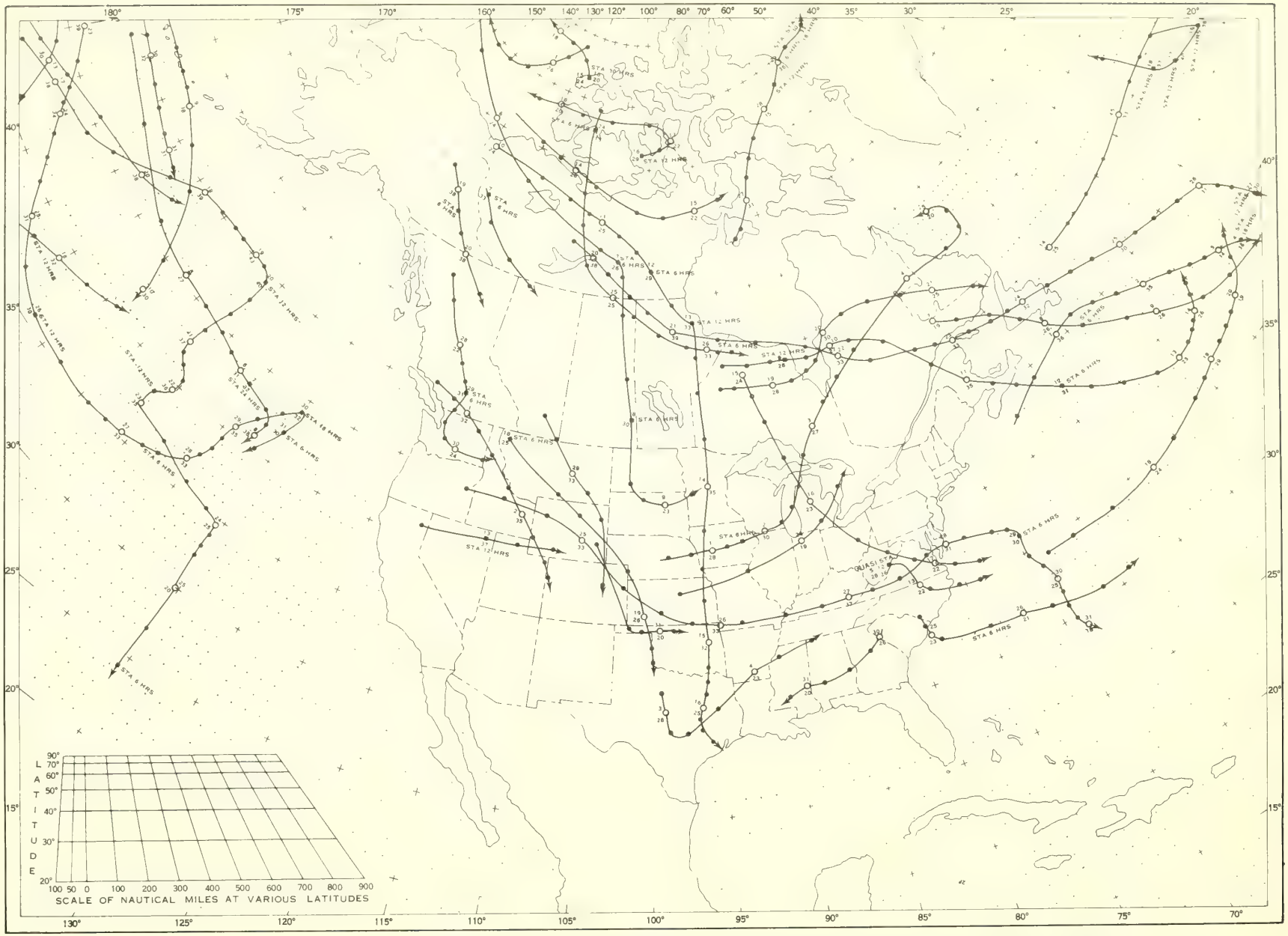


B. Percentage of Mean Daily Solar Radiation, October 1961.

A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm.$^{-2}$) and recorded in International Pyrheliometer Scale of 1956.

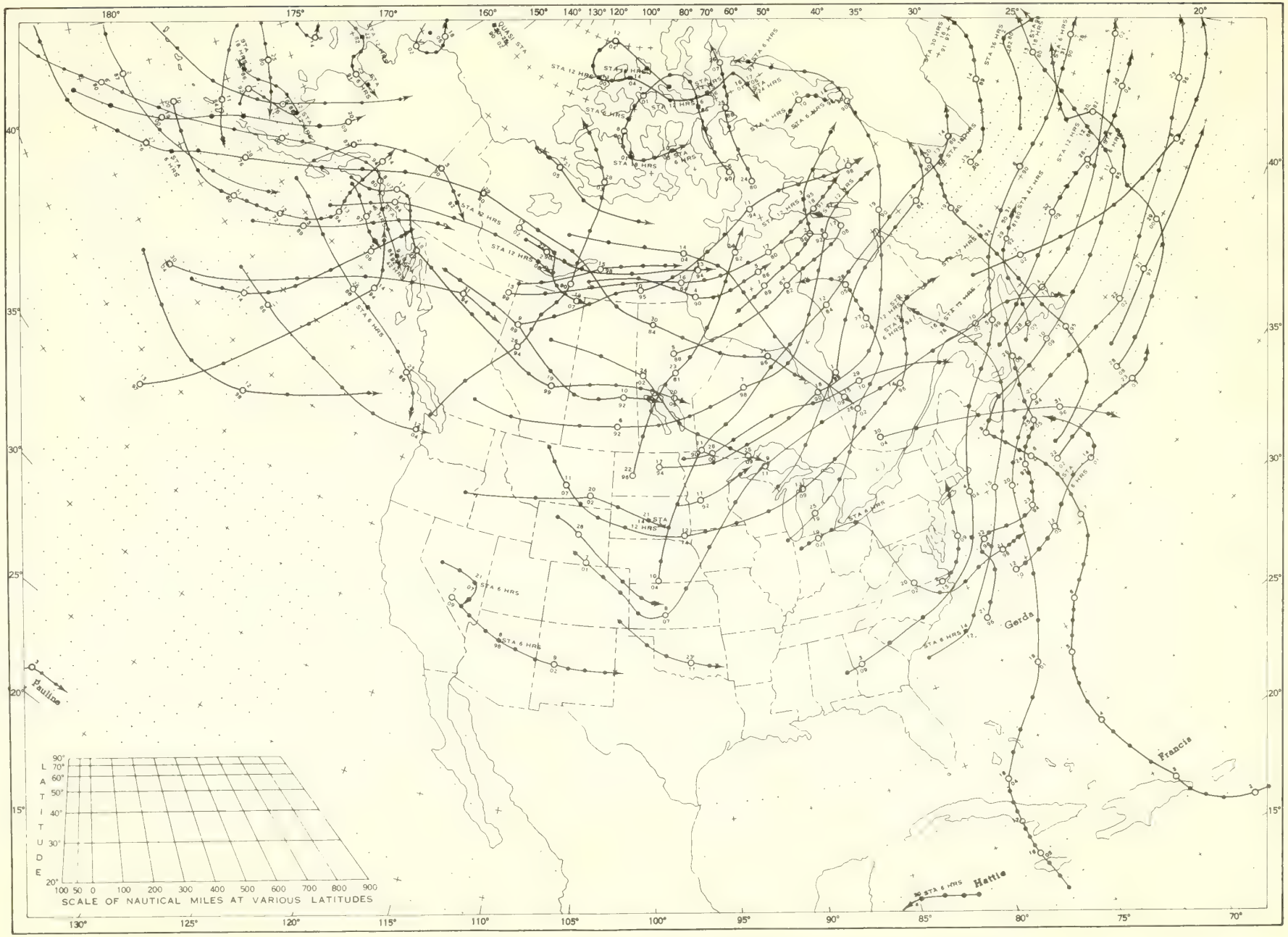
B. Percentage of the mean based on the period 1953-57, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, October 1961.



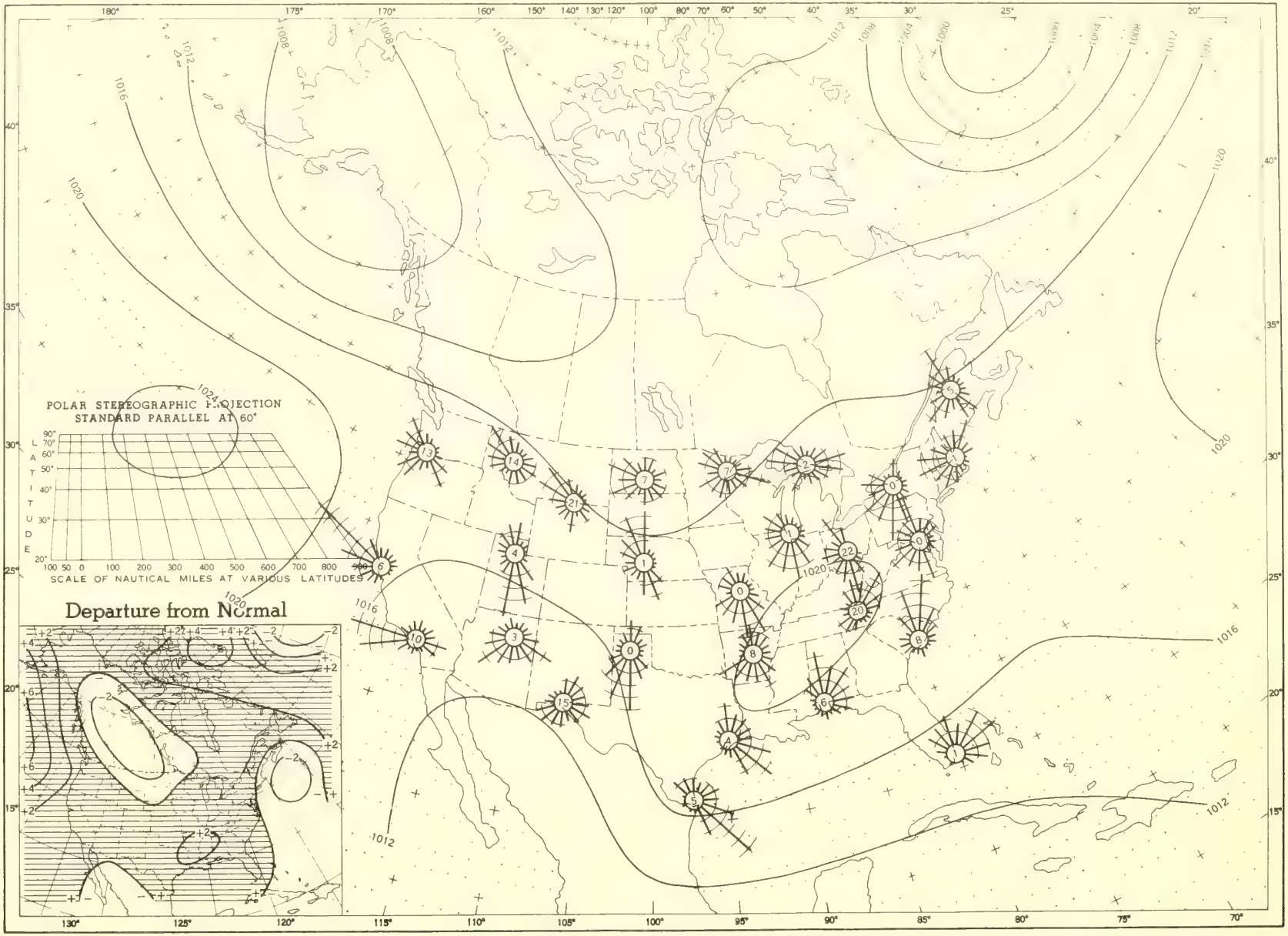
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, October 1961.



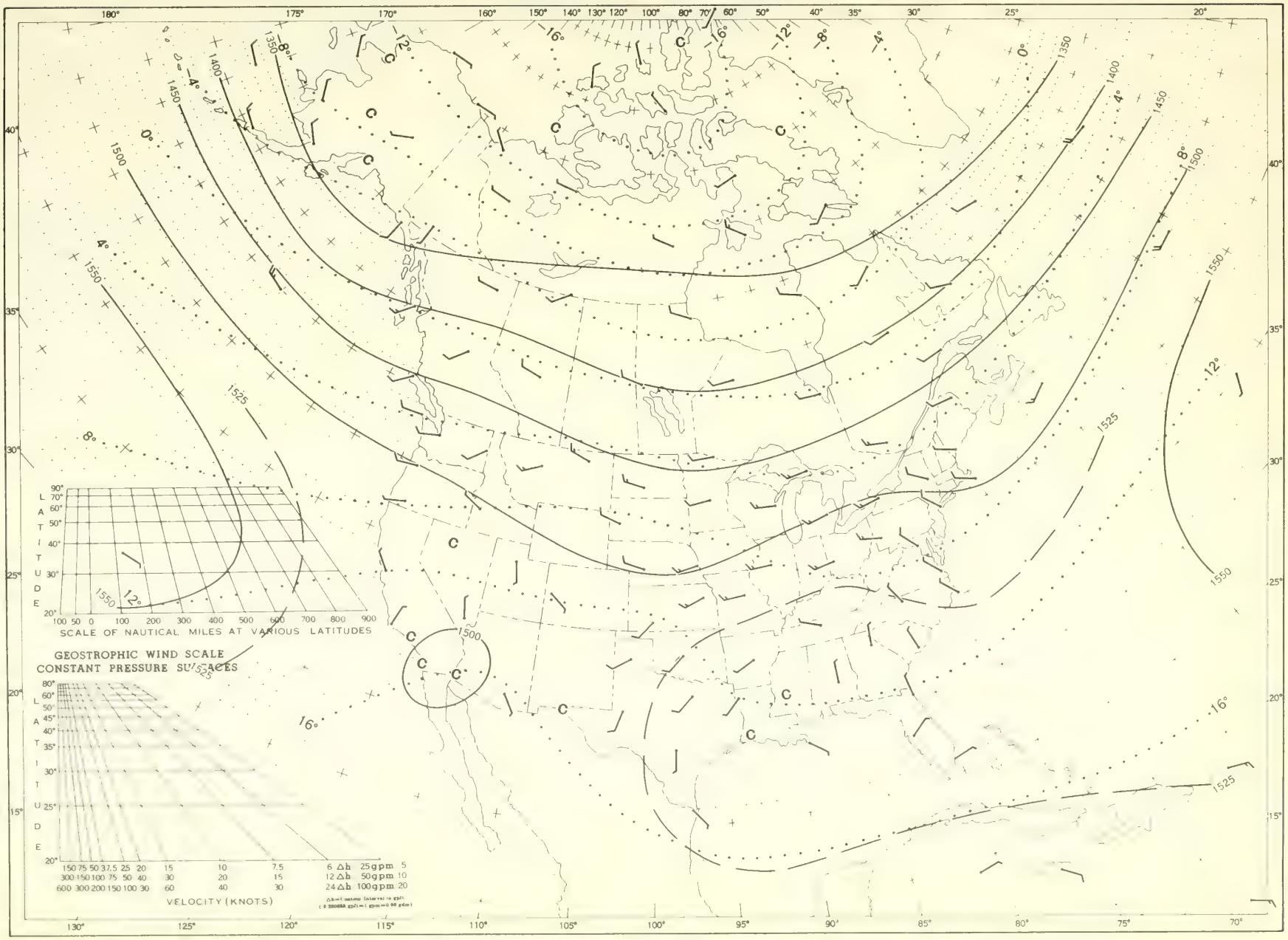
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, October 1961. Inset: Departure of Average Pressure (mb.) from Normal, October 1961.



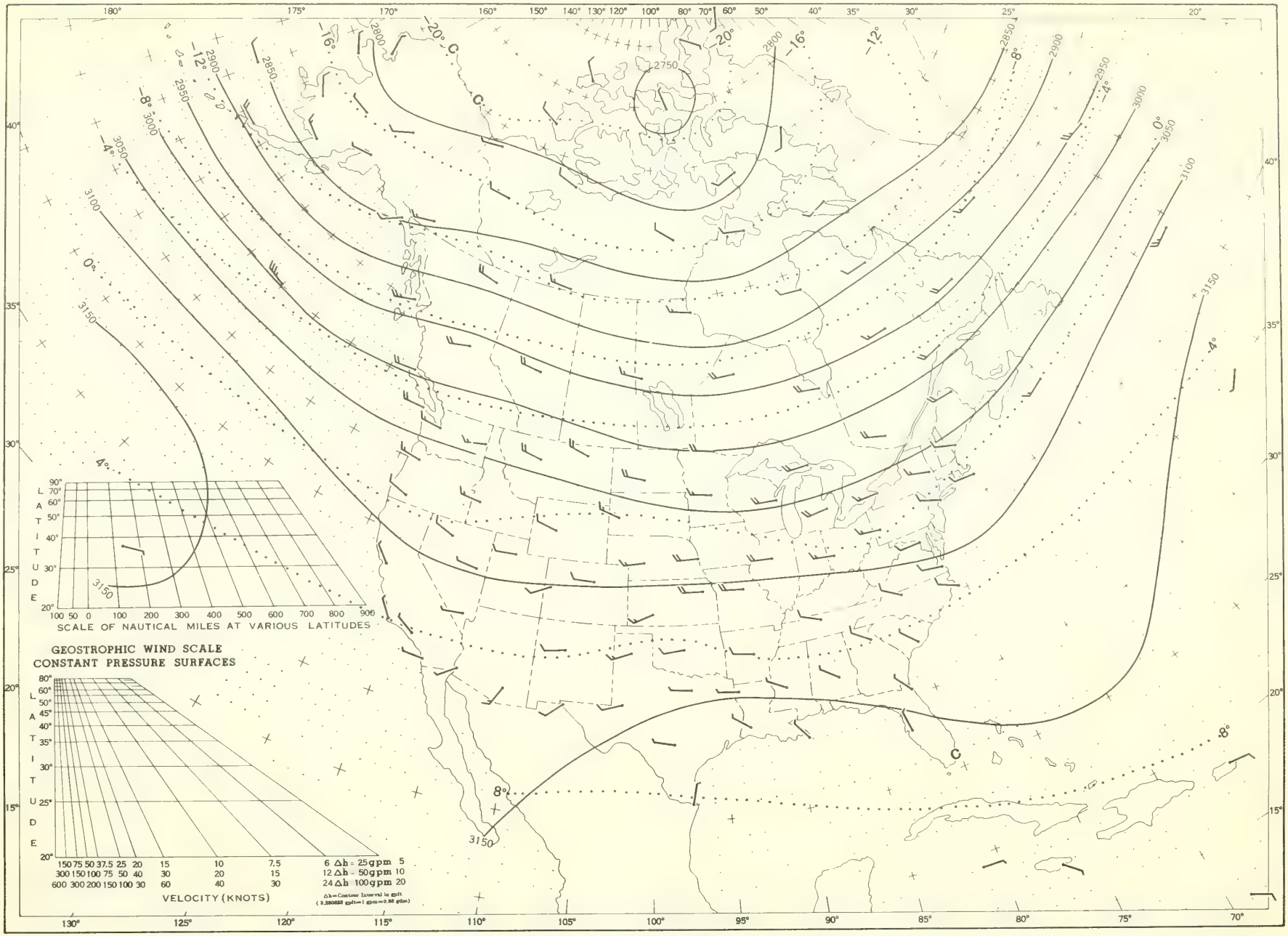
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, October 1961. Average Height and Temperature, and Resultant Winds.



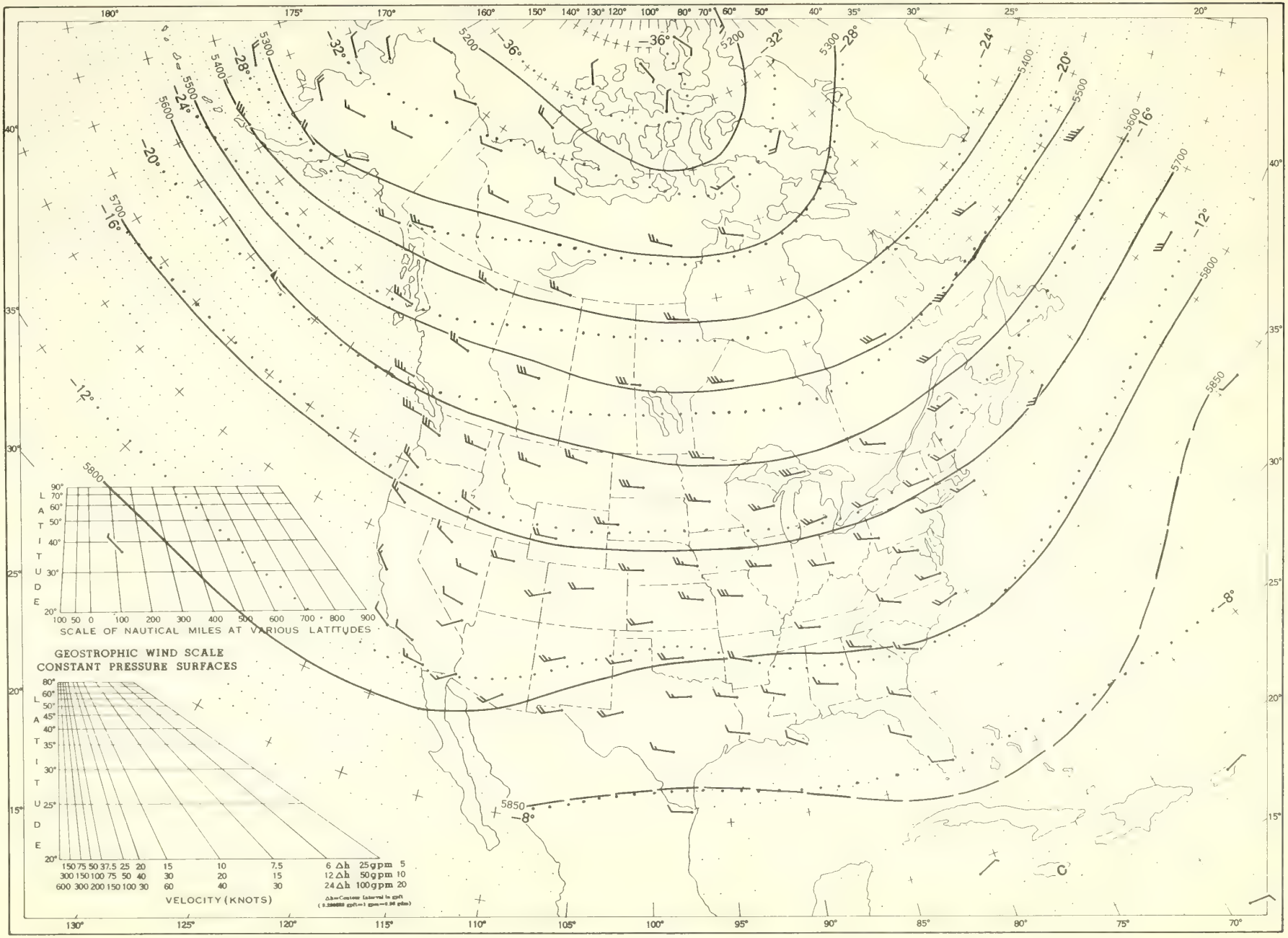
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, October 1961. Average Height and Temperature, and Resultant Winds.



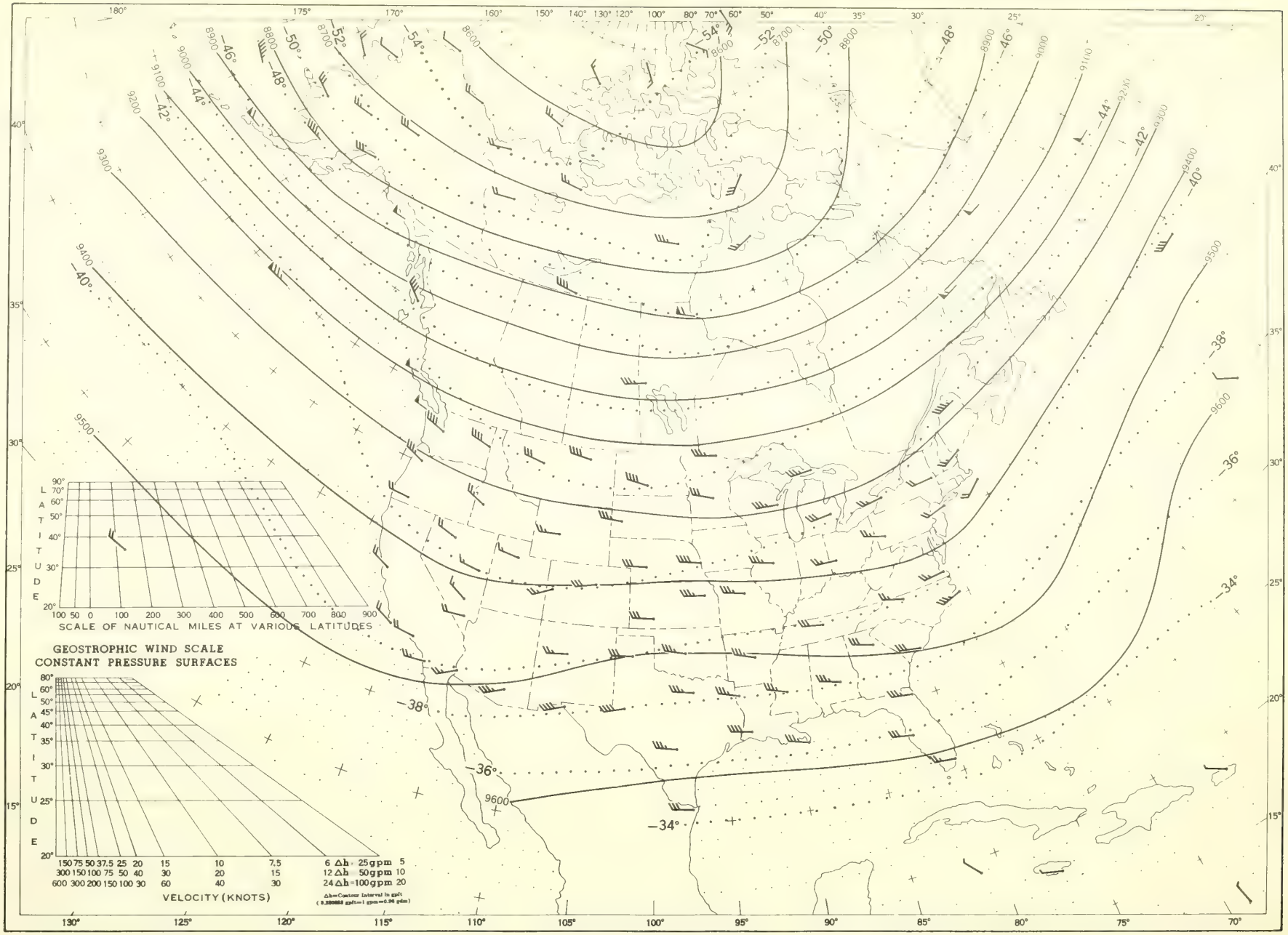
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, October 1961. Average Height and Temperature, and Resultant Winds.



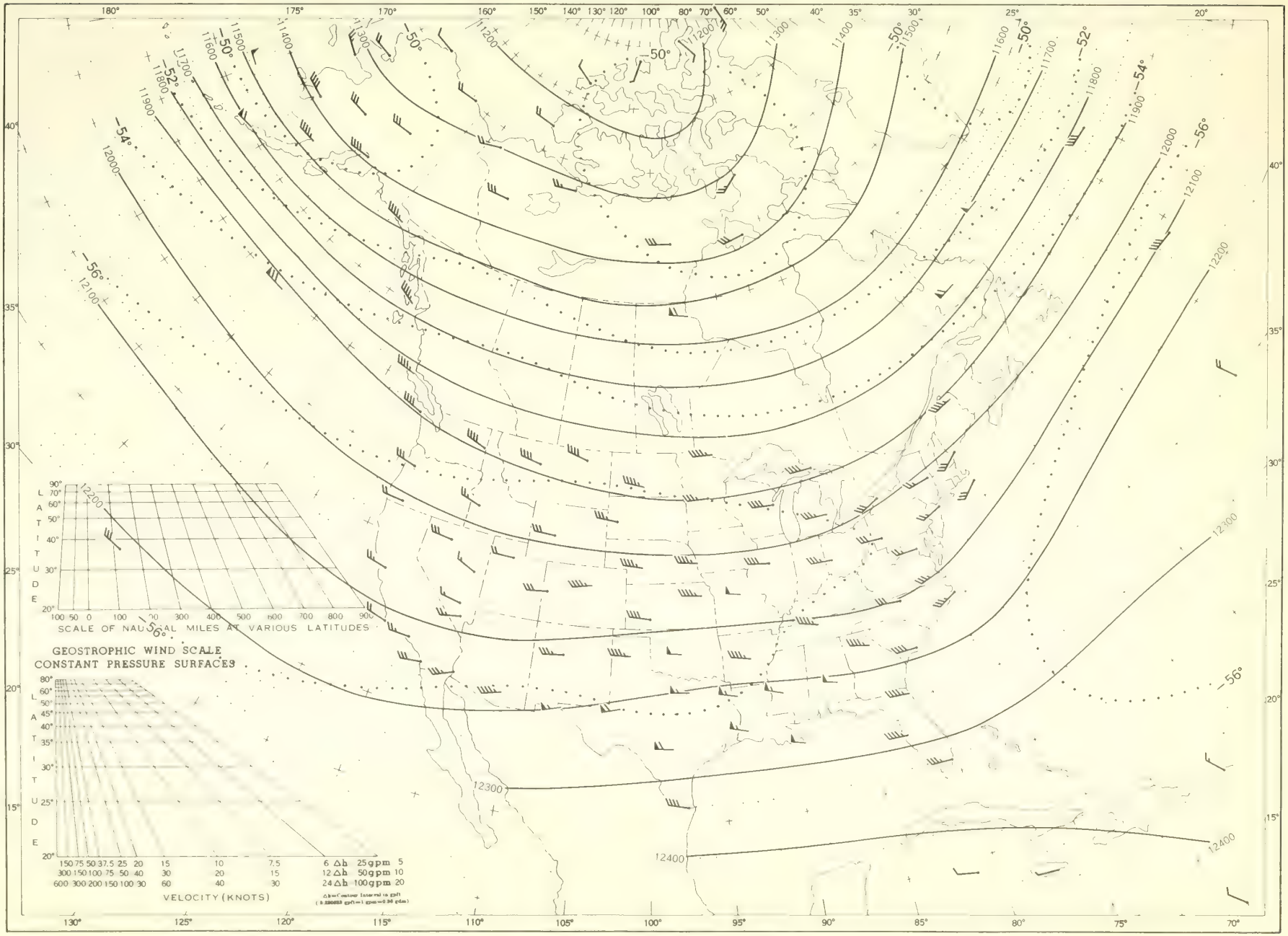
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, October 1961. Average Height and Temperature, and Resultant Winds.



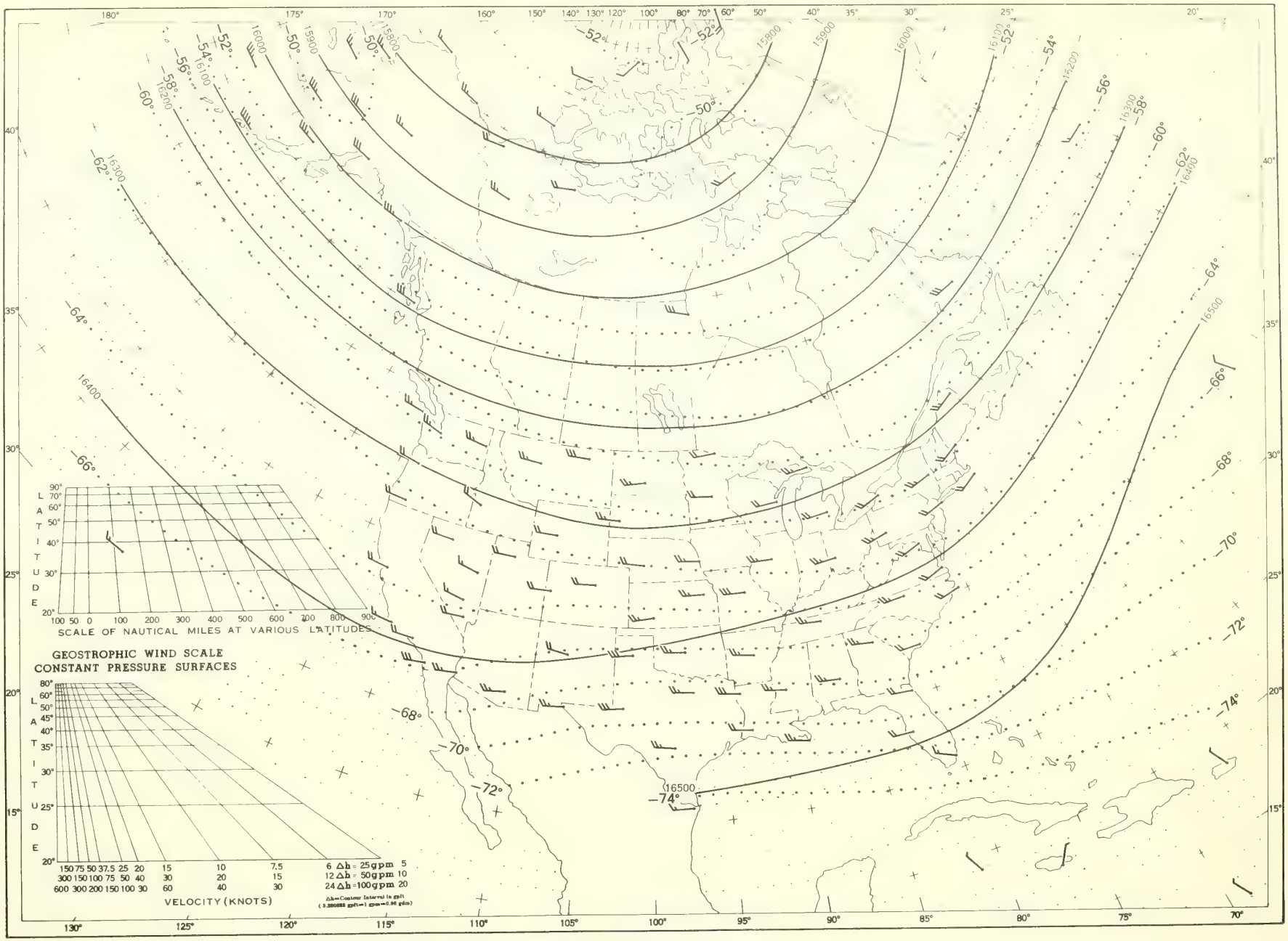
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, October 1961. Average Height and Temperature, and Resultant Winds.



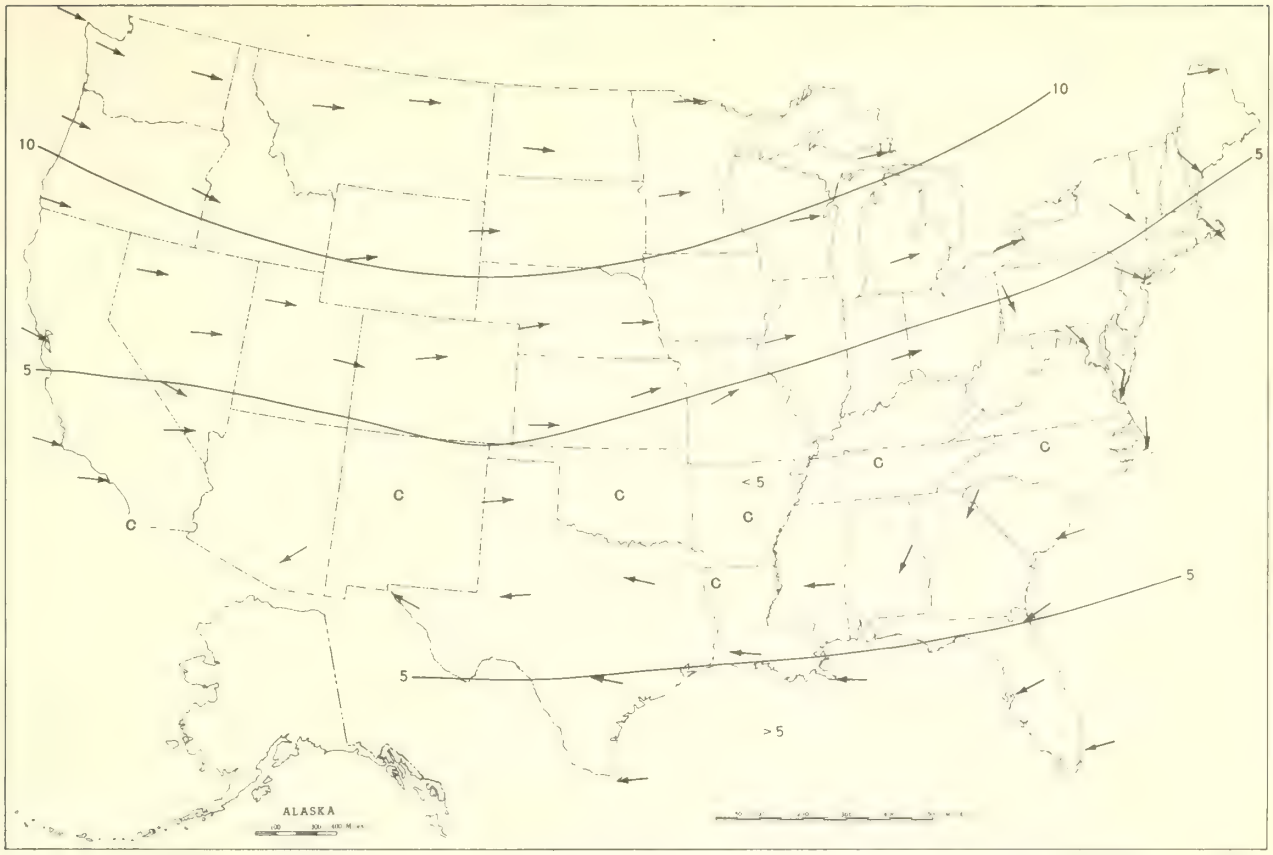
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, October 1961. Average Height and Temperature, and Resultant Winds.

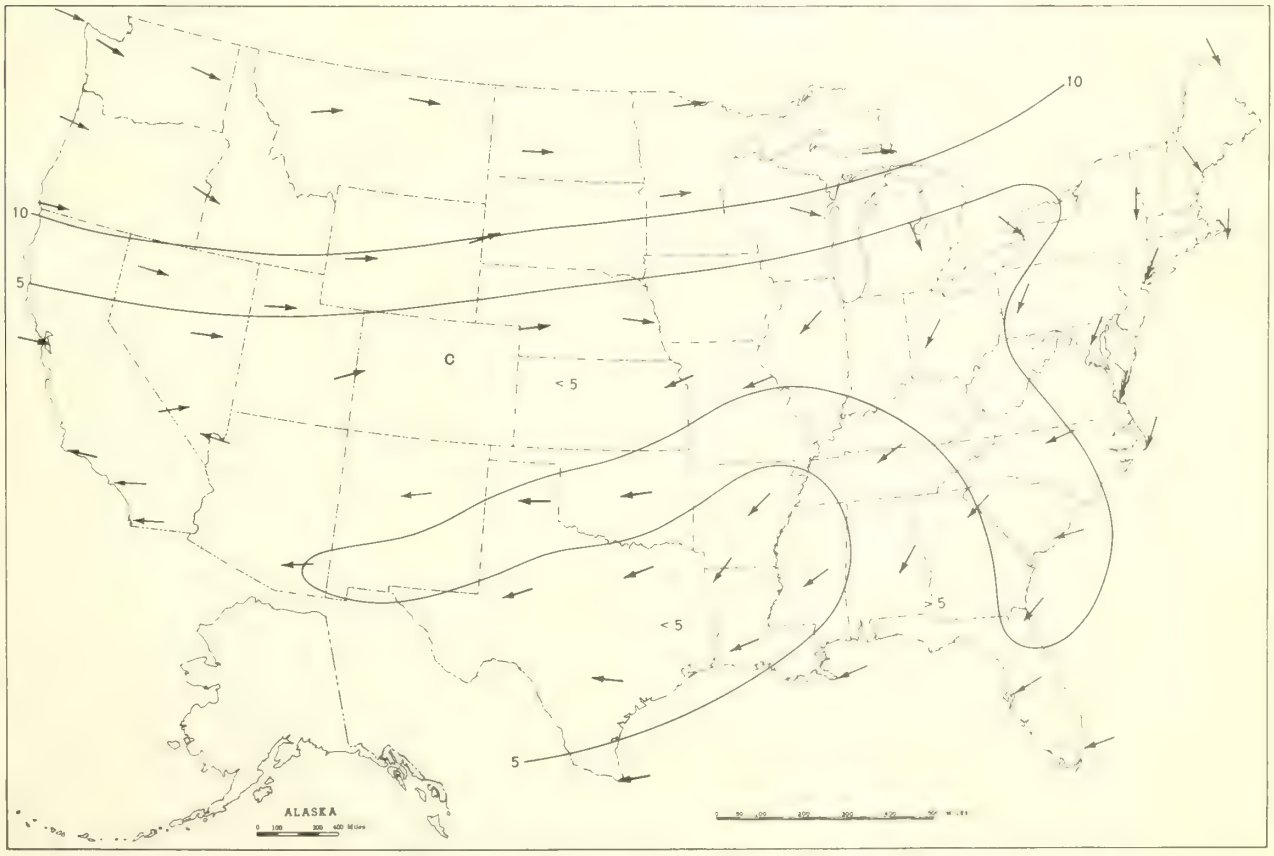


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, October 1961. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, October 1961. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 12 No. 11 NOVEMBER 1961

GENERAL SUMMARY OF WEATHER CONDITIONS

November was cold and snowy in the Far West and southwestern Great Plains. Average temperatures for the month were unseasonably mild in the North Central Interior and East. Heavy precipitation fell in south-central portions of the Nation, and caused some flooding. The Dakotas and nearby areas were extremely dry. Few severe storms occurred.

TEMPERATURE. --Temperatures for the month averaged well below normal in the lower Great Plains and Far West and well above from the Dakotas eastward over the upper Great Lakes region and in the Atlantic and East Gulf States.

The first few days of the month were unusually warm in the East, particularly in the Atlantic Coastal States where many stations reported temperatures at record high levels for November and so late in the season. Record highs for November included 90° at Columbia, S. C., on the 2d and Tampa, Fla., on the 4th; 84° at Atlanta, Ga., on the 2d; and 80° at Buffalo, N. Y., on the 3d. Among the late season highs were 76° at Muskegon, Mich., 81° at Lexington, Ky., 83° at Evansville, Ind., and Nashville, Tenn., and 88° at Savannah, Ga., all on the 2d; and 80° at Philadelphia (airport), Pa., and 81° at Washington (airport), D. C., on the 5th.

Cold air moved into the midcontinent area soon after the beginning of the month, causing rapidly falling temperatures. At Huron, S. Dak., the temperature fell 52° in 24 hours, from 73° on the 1st to 21° at the same hour on the 2d. In Texas the first general freeze of the season occurred in the Panhandle and High Plains.

During the second week, light frost occurred in agricultural areas of central and northern California, and freezing ended the growing season for most crops in New Mexico. A low of 24° in northeastern Louisiana on the 10th was a month earlier than usual for a temperature that low there. Freezing for the first time this season also covered all of New England, much of Georgia, and northwestern interior sections of Florida.

Unusually cold air covered the Far West the third week when lows in the central Rocky Mountains were -20° or lower at a number of stations. A cold air mass from Canada moved over the central and southeastern sections of the Nation during the closing days of the month, when most stations in those areas recorded their lowest temperatures.

PRECIPITATION. --Precipitation was above normal in many sections of the Pacific States, the south-central interior sections of the country, the Ohio and middle Mississippi River Valleys, and parts of the Northeast. Monthly totals were below normal along the middle and south Atlantic coast, much below in the Dakotas and some adjacent areas, and in the lower Colorado River Valley.

Monthly totals exceeded a foot at some stations in west Gulf coastal areas. Lake Charles, La., measured 14.05 inches, 10.99 of which fell on the 12th and 13th for the second greatest 24-hour rainfall on record there. In the upper Mississippi Valley Rockford, Ill., had 4.83 inches, the most for November since 1934. At Dubuque, Iowa, 4.99 inches on November 2 brought the total for the year to date there up to 55.89 inches, more than in any other entire year of record. Waterloo, Iowa, had its greatest amount on record for autumn, 17.78 inches. Some flooding occurred in Gulf coastal streams and in the upper Mississippi and lower Missouri Basins.

Precipitation was unusually heavy in much of California the latter half of the month, and totals ranged up to 4 inches or more along the central coast. Totals exceeded 10 inches for the month along the Oregon and Washington coasts. Some flooding occurred in the coastal streams of Oregon and northern California during the last week of the month.

Dry weather continued in the south Atlantic coastal areas until the 23d, when Florida received about 0.50 to 0.75 inch, Georgia and North Carolina 1 to 2 inches, and South Carolina over 1 inch. While these rains were very beneficial, more was still needed to restore subsoil moisture. The period January through November 1961 was the driest such period of record at Lakeland, Fla., where only 31.93 inches fell. At Columbia, S. C., the first measurable rain in 40 days occurred on the 13th, and heavier rains on the 23d relieved the drought.

SNOWFALL. --Considerable snow fell in the far western mountains. Accumulations in the northern Cascades ranged from 1 to 2 feet at the beginning of the month and up to nearly 6 feet at the end.

During a snowstorm in the Southwest about midmonth, heavy snow fell in the mountains, with up to 2 feet in the White Mountains of Arizona. The same storm blanketed eastern New Mexico with 1 to 5 inches, and western Texas with 1 to 9 inches. A snowstorm in the Pacific Northwest the last week of the month covered eastern Washington and western Oregon with heavy snow. In Washington up to 30 inches fell on the eastern slopes of the Cascades.

In general snowfall was unseasonably light east of the Rockies, although there were some heavy falls locally in the Northeast. Portland, Maine, measured 8.7 inches on the 20th and 21st, the heaviest early season amount there since 1904. Greenville, Maine, measured a 25-inch fall on the 21st, a new 24-hour record for any month, and a record total for November. Amounts were very light in the Great Lakes region. Escanaba, Mich., had only 0.3 inch, the least for November since 1900, and Lansing, Mich., had only a trace.

At Mount Shasta, Calif., where records began in 1890, the snowfall was heavy enough to set 3 new November records: The greatest in 24-hours, 29 inches on the 24th and 25th; the greatest depth on the ground, 26 inches on the 25th; and the greatest for November, 35.3 inches. Pendleton, Oreg., had 9.2 inches, the most for November since 1921. El Paso, Texas, measured 7.8 inches on the 13th and 14th, the earliest heavy snow on record there. Walla Walla, Wash., had a fall of 7.8 inches on Thanksgiving Day, the third heaviest November snowstorm since

1886. Sheridan, Wyo., had a continuous snow cover, as did Lander, Wyo., where 21.4 inches for the month brought the seasonal total to 64.0 inches, two-thirds of the average seasonal total.

DESTRUCTIVE STORMS. --November was relatively free of severe storms. Floods resulting from heavy rains in the midcontinent area probably were responsible for most of the month's losses. Heavy snow caused some damage in the Far West.

CONDENSED CLIMATOLOGICAL SUMMARY

NOVEMBER 1961

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	2 Stations	90	1	Waterloo	12	30	Citronelle	10.30	Slocomb	1.39
Arizona	do	86	5	Maverick	-4	15	Beaverhead Lodge	4.02	3 Stations	.00
Arkansas	Pine Bluff FAA AP	86	1	3 Stations	16	29+	Burdette	11.96	Gravette	2.83
California	El Centro 2SSW	95	11	Bridgeport	-5	22	Lakeshore	19.59	3 Stations	.00
Colorado	2 Stations	76	11+	Antero Reservoir	-31	14	Wolf Creek Pass 4W	3.45	Limon 1SSW	.14
Connecticut	Hartford Brainard Fld	76	5	Coventry	14	20	Salisbury	4.73	Wigwam Reservoir	1.97
Delaware	2 Stations	82	5	Newark University Farm	20	11	Wilmington Porter Resvr	2.65	Bridgeville 1NW	1.59
Florida	Punta Gorda	94	8	Jasper 3SE	27	30	Pensacola WB City	5.73	Key West WB City	.06
Georgia	Brooklet 1W	93	2	Blairsville Exp Sta	10	30+	Suches	7.17	Stillmore	.45
Idaho	Swan Falls PH	66	4+	Dixie	-16	16	Pierce RS	5.89	2 Stations	.10
Illinois	2 Stations	81	2	Aledo	12	28	Harrisburg	8.12	Aurora College	1.18
Indiana	5 Stations	83	3+	3 Stations	13	30+	Mount Vernon	6.34	South Bend WB AP	1.49
Iowa	2 Stations	75	2	Ida Grove	0	18	Dubuque WB Airport	10.63	Le Mars 2N	.35
Kansas	Elkhart	77	11	Russell Springs	5	3	Le Roy	7.15	Smith Center 1SW	.65
Kentucky	9 Stations	85	4+	2 Stations	10	29	Lovelaceville	8.33	Jeremiah	1.41
Louisiana	Jeanerette Exp Frm	93	1	Many 4NNE	20	30	Sheridan Fire Twr	19.51	Lake End	3.64
Maine	Bar Harbor	70	5	Squa Pan Dam	9	12	Rockland	8.72	Fort Kent	1.40
Maryland	Pocomoke City 1S	88	6	Oakland 1SE	10	22	Boonsboro	5.28	La Plata 1W	1.37
Massachusetts	5 Stations	77	6+	West Cummington	13	20	Sterling	5.25	Nantucket WB Airport	2.41
Michigan	South Haven Exp Frm	78	3	Watersmeet Fish Hatch	1	20	Elberta 4SE	3.32	Lapeer Press Farm	1.15
Minnesota	Beardsley	68	1	Thorhult 3E	-7	27	Maple Plain	3.08	2 Stations	.03
Mississippi	5 Stations	88	3+	3 Stations	18	30	Grenada	17.70	Pearlington 2NNE	5.20
Missouri	Caruthersville	83	2	Berryman 6NW	11	29	Caruthersville	9.92	Ozark	1.93
Montana	Tiber Dam	78	10	West Yellowstone	-30	17	Summit	4.55	4 Stations	T
Nebraska	4 Stations	76	2+	Harrisburg 10NW	-3	19	Falls City	3.05	Whitman 24N	.05
Nevada	2 Stations	78	8+	Ruby Lake	-13	18	Mt Rose Highway Sta	3.27	Searchlight	.05
New Hampshire	Windham	76	5	First Conn Lake	[illegible]	13	Fabyan	5.67	2 Stations	2.85
New Jersey	7 Stations	82	5	3 Stations	16	28+	High Point Park	6.56	Toms River	.72
New Mexico	Jal	80	26	Elk 3E	-4	15	Columbus	3.80	Golden	.09
New York	Lewiston 1N	81	3	Lake Placid Club	2	11	Peekamoose	5.63	Peru 2WSW	.87
North Carolina	Moncure 3SE	89	1	2 Stations	12	30+	Haywood Gap	13.03	Oriental	1.22
North Dakota	2 Stations	76	12+	do	-8	30+	Grand Forks Univ.	.60	2 Stations	.00
Ohio	Marietta Water Works	86	3	Tom Jenkins Dam	8	30+	Mt. Gilead Lakes Park	4.35	Findlay FAA AP	1.59
Oklahoma	2 Stations	85	1	Boise City 2E	5	19	Clayton	9.33	Boise City 2E	1.03
Oregon	Grizzly	76	9	Danner	-8	21	Illahe	20.22	Crowley Ranch	.15
Pennsylvania	Claysville 3W	88	3	3 Stations	10	19+	Lynch	6.30	Phillipsburg FAA AP	1.14
Puerto Rico	San German	94	10	Cayey 1NW	55	23	Rio Piedras	15.28	Coamo Dam	1.72
Rhode Island	Greenville	75	5	Kingston	20	19+	Block Island WB AP	5.51	Providence WB Airport	3.10
South Carolina	Bamberg	93	1	Chester 2WSW	16	30+	Caesars Head	8.34	Beaufort 7SW	.80
South Dakota	Academy	77	1	Deerfield 5NW	-9	17	Yankton 3NNW	2.14	Fort Thompson 3E	.00
Tennessee	Bolivar 2	87	2	Mountain City 2	11	29	Dyersburg FAA AP	9.58	Stanley Knobs	2.14
Texas	4 Stations	93	2+	Dalhart FAA Airport	8	19	Orange Gulf States Utility	11.86	Pandale	T
Utah	Hite	75	10	Williams Ranch	-14	18	Silver Lake Brighton	5.24	Fruita	T
Vermont	2 Stations	69	3	West Burke	8	20+	Mays Mill	4.25	Saint Albans Bay	1.30
Virginia	4 Stations	85	6+	2 Stations	12	29+	Peaks Of Otter	5.94	Boykins	.85
Washington	3 Stations	66	8+	do	-14	25	Amanda Park	17.95	Omak 2NW	.38
West Virginia	Benson	88	3	Canaan Valley	6	22	Pickens 1	4.39	Petersburg	1.05
Wisconsin	4 Stations	76	2	Laona 4SSW	-6	19	Lancaster	6.15	Ridgeland 1ENE	1.16
Wyoming	Colony	70	10	Bondurant 3NW	-23	5	Moran 5WNW	3.05	2 Stations	.00

+ And also on an earlier date or dates.

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

NOVEMBER 1961

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No of days: Max. 90 F. or above	Min 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No of days: 01 inch or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No of days sunrise to sunset: Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	Ft	Mb	Mb	F	F	F.	F	F		F				F	%	In	In.	In			In	In	M.p.h		M.p.h								%
ALABAMA																																	
BIRMINGHAM	610	994.4	1020.1	66	46	55.9	3.9	84	2	27	30+	0	4	44	69	4.29	0.31	1.87	9	3	0.0	0	10.4	N	40	SW	22	7	6	17	6.8	42
HUNTSVILLE	605	996.5	1020.1	63	43	52.9		84	2	22	30	0	8	42	70	3.71		1.21	14	1	0.0	0	8.9	NNW	29*	ESE	22	8	5	17	6.7	
MOBILE	211	1016.8	1019.2	70	51	60.5	1.8	84	1	32	30	0	1	50	73	5.57	1.50	2.50	10	1	0.0	0	11.3	N	26*	SW	22	8	5	17	6.5	
MONTGOMERY	195	1011.2	1019.6	69	46	57.5	2.3	86	1	23	30	0	3	47	73	3.52	-0.43	1.58	8	1	0.0	0	7.5	NNW	30	W	3	8	6	16	6.4	43
ALASKA												B																					
ANCHORAGE	90	999.3	1004.6	24	9	16.5	- 5.8	45	15+	-13	26	0	29	9	73	0.64	-0.36	0.31	8	0	13.9	9	6.3	N	30*	N	24	5	3	22	7.7	28
ANNETTE	110	1005.8	1010.0	41	32	36.4	- 4.3	48	12+	23	3	0	18	32	83	15.46	5.24	3.61	21	0	2.0	T	13.0	ESE	40*	SSE	12	3	1	26	8.5	
BARROW	22	1006.8	1007.6	10	- 7	1.7	1.0	27	28	-31	23	0	30	- 3	80	0.19	-0.08	0.06	10	0	4.9	12	14.4	SE	40*	SW	13	4V	2V	11V		
BARTER ISLAND	39	1007.5	1009.3	3	-12	- 4.9	- 5.4	22	14	-27	25	0	30	-12	68	0.15	-0.44	0.05	9	0	1.6	6	12.7	W	40*	W	24	7X	2X	14X		
BETHEL	125	1000.3	1001.8	26	12	18.9	1.9	38	14	-15	25	0	30	15	83	1.01	0.04	0.29	17	0	9.6	6	16.7	SSE	38*	S	15	6	4	20	7.1	
COLD BAY	94	998.0	1002.2	40	31	35.5	0.8	49	29	22	25	0	19	30	82	4.11	0.29	1.11	24	0	3.5	1	19.4	WSW	54*	S	14+	0	7	23	8.6	
CORDOVA	40	1000.7	1002.5	35	23	29.1	- 2.0	44	12	3	30	0	25	25	84	9.96	-0.59	4.36	15	0	22.6	7	5.9	ESE	24*	ESE	14	5	0	25	8.2	
FAIRBANKS	436	990.5	1009.7	6	-14	- 4.2	- 7.3	42	15	-39	25	0	30	-10	72	0.47	-0.16	0.14	12	0	9.4	13	4.1	N	16*	ESE	15	10	4	16	6.1	
JUNEAU	17	1007.1	1008.0	36	25	30.6	- 2.5	45	12+	7	30	0	21	24	78	6.12	0.20	2.27	17	0	6.0	3	10.2	ESE	43*	ESE	8	5	1	24	8.1	23
KING SALMON	44	1000.3	1002.3	29	14	21.4	- 0.7	44	14	-11	26+	0	29	17	81	2.06	0.74	0.38	14	0	10.7	12	10.6	N	44*	SSE	14	5	7	18	7.1	
KOTZEBUE	10	1005.1	1005.5	12	2	7.0	- 0.5	30	16+	-18	25+	0	30	1	77	0.24	-0.19	0.07	10	0	7.2	5	17.6	ESE	46*	FSE	27	6	6	18	7.2	
MC GRATH	334	994.9	1007.5	11	- 7	1.8	- 3.7	40	15	-35	25	0	30	- 7	65	1.28	0.19	0.43	11	0	25.8	21	4.0	ESE	21*	S	15	5	7	18	7.2	
NOME	13	1002.4	1002.8	22	11	16.6	- 0.2	34	1	-18	22	0	30	11	75	0.88	-0.26	0.21	19	0	11.7	14	16.2	E	40*	ENE	30	2	5	23	8.2	17
ST. PAUL ISLAND	22	997.3	998.2	38	30	33.8	0.0	43	29+	16	12	0	20	30	85	4.31	1.72	0.46	26	0	9.3	3	20.4	SW	49*	W	4	0	7	23	8.5	
SHEMYA	122	1000.3	1004.2	37	32	34.5		44	25+	27	29+	0	19	29	80	2.21		0.62	25	0	4.1	2	20.4	NW	48*	SW	25	0	7	23	8.6	
YAKUTAT	28	1003.1	1004.5	35	25	30.0	- 3.7	45	15+	- 3	30	0	26	27	88	13.57	-1.89	3.37	21	1	44.1	26	7.9	E	37*	SE	15	4	3	23	8.0	
ARIZONA																																	
FLAGSTAFF	6993	789.7	1019.3	47	21	34.2	- 1.6	64	4	1	22	0	29	23	67	1.43	0.54	0.60	6	0	11.7	4	8.7	SSW	35*	N	13	16	3	11	4.6	
PHOENIX	1109	976.3	1015.8	71	43	57.1	- 1.3	82	5	32	22	0	1	34	46	0.12	-0.35	0.09	2	0	0.0	0	5.7	E	30*	NW	21+	19	3	8	3.5	80
PRESCOTT	5014	846.9	1017.4	57	30	43.3	- 2.3	68	4	16	18	0	23	24	53	0.45	-0.17	0.32	6	0	1.5	1	6.7	SSW	36	S	16	17	2	11	4.0	73
TUCSON	2584	926.2	1015.0	67	42	54.4	- 3.8	78	25	32	22	0	1	35	54	0.44	-0.32	0.20	4	0	0.0	0	9.5	SE	50	SE	6	13	7	10	4.7	76
WINSLOW	4880	852.0	1017.3	55	30	42.7	- 0.2	66	30	20	18	0	22	28	64	0.41	-0.02	0.12	7	0	1.2	T	8.7	ESE	29*	SW	21	15	5	10	4.5	
YUMA	199	1010.5	1015.9	75	48	61.7	- 2.5	85	10	38	19	0	0	32	39	0.08	-0.06	0.07	2	0	0.0	0	5.5	N	34	N	13	19	4	7	3.5	77
ARKANSAS																																	
FORT SMITH	449	1002.3	1019.6	60	40	49.9	- 0.6	82	1	25	9	0	8	42	79	5.08	2.06	3.35	7	2	0.0	0	7.2	ENE	26	W	2	10	2	18	6.4	47
LITTLE ROCK	257	1006.8	1020.3	61	41	51.1	- 0.4	85	1	25	30	0	5	41	74	6.11	2.19	4.20	9	1	T	0	8.3	NNE	42	SE	2	8	7	15	6.3	43
TEXARKANA	361			62	43	52.7	- 2.1	79	1	28	30	0	3	46	81	3.79	-0.54	2.55	7	1	0.0	0	7.9	NE								
CALIFORNIA																																	
BAKERSFIELD	494	1000.3	1018.9	66	42	54.0	- 2.2	80	8+	34	17	0	0	37	58	0.67	0.24	0.45	2	0	0.0	0	5.9	E	26*	SE	25	15	6	9	4.2	
BISHOP	4108	875.0		60	26	43.0	- 3.2	76	7	12	18	0	27			0.56	0.08	0.44	3	0	T	T						15	9	6	3.8	
BLUE CANYON	5280	839.5		51	36	43.4	- 0.5	69	6+	21	21	0	10			7.28	0.60	3.13	8	0	32.6	17	9.4	ENE	47	ENE	13+	13	4	13	5.5	
BURBANK	699	990.5	1016.8	69	47	58.1	- 1.8	85	5	39	22+	0	0	38	56	2.70	1.72	1.42	5	0	0.0	0	7.2	S	40*	NE	5	18	4	8	4.1	
EUREKA U	43	1015.6		55	44	49.5	- 1.8	63	28	34	16	0	0			5.65	1.01	2.03	16	0	0.0	0	6.1	S#	32	NW	15	6	8	16	7.1	52
FRESNO	326	1005.4	1017.6	66	38	51.9	- 1.6	81	9	27	18	0	4	36	63	1.60	0.85	0.92	5	0	0.0	0	4.9	ESE	19	E	29+	17	6	7	4.1	78
LONG BEACH	34	1015.6	1017.0	71	50	60.5		88	5	42	28	0	0	43	60	1.41		0.72	4	0	0.0	0	6.3	WNW	26*	W	20	14	6	10	4.8	
LOS ANGELES	99	1013.2	1017.1	68	50	59.1	- 0.2	87	5	43	22	0	0	44	64	1.88	0.78	0.96	6	0	0.0	0	6.2	WSW	25*	E	25	13	8	9	4.7	
LOS ANGELES U	312			69	52	60.2	- 1.9	86	5	46	19	0	0	40	56	2.02	0.99	1.23	4	0	0.0	0	6.8	W#	34	E	25	17	6	7	4.0	77
MT SHASTA R	3544	893.7		50	30	39.7	- 1.8	71	8	15	17	0	22			7.59	3.76	3.22	10	0	35.3	26						11	4	15	6.1	
OAKLAND	3	1017.3	1017.7	62	44	53.3	- 0.5	76	5	33	17	0	0	40	66	3.96	2.01	1.62	7	0	0.0	0	6.5	WNW	29*	NNE	13	10	8	12	5.9	
POINT ARGUELLO	367	1003.4		64	44	54.1		83	5	34	17	0	0			2.01		1.19	4	0	0.0	0	8.4		32*	ESE	25	10	9	11	5.4	
RED BLUFF	341	1004.7	1017.7	63	42	52.6	- 1.9	78	8+	29	17	0	1	30	53	2.71	0.44	1.32	8	0	0.0	0	10.9	SSE	43	NW	15	11	7	12	5.3	66
SACRAMENTO	17	1016.9	1018.0	64	41	52.1	- 1.0	78	4	26	17	0	1	36	62	3.13	1.63	1.17	6	0	0.0	0	7.1	NNW	26	NW	12	11	6	13	5.3	69
SACRAMENTO U	23			64	43	53.3	- 1.0	77	5+	32	17	0	1			2.96	1.37	1.32	5		0.0	0										
SANDBERG R	4517	862.9		52	38	45.1	- 4.4	70	9	28	21	0	6			2.80	2.10	1.66	4	0	4.7	3	14.9	S	54*	NNW	21	16	7	7	3.6	
SAN DIEGO	13	1013.2	1016.4	69	51	60.3	- 0.5	83	8	44	23+	0	0	45	63	0.79	-0.04	0.38	6	0	0.0	0	6.0	NW	29	NW	21+	17	7	6	3.9	69
SAN FRANCISCO	8	1017.3	1018.1	62	44	53.2	- 1.2	75	6	36	17	0	0	43	72	4.37	2.75	1.53	7	0	0.0	0	8.2	WNW	35	SSW	29	11	7	12	5.4	
SAN FRANCISCO U	52			63	50	56.5	- 0.7	77	5	41	20	0	0			4.44	2.17	1.80	7	0	0.0	0	6.9	W#	27	SW	29					65
SANTA MARIA	238	1009.1	1017.9	66	40	53.2	- 3.2	86	5	30	17	0	3	40	68	1.80	0.86	1.33	4	0	0.0	0	7.1	WNW	35*	SE	25	15	9	6	3.9	
COLORADO																																	
ALAMOSA	7536	770.4		42	15	28.7	- 0.8	53	11	6	22	0	30			0.60	0.22	0.18	8	1	6.4	2						11	11	8	5.0	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

NOVEMBER 1961

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F or above	No. of days: Min. 32 F or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 0.1 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days sunrise to sunset: Clear, 0-3	No. of days sunrise to sunset: Partly cloudy, 4-7	No. of days sunrise to sunset: Cloudy, 8-10	Sky cover, tenths: sunrise to sunset	Possible sunshine
	Ft	Mb	Mb	F	F	F	F	F		F				F	%	In	In	In			In	In	M.p.h.		M.p.h.							%
COLORADO																																
COLORADO SPRINGS	6173	810.4	1020.4	47	22	34.9	- 4.2	65	11	11	19	0	28	21	64	0.44	0.09	0.20	6	0	5.0	2	9.4	N	38*	N	15	10	7	13	5.6	
DENVER	5283	836.8	1018.9	47	22	34.7	- 4.6	65	1	- 2	19	0	27	21	64	0.93	0.23	0.40	8	0	11.4	5	7.8	SSW	35	N	2	9	9	12	5.7	57
GRAND JUNCTION	4849	860.8	1019.9	48	28	37.9	- 0.7	57	10+	19	22	0	27	24	62	0.66	0.11	0.29	7	0	1.1	T	6.1	ESE	27	SW	20	12	7	11	5.0	60
PUEBLO	4639	856.1	1018.0	51	24	37.8	- 1.5	69	11+	11	14	0	27	24	66	0.62	0.15	0.35	6	0	9.0	3	7.4	WNW	50	N	15	9	9	12	5.9	69
CONNECTICUT																																
BRIDGEPORT	7	1017.8	1018.6	52	39	45.3	1.8	72	5	28	11	0	9	35	69	2.03	-1.56	0.60	8	0	0.3	T	13.0	NNW	36*	NNW	25	7	10	13	6.2	
HARTFORD	169	1011.5	1017.6	50	33	41.3	0.0	74	5	21	12+	0	19	33	72	3.72	0.24	1.41	8	0	5.0	5	9.0	NW	32	NW	18	4	13	13	6.7	51
NEW HAVEN	6	1017.7		52	38	44.6	1.7	72	5	28	30+	0	13			2.60	-1.34	0.57	7	0	5.0	5	9.0		40	NW	24	7	11	12	6.2	60
DELAWARE																																
WILMINGTON	78	1015.8	1019.2	55	38	46.7	1.2	81	5	22	11	0	11	37	72	2.41	-0.92	0.82	6	0	3.3	3	10.8	NW	38*	NW	24	6	9	15	6.3	
DIST. OF COLUMBIA																																
WASHINGTON U	72			57	43	49.8	1.8	78	3	33	29+	0	0			2.07	-0.75	0.99	8													
WASH NATL AP	14	1015.5	1020.0	57	43	50.2	2.5	81	5	29	22	0	4	37	63	1.75	-0.98	0.72	7	0	1.3	1	8.6	S	37	NW	24	8	9	13	6.2	48
FLORIDA																																
APALACHICOLA U	13	1016.4		72	57	64.5	3.1	80	3+	40	30	0	0			1.86	-0.59	0.93	6	1	0.0	0	8.0		37	SE	23	9	13	8	5.0	79
DAYTONA BEACH	31	1016.7	1018.5	77	58	67.4	2.3	85	1	49	25+	0	0	59	77	2.85	0.58	1.42	6	1	0.0	0	7.9	NW	25*	SE	6	6	13	11	6.1	
FORT MYERS	13	1016.4		83	61	71.9	2.7	89	4+	51	25	0	0			1.12	-0.09	0.81	3	1	0.0	0	8.3		25*	SSW	23	13	12	5	4.3	
JACKSONVILLE	24	1017.8	1019.1	76	55	65.5	3.9	88	1	40	21	0	0	56	75	0.89	-0.73	0.45	5	1	0.0	0	8.9	NW	29	SW	23	11	7	12	5.6	54
KEY WEST	5	1015.7	1016.7	81	72	76.3	1.7	84	20+	65	28	0	0	66	71	0.13	-1.89	0.08	3	0	0.0	0	10.8	ESE	26	SE	3	11	17	2	4.1	76
LAKELAND U	214			79	60	69.3	2.6	86	16	47	9	0	0			0.88	-0.51	0.59	6	0	0.0	0	7.0					11	12	7	4.8	64
MIAMI BEACH	9			80	70	74.7	0.7	85	8	60	30	0	0			1.83	-0.45	0.59	9		0.0	0	7.2		24	SW	23+	13	14	3	4.4	66
MIAMI	7	1015.5	1016.8	81	66	73.6	1.5	84	19+	56	30+	0	0	63	72	2.15	-0.26	0.90	9	2	0.0	0	9.2	ESE	24*	NE	7	11	14	5	5.0	
ORLANDO	106	1013.7	1018.2	80	59	69.4	2.6	88	3	49	9	0	0	59	75	0.92	-0.40	0.70	3	1	0.0	0	7.7	N	23*	S	23	10	14	6	4.8	
PENSACOLA U	13			70	54	62.0	1.8	81	5	37	30	0	0			5.73	1.89	3.25	10	1	0.0	0	11.2		28	NW	23					63
TALLAHASSEE	58	1016.6	1019.2	74	49	61.7	2.9	88	1	28	10	0	2	52	74	1.70	-0.82	1.60	3	1	0.0	0	9.1	N	29*	NW	23	9	8	13	5.6	
TAMPA	19	1016.5	1018.2	80	59	69.8	3.1	90	4	45	9	1	0	59	73	0.94	-0.10	0.80	5	1	0.0	0	10.8	NNE	32*	S	23	11	11	8	5.0	67
WEST PALM BEACH	15	1015.9	1016.9	81	65	73.2	1.5	87	17	53	30+	0	0	63	73	2.86	-0.13	0.77	9	1	0.0	0	9.4	ESE	28*	E	30	11	13	6	5.1	
GEORGIA																																
ATHENS	803	990.3	1019.6	67	46	56.8	4.8	86	2	27	30	0	5	45	70	2.73	-0.29	1.37	5	0	0.0	0	6.1	NNE	29*	NW	23	8	8	14	6.0	
ATLANTA	975	977.7	1020.0	65	45	55.3	3.4	84	2	26	21	0	4	43	69	2.39	-1.02	1.16	9	1	0.0	0	10.1	NW	25*	NW	8	9	7	14	5.8	58
AUGUSTA	143	1012.4	1019.3	71	46	58.5	4.7	90	2	24	30+	1	7	48	73	1.50	-0.94	1.21	5	0	0.0	0	5.5	SE	23*	W	23	9	7	14	5.8	
COLUMBUS	385	1005.4		71	46	58.4	4.1	86	2	25	30	0	4			1.11	-1.75	0.87	5	1	0.0	0	9.2		25*	S	23	10	7	13	6.0	
MACON	356	1005.4	1019.3	72	48	59.8	3.8	88	2+	27	30	0	3	46	66	0.93	-1.80	0.89	4	0	0.0	0	6.6	NW	26	SW	23	12	5	13	5.4	56
ROME	637	996.4		65	43	53.8	3.3	87	2	23	30	0	7			3.42	-0.34	1.56	7		0.0	0						9	8	13	6.1	
SAVANNAH	48	1017.3	1019.9	72	49	60.6	3.1	89	1	27	30	0	2	52	76	0.99	-0.52	0.81	4	0	0.0	0	8.0	NE	26	NW	23	12	5	13	5.1	59
THOMASVILLE U	283			74	53	63.2	3.7	87	4+	34	30	0	0			1.37	-0.87	0.97	4	0	0.0	0										
HAWAII																																
HILO	31	1014.9	1016.3	80	67	73.4	0.4	85	1	63	27+	0	0	66	80	12.84	0.45	4.94	27	1	0.0	0	7.6	WSW	26*	E	21	3	9	18	7.7	27
HONOLULU	7	1015.6	1016.0	82	70	76.3	0.6	87	12	66	9+	0	0	64	67	2.05	0.26	0.72	14	0	0.0	0	13.7	ENE	35	NE	15	6	17	7	5.9	78
LIHUE	115	1011.2	1017.0	81	69	74.5	0.9	84	2	62	4	0	0	66	76	3.09	-1.15	0.37	27	0	0.0	0	13.5	NNE	28	NE	19+	2	19	9	6.2	57
IDAHO																																
BOISE	2838	921.8	1020.1	47	27	37.0	- 2.6	58	10	12	21	0	21	25	64	0.95	-0.40	0.44	8	0	3.4	3	8.3	SE	30	NW	3	11	5	14	5.7	57
IDAHO FALLS 42NW R	4790			41	18	29.8	0.9	52	10+	- 2	18	0	29			0.27	-0.04	0.12	5				7.8	NNW	38A	NW	1					
IDAHO FALLS 46W R	4933	849.0		42	18	29.8	- 0.2	54	10+	0	18	0	29			0.31	-0.25	0.13	6	0	1.8	1	7.4	SW	34A	N	2					
LEWISTON	1413	966.8		45	27	36.0	- 4.1	56	22+	15	21+	0	25			2.14	0.79	0.81	10	0	14.4	10						3	9	18	7.4	
POCATELLO	4444	864.2	1020.8	44	25	34.4	- 1.5	57	10	12	2	0	24	25	71	0.68	-0.38	0.20	6	0	5.2	2	11.3	S	34	S	29	7	9	14	6.6	63
ILLINOIS																																
CAIRO U	314	1007.0		55	41	47.9	- 0.7	80	2	28	29	0	5			7.81	4.01	2.44	9	2	0.0	0	8.9	N#	42	SW	16	5	8	17	6.9	44
CHICAGO O HARE	658	993.7	1019.1	48	32	39.9		77	2	23	29+	0	18	32	75	1.76		0.75	9	0	2.0	2	10.2	SSW	32*	S	2	4	11	15	6.8	
CHICAGO MIDWAY	610	995.7	1019.3	48	34	40.9	1.4	77	2	24	29	0	18	32	71	1.66	-0.67	0.68	10	0	1.6	1	11.4	S	40	S	2	5	8	17	7.1	35
MOLINE	582	996.6	1019.5	49	33	40.8	2.0	77	2	17	28	0	17	33	77	4.94	2.79	2.73	6	1	T	T	8.6	S	31	NE	16	9	6	15	6.3	47
PEORIA	652	996.6	1020.2	48	31	39.6	- 0.1	77	2	18	29	0	18	33	80	2.79	0.44	1.06	8	2	0.7	1	10.3	S	35	SW	2	8	6	16	6.4	45

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
ILLINOIS	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ROCKFORD	728	991.0	1019.1	46	30	38.3	1.3	76	2	18	28	0	19	31	78	4.83	2.44	3.20	8	0	2.1	1	10.1	SSE	46*	SSW	2	7	9	14	6.5	
SPRINGFIELD	588	996.2	1020.1	51	34	42.5	1.6	80	2	21	29	0	16	34	76	2.60	-0.02	1.21	9	1	5.5	5	12.1	S	52	S	2	7	5	18	7.0	43
INDIANA																																
EVANSVILLE	381	1004.3	1020.5	56	36	45.7	- 0.3	83	2	21	30+	0	15	38	78	4.82	1.62	1.32	10	1	0.2	T	7.9	NW	30	S	2	5	6	19	7.2	44
FORT WAYNE	791	988.1	1020.2	49	31	39.8	0.1	76	2	18	28	0	21	34	80	2.49	0.03	1.14	8	0	1.8	1	9.9	W	37	SW	16	6	8	16	7.0	51
INDIANAPOLIS	793	989.5	1020.2	51	33	42.0	0.5	78	2	21	9	0	17	36	82	3.72	0.59	1.77	9	0	0.5	T	8.9	S	29*	SW	3	6	6	18	7.1	39
SOUTH BEND	768	990.5	1019.3	48	33	40.1	1.4	75	2	22	29	0	17	33	77	1.49	-1.25	0.46	10	0	0.7	T	10.8	S	35*	SSW	16	4	5	21	7.9	
IOWA																																
BURLINGTON	694	994.0	1019.9	49	32	40.5	1.0	74	2	19	28+	0	17	32	76	3.53	1.27	1.39	9	0	1.0	1	9.1	S	34	NW	16	8	6	16	6.4	52
DES MOINES	948	988.0	1020.4	44	29	36.7	- 1.7	64	2+	17	18	0	24	31	80	2.78	1.10	1.12	7	1	2.7	1	10.1	S	33	N	16	7	5	18	6.6	46
DUBUQUE	1065	992.5		44	29	36.5	0.9	67	2	16	28	0	19			10.63	8.50	5.09	7	3	0.2	T						10	4	16	6.5	
SIOUX CITY	1095	976.4	1019.0	46	27	36.5	1.0	66	2+	15	18	0	24	28	74	0.67	-0.53	0.34	4	0	2.0	2	10.6	NW	37	NW	2	10	2	18	6.5	48
WATERLOO	868	986.3	1019.3	45	29	36.9	0.9	66	1	17	28	0	21	32	81	4.68	2.74	2.00	8	0	1.1	1	9.5	S	29*	N	16	11	2	17	6.4	
KANSAS																																
CONCORDIA U	1375	968.2		48	32	40.1	- 2.0	71	1	21	6+	0	16	32	75	1.92	0.77	1.33	5	1	3.2	2	7.9	S#	30	N	16+	8	4	18	6.5	47
DODGE CITY	2594	928.8	1018.8	49	29	38.8	- 3.9	69	11	18	17+	0	23	30	75	1.42	0.55	1.20	5	0	3.2	3	10.8	SSW	44	N	2	8	4	18	6.8	53
GOODLAND	3645	888.4	1018.5	47	22	34.4	- 3.1	71	1	10	14	0	29	25	75	1.10	0.52	0.63	5	0	8.5	3	10.3	WSW	44*	NNW	2	8	8	14	5.9	
TOPEKA	877	983.1	1019.8	51	31	41.0	- 1.6	75	1	21	28	0	21	34	78	2.50	0.91	1.11	8	2	1.2	T	12.4	S	36	N	13	7	7	16	6.7	55
WICHITA	1321	967.9	1018.9	50	34	41.8	- 3.3	66	1	23	6	0	13	36	81	2.80	1.07	1.28	7	1	0.1	T	11.8	S	47	N	2	7	5	18	7.0	48
KENTUCKY																																
COVINGTON	869	987.5	1020.8	53	36	44.2	0.8	80	2	19	29	0	14	34	71	3.36	0.33	1.34	10	0	0.9	1	9.5	SSE	46*	SW	16	3	7	20	7.8	
LEXINGTON	979	984.2	1020.8	54	37	45.3	0.5	81	2	16	29	0	14	38	76	3.04	-0.11	0.87	9	0	1.2	1	9.8	S	31*	SW	16+	6	8	16	7.1	
LOUISVILLE	474	1000.7	1020.5	54	37	45.2	- 0.5	81	2	19	29	0	13	37	75	4.23	1.11	1.22	10	1	0.9	T	7.8	SE	34	S	3	6	7	17	7.2	37
LOUISIANA																																
ALEXANDRIA	92	1014.4	1019.1	66	45	55.6		83	1	25	30	0	4	48	81	7.50		2.27	10	6	0.0	0	7.0	NNE				8	5	17	6.5	
BATON ROUGE	64	1015.8	1018.8	68	48	57.9	- 1.2	84	1	30	30	0	2	51	81	7.43	2.70	4.20	6	3	0.0	0	8.4	NNE				9	5	16	6.4	
BURWOOD R	5		1018.4	71	61	66.0	0.1	81	2	51	30	0	0	60	82	6.57	2.48	4.29	8	3	0.0	0	14.6	NE								
LAKE CHARLES	14	1016.6	1018.2	68	50	59.0	- 0.3	84	1	32	30	0	1	51	80	14.09	9.75	10.99	10	5	0.0	0	9.8	NNE	51*	SSW	22	10	4	16	6.2	
NEW ORLEANS U	9	1016.4		69	56	62.5	0.0	85	1	39	30	0	0	53	75	6.08	2.07	2.86	8	3	0.0	0	7.5		21	NW	3	7	9	14	6.2	45
NEW ORLEANS	3	1016.4	1018.6	70	53	61.1	0.2	84	2+	34	30+	0	0	54	80	8.66	4.57	5.37	8	2	0.0	0	8.3	NNE	25*	SSE	2	9	4	17	6.3	
SHREVEPORT	252	1010.3	1019.7	63	46	54.7	- 1.6	85	1	30	30	0	1	47	80	5.16	1.26	1.74	10	4	0.0	0	9.7	SE				7	5	18	6.7	44
MAINE																																
CARIBOU	624	991.2	1015.1	41	28	34.5	5.3	63	4	13	20	0	24	30	86	2.39	-0.64	0.83	14	0	7.1	3	9.8	NW	35*	NW	30	1	6	23	8.6	
PORTLAND	61	1012.0	1016.2	48	32	39.7	2.2	62	5	19	20	0	19	33	78	4.69	0.90	1.55	13	0	9.7	6	9.4	NNW	34	N	21	4	10	16	7.3	37
MARYLAND																																
BALTIMORE	146	1014.9	1019.8	57	38	47.6	2.0	83	5	23	11	0	15	37	68	1.98	-0.98	0.99	8	0	3.2	2	10.0	WNW	37	NW	24	9	8	13	5.9	59
BALTIMORE U	14			57	44	50.3	1.6	80	5	32	28+	0	2			2.75	-0.21	1.51	8													
FREDERICK	294			55	37	46.4	1.0	78	4	23	11	0	14			3.34	0.39	1.05	10		3.0	3										
MASSACHUSETTS																																
BLUE HILL OBS R	629	991.8	1015.6	48	35	41.8		74	5	23	11	0	12		74	3.76	-0.44	1.44	10		2.7	3	16.6	NNW	49	NW	25					46
BOSTON	15	1011.4	1016.1	51	39	44.6	0.2	76	5	27	29	0	8	35	71	3.18	-0.31	1.13	12	1	0.9	1	14.8	NNW	35	NNW	25+	5	9	16	6.6	53
NANTUCKET	43	1015.5	1016.1	51	40	45.4	0.9	67	6	28	20+	0	7	37	76	2.41	-1.31	0.72	10	0	T	0	15.2	NW	37	NW	25+	6	6	18	6.9	43
PITTSFIELD	1170			45	30	37.5	0.6	65	3	17	28	0	21			4.27	0.29	1.42	14		5.4	4										
WORCESTER	986	979.1	1016.5	46	33	39.5	- 0.1	70	5	20	28	0	18	31	72	3.41	-0.90	1.32	9	0	8.3	8	10.1	WNW	25*	NNW	25+	6	10	14	6.7	
MICHIGAN																																
ALPENA	689	991.8		44	28	35.9	0.2	66	3	17	29	0	24			2.45	0.02	0.81	13	0	2.2	1	7.3	W#	29	E	16	2	7	21	8.5	26
DETROIT	619	992.2	1019.7	49	34	41.3	1.2	70	3+	24	29+	0	16	32	71	2.96	0.78	1.50	5	0	T	T	10.6	S	38	W	16	4	9	17	7.1	43
DETROIT M WAYNE CO	633	994.7	1019.3	49	31	40.1		71	2	20	29	0	20	33	76	2.80		1.28	6	0	T	T	8.2	WNW				6	9	15	7.0	
DETROIT WILLOW RUN	711	990.1	1019.3	48	29	38.8	- 0.9	73	2	17	29+	0	24	32	77	2.47	0.27	1.46	6	0	T	T	9.4	SW	35*	SW	16	5	10	15	7.0	
ESCANABA U	594	994.5		42	30	35.7	1.8	61	2	19	19	0	20	28	73	2.40	0.20	1.59	10	0	0.3	T	10.8		40	N	26	3	8	19	7.4	33
FLINT	766	991.1	1019.7	47	29	38.2	0.6	70	3+	17	19	0	23	31	77	1.39	-0.79	0.81	6	0	T	T	9.2	WNW	27*	SW	16+	3	10	17	7.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⌀	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max. 90 F. or above	No of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: .01 inch or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F	F.	F.	F.	F.		F.				F.	%	In.	In	In.			In	In.	M p.h		M p.h							%
MICHIGAN																																
GRAND RAPIDS	681	993.4	1019.3	48	33	40.1	2.5	76	2	21	29	0	17	31	72	1.55	-0.98	0.57	6	0	0.6	T	9.7	S	31	SW	3	2	8	20	8.0	28
LANSING	852	986.2	1019.1	48	30	39.0	1.1	73	2	18	29+	0	22	31	72	1.77	-0.53	0.72	4	1	T	T	13.0	S	45	S	3	3	10	17	7.4	37
MARQUETTE U	677	989.3		42	29	35.6	1.7	66	2	19	20	0	21			2.33	-0.79	1.10	16	0	8.2	3	8.9	W#	32	S	3	2	7	21	7.9	35
MUSKEGON	627	995.3	1019.0	47	35	41.3	2.8	76	2	21	29	0	12	31	68	2.53	-0.11	0.91	10	0	5.4	1	9.9	SE	35*	SSW	2	2	8	20	7.9	
SAULT STE MARIE	721	994.1	1017.4	40	28	34.3	2.8	60	3	18	29+	0	25	29	82	2.19	-1.07	0.85	13	0	9.0	3	10.0	ESE	25*	SW	3	1	4	25	8.5	24
MINNESOTA																																
DULUTH	1426	974.5	1017.1	37	22	29.1	2.1	60	11	10	27+	0	29	21	70	1.61	-0.17	1.22	6	0	2.8	2	8.9	SW	37	W	7	5	3	22	8.0	31
INTERNATIONAL FALLS	1179	973.9	1016.5	35	18	26.5	2.5	60	11	3	24	0	29	21	78	0.97	-0.20	0.60	8	0	4.4	3	8.0	NW	23*	W	3	3	6	21	7.8	
MINNEAPOLIS	822	983.7	1018.4	42	25	33.5	0.5	65	2	12	18	0	28	26	75	1.06	-0.38	0.72	6	2	2.5	1	9.6	S	33	NW	7	7	6	17	6.6	35
ROCHESTER	1297	969.1	1018.5	39	24	31.7	- 0.8	63	2	8	18	0	26	28	84	1.23	-0.29	0.67	8	0	4.5	3	12.4	S				8	5	17	6.6	
ST CLOUD	1034	978.8	1018.2	40	22	30.7	1.3	57	11	12	27+	0	29		78	0.68	-0.69	0.48	5	0	2.1	2						5	9	16	6.9	
MISSISSIPPI																																
JACKSON	305	1007.2	1019.4	66	46	55.5	0.3	85	2	24	30	0	3	45	73	8.33	4.28	3.60	10	2	0.0	0	7.1	N	40	S	22	8	6	17	6.3	47
MERIDIAN	292	1005.0	1019.7	66	44	55.3	1.2	86	1	23	30	0	4	47	78	7.54	3.51	2.72	10	1	0.0	0	7.4	N	21*	NNE	3+	8	6	16	6.3	
VICKSBURG U	234	1010.1		63	47	54.9	- 1.9	83	2	29	30	0	2			8.90	4.29	2.68	10	5	0.0	0	8.7		37	SE	22	8	6	16	6.2	51
MISSOURI																																
COLUMBIA	778	989.5	1018.9	52	35	43.2	0.0	72	2+	22	29	0	17	35	76	3.28	0.67	1.09	8	2	2.8	2	10.7	SSE	31	NW	16	8	6	16	6.5	40
KANSAS CITY	742	983.8	1019.6	52	36	43.8	- 0.5	75	1	27	28+	0	13	34	71	5.54	3.37	2.47	10	3	0.2	T	8.3	SW	29	NW	16	7	5	18	7.1	40
ST JOSEPH	809	983.6		49	32	40.7	- 1.6	74	1	23	28	0	21			3.54	1.54	1.62	10	2	0.8	1	11.5	S	33*	NNW	16	9	7	14	6.3	
ST LOUIS	535	999.0	1020.1	53	35	44.1	- 0.9	80	2	21	29	0	15	34	71	2.90	0.33	1.59	10	1	4.7	4	11.4	S	41	S	2	5	8	17	7.3	41
ST LOUIS RFC	465			53	40	46.3	0.3	80	2	31	29+	0	7			2.45	-0.27	1.55	10		2.0	T										
SPRINGFIELD	1265	971.0	1019.6	54	34	43.9	- 0.6	75	1	20	29	0	15	35	75	2.23	-0.52	1.19	7	3	T	T	12.3	SSE	59	SE	21	6	5	19	7.0	47
MONTANA																																
BILLINGS	3567	889.9	1017.3	41	22	31.2	- 4.6	64	10	3	16	0	27	20	65	1.55	0.87	0.88	7	0	15.3	7	14.1	WSW	34	SW	6	9	10	11	5.8	60
GLASGOW	2277	940.4		38	18	27.6	- 0.4	56	9	3	29	0	29	20	75	0.19	-0.33	0.11	4	0	1.4	1						8	7	15	6.4	
GREAT FALLS	3662	886.9	1016.6	40	20	30.0	- 5.2	68	9	0	29	0	26	18	65	1.49	0.82	0.65	10	0	15.0	7	12.4	SW	47	SW	1	6	10	14	6.3	51
HAVRE	2582	925.2		39	13	26.2	- 4.7	68	9	- 4	26	0	28			0.22	-0.26	0.15	4	0	4.0	4	9.8	SW#	35	SW	13	8	5	17	6.6	62
HELENA	3893	872.7	1019.7	39	17	27.8	- 3.9	52	24+	- 1	2	0	29	18	68	0.37	-0.27	0.15	8	0	6.4	2	7.2	WNW	38	W	22	8	9	13	6.2	51
KALISPELL	2965	912.3		35	18	26.6	- 5.4	44	6	1	26	0	29			1.07	-0.48	0.41	9	1	19.1	12	4.2					4	4	22	8.2	
MILES CITY	2629			39	21	29.9	- 2.9	60	10	8	4	0	28	23	78	0.56	0.07	0.38	7	0	4.0	2	9.6	SSE	32*	NW	2	10	3	17	5.9	
MISSOULA	3190	902.8	1021.0	35	19	27.1	- 4.8	49	1	7	21	0	30	23	84	1.38	0.27	0.42	10	0	15.1	10	5.0	NW	42	NW	1	7	3	20	7.4	35
NEBRASKA																																
GRAND ISLAND	1841	950.8		47	24	35.4	- 2.2	70	1	11	6	0	25	26	73	0.86	-0.12	0.61	5	0	3.7	2	11.5	SW				9	4	17	6.4	
LINCOLN U	1150			47	30	38.4	- 1.9	67	1	20	17+	0	18			2.62	1.21	2.07	5	0	6.8	5	10.4	S#	50	NE	15	8	6	16	6.5	46
NORFOLK	1544	960.9		46	24	35.2	0.3	67	25+	13	3	0	27			0.52	-0.54	0.31	4	0	2.4	2						10	5	15	6.0	
NORTH PLATTE	2779	916.3	1018.2	48	20	33.9	- 2.9	73	1	3	3	0	28	23	69	0.50	-0.05	0.20	7	0	4.0	3	9.9	N	52	N	2	10	5	15	6.0	60
OMAHA	978	977.9	1019.3	47	29	38.0	- 0.9	67	1	19	18+	0	24	31	78	2.23	0.94	1.42	5	0	4.0	4	11.9	SSE	43	N	2	9	6	15	6.2	53
OMAHA N OMAHA AP	1323	969.6		45	28	36.5	- 0.5	65	1	16	17	0	21			2.38	1.09	1.53	5	0	4.2	4						9	4	17	6.4	
SCOTTSBLUFF	3950	879.1	1019.1	47	19	32.8	- 3.3	66	1	3	20	0	29	21	69	0.50	-0.07	0.13	6	0	5.8	2	10.3	WNW	44*	NNW	2	9	7	14	6.1	
VALENTINE	2587	924.6		49	20	34.3	- 0.1	73	1	7	6	0	29	24	70	0.07	-0.57	0.07	1	0	2.2	2	10.9	W#	43	N	2	11	10	9	4.9	74
NEVADA																																
ELKO	5075	845.9	1020.5	45	19	32.0	- 2.5	60	9	0	21	0	28	20	63	0.63	-0.30	0.30	5	0	6.2	4	7.2	SW	25*	SSW	29+	9	5	16	5.8	
ELY	6257	809.0		45	16	30.5	- 4.7	63	10	1	18	0	30	19	63	0.36	-0.33	0.26	4	0	4.6	3	6.8	S	42	S	20	9	9	12	5.5	68
LAS VEGAS	2162	950.9	1017.2	62	39	50.3	- 3.6	72	4	28	18	0	4	26	44	0.10	-0.12	0.08	2	0	0.0	0	8.9	WSW	35*	NNE	13	18	7	5	3.3	82
RENO	4404	862.9	1020.2	55	19	36.5	- 3.7	68	9+	3	17	0	28	21	61	0.64	0.00	0.53	5	0	8.7	6	5.7	S	40	S	29	12	4	14	5.4	71
WINNEMUCCA	4299	869.6		50	18	34.3	- 3.3	66	9	- 5	21	0	28	21	60	0.80	-0.04	0.54	4	0	5.4	5	7.4	S	29	W	1	12	4	14	5.5	48
NEW HAMPSHIRE																																
CONCORD	339	1005.9	1016.9	48	31	39.5	2.8	68	5	19	20+	0	19	30	73	3.70	0.13	1.16	13	0	10.0	9	6.1	NW	33	NW	25	3	12	15	7.2	42
MT WASHINGTON OBS	6262	835.0		29	16	22.7	2.8	48	5	- 3	28	0	27		84	6.38	-0.20	2.49	16	0	40.6	12	29.7	W	98Y	W	18	3	8	19	7.9	28
NEW JERSEY																																
ATLANTIC CITY	58	1017.3	1019.2	56	39	47.7	1.2	77	6	23	11	0	10	37	70	2.83	-0.29	1.04	9	1	0.0	0	13.7	WNW	40*	NW	24	8	10	12	5.8	60
ATLANTIC CITY U	10			55	45	50.3	2.2	66	6+	35	30	0	0			3.76	0.44	1.90	6				13.2		29*	NW	29+					

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

NOVEMBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW JERSEY																																
NEWARK	11	1017.4	1018.6	54	41	47.4	2.5	75	5+	29	28	0	6	35	64	2.64	-0.46	0.75	9	0	0.8	1	10.4	NW	31*	NNW	27	7	9	14	6.4	
TRENTON U	56	1011.1		55	40	47.4	1.8	80	5	28	28	0	5			2.11	-0.75	0.61	9	0	0.8	1	9.6	NW#	38	NW	25	7	13	10	5.9	65
NEW MEXICO																																
ALBUQUERQUE	5310	849.0	1017.5	49	31	40.3	- 3.7	60	28	22	20	0	17	25	59	0.48	0.06	0.25	6	2	3.4	3	7.8	N	50	E	13	11	7	12	5.7	71
CLAYTON	4969	844.9		48	26	37.0	- 5.4	74	11	6	20	0	23			1.84	1.45	1.58	5	0	14.8	12						7	7	16	6.6	
RATON	6379	804.6		50	22	35.8	- 2.6	67	11	11	19	0	27			0.71	0.14	0.48	8	0	6.2	5						8	7	15	6.5	
ROSWELL	3612	894.3		53	28	40.4	- 7.9	77	11	- 1	15	0	20	31	74	1.62	1.23	1.03	5	1	12.2	8	7.7		38	W	2	8	6	16	6.5	
SILVER CITY	5373	833.7		55	32	43.5		70	26+	22	15	0	17			1.93		1.32	6	1	4.2	4						11	10	9	5.0	
NEW YORK																																
ALBANY	277	1014.2	1018.1	47	32	39.4	0.4	67	3	22	28+	0	21	32	75	2.98	0.29	0.68	12	0	3.6	3	8.9	WNW	32	NW	1	5	6	19	7.7	36
BINGHAMTON	1590	957.7	1018.0	44	31	37.3	0.1	66	3	19	11+	0	20	32	81	3.12	0.27	0.85	13	0	11.8	3	10.2	WNW	34	SE	3	2	6	22	8.2	28
BUFFALO	705	989.8	1019.0	49	33	40.8	0.9	80	3	21	10	0	17	32	73	3.30	0.21	1.08	16	0	5.6	1	9.4	WNW	38	W	16+	4	6	20	7.5	37
NEW YORK U	132	1006.3		56	42	48.8	2.2	78	5	30	28	0	5	35	61	2.71	-0.52	0.79	7		T	0	9.4	NW	36	NW	28	11	11	8	5.1	56
NEW YORK	19	1016.5	1018.3	53	43	48.1	1.3	72	5	30	28	0	1	36	66	2.49	-0.50	0.66	8	0	0.4	0	16.1	WNW	40	NW	28	4	13	13	6.6	
ROCHESTER	543	998.9	1018.8	48	33	40.6	0.9	75	3	24	29+	0	16	33	77	3.99	1.25	1.15	16	0	7.5	4	11.8	WNW	42	W	16	4	3	23	8.1	37
SCHENECTADY	217			47	34	40.0	1.4	67	3	23	28+	0	19			2.69	-0.15	0.70	12	0	2.8	3						11	7	12	6.0	
SYRACUSE	424	996.0	1018.6	48	34	40.7	- 0.5	73	3	23	28	0	17	33	74	2.99	-0.14	0.81	18	0	9.5	4	10.3	WNW	37	S	3	2	7	21	8.2	27
NORTH CAROLINA																																
ASHEVILLE U	2203	939.7		59	42	50.4	3.8	78	5	23	29	0	9			4.85	2.74	2.63	10	0	T	T	9.6	NW	32	NW	24	10	3	17	6.3	43
CAPE HATTERAS R	7	1018.3	1019.0	64	49	56.4	- 0.9	78	4+	30	30+	0	3	48	75	2.16	-1.69	1.14	6	2	0.0	0	10.8	NNW	31	NW	23+	11	7	12	5.5	69
CHARLOTTE	735	991.0	1019.5	67	46	56.3	5.9	85	2	22	29	0	7	43	65	2.73	0.08	1.17	6	0	0.0	0	5.8	NE	23	S	23	6	11	13	6.4	50
GREENSBORO	891	987.6	1020.1	62	42	52.1	4.1	83	1	22	30+	0	10	40	69	1.70	-1.01	0.85	7	0	T	T	7.1	NW	22	NW	24	8	9	13	6.0	53
RALEIGH	433	1005.6	1019.7	63	41	52.4	2.0	83	1	22	29	0	10	41	68	2.10	-0.75	1.23	7	0	0.0	0	7.7	NNW	25*	SE	23	8	13	9	5.7	63
WILMINGTON	30	1016.9	1019.7	67	46	56.3	0.6	81	3+	27	30+	0	7	48	77	1.85	-0.74	1.22	6	1	0.0	0	8.9	NNW	36	NW	23	7	13	10	5.6	64
WINSTON SALEM	967	984.1	1020.0	62	44	52.7	4.1	82	1	27	30+	0	8	38	62	2.13	-0.66	0.99	9	0	T	0	8.0	NNW	27*	NW	24	8	7	15	6.0	
NORTH DAKOTA																																
BISMARCK	1647	954.8	1017.0	43	19	30.8	2.4	67	1	10	27+	0	28	16	59	0.01	-0.52	0.01	1	0	0.1	T	7.4	NW	37	NW	2	7	6	17	6.5	56
DEVILS LAKE U	1471	960.9		37	17	27.2	2.1	65	10	- 1	29	0	28			0.25	-0.42	0.10	4	0	3.1	2	9.3	S#	33	NW	6	8	3	19	7.0	55
FARGO	900	982.0	1017.7	40	20	30.1	2.5	59	1	4	27	0	28	22	72	0.06	-0.81	0.02	4	0	0.5	T	12.5	NNW	34	NW	2+	8	5	17	6.8	47
WILLISTON U	1877	946.4		40	20	29.9	1.6	66	10	5	29	0	29			0.09	-0.49	0.08	2	0	0.5	T	7.7	W#	31	W	2	8	7	15	6.3	55
OHIO																																
AKRON	1210	981.7	1020.7	49	34	41.4	1.0	80	3	20	29	0	17	34	76	3.10	0.72	1.18	10	0	3.4	1	14.5	WSW	44	SW	16	2	7	21	8.0	
CINCINNATI OBS	761			53	36	44.6	0.0	82	2	21	29	0	15			3.87	0.81	1.38	10	0	1.5	1	6.2	S	24	SW	16					42
CINCINNATI	553	996.7		55	38	46.3	0.2	82	2	24	29	0	9			3.34	0.28	1.41	9		1.8											
CLEVELAND	777	991.5	1019.6	50	35	42.5	0.8	79	3	24	30	0	17	32	67	2.78	0.12	1.32	10	0	0.9	T	11.9	WNW	34	S	3	3	5	22	8.2	29
COLUMBUS	812	990.1	1020.9	51	33	41.8	- 0.1	79	3	16	29	0	19	35	77	3.49	0.63	1.58	8	0	1.3	1	8.0	SE	30	SW	16	3	8	19	7.8	25
COLUMBUS U	724			52	36	43.8	0.6	79	3	20	29	0	15			3.61	1.07	1.54	8	0	1.6	1										
DAYTON	1002	983.3	1020.6	51	33	41.8	- 0.1	77	2	19	28	0	16	34	74	2.61	0.00	1.10	9	0	2.0	2	10.2	WNW	38	SW	16	6	6	18	7.1	39
MANSFIELD	1296			49	32	40.7		75	3	17	29	0	19			2.92		1.39	11	0	0.4	T						1	12	17	7.9	
SANDUSKY U	603	996.9		51	36	43.3	1.1	75	2	22	29	0	13			2.37	0.10	0.91	9	0	0.5	T	9.4		48	SW	16	4	8	18	6.9	52
TOLEDO	676	994.2	1020.2	49	29	38.9	- 0.9	76	2	18	28	0	22	34	82	2.04	-0.11	1.21	8	0	0.9	1	9.3	WSW	36	SW	16	5	9	16	6.8	47
YOUNGSTOWN	1178	976.3	1019.9	48	33	40.4	- 0.2	80	3	23	22	0	18	33	75	2.98	-0.51	1.32	12	0	4.0	1	9.9	WSW	25*	S	3	2	4	24	8.4	
OKLAHOMA																																
OKLAHOMA CITY	1280	975.0	1019.6	55	38	46.5	- 2.5	76	12	27	29	0	8	37	73	3.81	1.99	2.01	8	4	0.0	0	12.7	SSE	42	NW	2	6	7	17	6.7	45
TULSA	650	994.3	1019.3	56	36	46.2	- 3.4	77	1	26	29+	0	13	37	75	3.18	0.78	1.36	10	1	T	0	10.9	SSE	29*	W	16+	7	4	19	7.1	43
OREGON																																
ASTORIA	8	1015.9	1016.7	52	35	43.7	- 3.4	63	7	25	16	0	9	39	84	8.34	-2.02	2.45	19	2	0.0	0	9.7	ESE	35*	SW	22+	4	6	20	7.5	
BURNS U	4151	873.4		47	20	33.6	- 2.9	59	9+	2	21	0	28	22	68	0.99	-0.18	0.43	9	0	4.8	3						9	6	15	6.1	
EUGENE	361	1004.4		50	33	41.7	- 3.6	60	29	21	17	0	16			9.36	3.67	3.08	16	2	2.0	2	8.0		32*	W	10	3	8	19	7.7	
MEACHAM	4050			40	26	32.6	- 2.3	57	9	14	17+	0	23			3.09	-0.78	0.84	16	0	18.2	12						4	10	16	7.2	
MEDFORD	1298	970.5	1019.2	54	30	41.6	- 2.6	64	5	14	17	0	20	34	80	3.42	0.75	1.30	14	0	1.7	1	3.4	S	24*	SE	29	5	8	17	7.1	
PENDLETON	1482	964.4	1019.3	46	27	36.3	- 4.8	59	22	15	17+	0	23	26	68	1.46	-0.05	0.59	7	0	9.2	8	8.3	SE	53*	SW	22	6	8	16	6.7	
PORTLAND	21	1012.2	1018.1	51	35	42.9	- 2.6	61	7	23	17	0	10	35	75	4.67	-0.55	1.64	18	0	0.0	0	8.3	SE	56	SW	21	4	6	20	7.7	54

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

NOVEMBER 1964

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 0.1 inch or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days clear to partly cloudy, sunrise to sunset: Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths, sunrise to sunset	Pct. possible sunshine
	Ft	Mb	Mb	F	F	F	F	F		F				F	%	In	In	In			In	In	Mph		Mph							
OREGON																																
PORTLAND U	30			52	39	45.2	- 2.0	60	8+	32	25+	0	2			5.45	-0.60	2.20	17		0.0	0										
ROSEBURG	505	999.3		51	34	42.3	- 3.9	60	3	19	17	0	10			10.11	5.60	4.80	14	0	10.8	8	3.2	N#	19	S	29	0	6	24	8.6	25
SALEM	195	1010.5	1017.9	51	31	41.2	- 4.2	62	7	18	17	0	20	35	78	4.42	-1.54	1.33	17	0	0.0	0	7.6	S	32*	S	21	5	7	18	7.5	
SEXTON SUMMIT R	3836	883.2		46	33	39.7	- 1.5	65	8	20	20	0	13			11.78	7.24	4.72	13	0	10.9	8	14.4	S				7	6	17	6.9	
PACIFIC AREA																																
CANTON ISLAND	8	1009.1	1009.6	90	79	84.1	0.4	92	23	76	11+	18	0	70	68	0.08	-0.19	0.04	3	0	0.0	0	11.1	ENE	22*	E	17	10	15	5	4.9	
ENIWETOK	13	1008.5		86	77	81.6		89	1	72	4	0	0	75	78	7.34		1.12	22	0	0.0	0	14.3									
JOHNSTON	7	1012.5		82	75	78.2		84	11+	63	17	0	0	70	77	3.03		0.86	13	0	0.0	0	18.6		40	SE	16	4	18	8	5.9	46
KOROR R	94	1006.1	1009.9	88	75	81.7	0.3	90	15+	73	8+	4	0	75	84	7.81	-4.03	3.44	14	1	0.0	0	5.8	NE	24	SE	20	0	6	24	8.8	71
KWAJALEIN	8	1008.1	1009.0	86	76	81.1		89	4	73	12	0	0	74	79	13.61		3.23	23	1	0.0	0	11.0	ENE	30*	ESE	26+	1	7	22	8.6	
MAJURO	10	1008.9	1009.2	86	77	81.4		88	8+	74	2	0	0	74	77	12.04		2.59	24	2	0.0	0	8.9	ENE	28	E	25	0	6	24	8.9	57
PONAPE R	123	1004.1	1008.5	87	73	79.8	- 1.5	90	11	69	8+	1	0	74	86	18.29	3.82	3.33	25	4	0.0	0	4.1	NE	17	E	18+	1	3	26	8.8	51
TAGUAC GUAM R	361			85	71	77.9	- 0.6	88	12	63	22+	0	0			5.31	-2.96	1.02	21	0	0.0	0	5.9	NE#	31	E	18					
TRUK MOEN ISLAND	5	1008.3	1008.6	86	75	80.7	- 0.1	88	14+	72	13+	0	0	75	84	7.82	-3.28	2.59	16	4	0.0	0	4.7	NNE	23	NE	18	0	12	18	7.7	79
WAKE ISLAND	11	1013.3	1013.7	84	75	79.5	- 0.4	86	21	68	28	0	0	73	79	3.32	0.15	1.68	13	0	0.0	0	17.6	ENE	32*	E	6	7	17	6	5.1	
YAP R	55	1007.4	1009.4	87	74	80.1	- 1.7	91	14	70	7+	1	0	75	85	4.42	-6.30	2.18	16	0	0.0	0	7.4	NE	29	SE	19	0	0	30	10.0	84
PENNSYLVANIA																																
ALLENTOWN	376	1004.5	1019.0	53	36	44.4	2.4	75	4+	24	19+	0	15	35	72	3.63	0.56	1.41	8	0	2.9	3	11.3	W	38*	NW	27	7	8	15	6.6	
ERIE	732	992.2	1018.9	50	36	43.2	2.2	80	3	27	11+	0	12	34	70	2.22	-1.04	0.89	14	1	0.8	T	14.4	SSE	33*	SSE	3	4	2	24	8.2	
HARRISBURG	335	1005.6	1019.6	54	38	46.0	2.0	76	3	24	11	0	11	36	69	3.56	0.83	1.36	12	0	3.7	4	9.6	NW	31	NW	24	6	5	19	7.2	40
PHILADELPHIA	5	1014.2	1018.8	55	36	45.2	- 0.7	80	5	21	11	0	16	35	69	2.04	-1.04	0.56	8	0	3.2	1	9.2	NW	31	NW	24	6	8	16	6.6	68
PHILADELPHIA U	35			57	43	49.7	1.9	81	5	30	28	0	3																			
PITTSBURGH	1151	989.3	1020.5	50	35	42.8	1.8	82	3	23	22	0	15	34	74	3.41	0.82	1.38	14	0	2.2	1	9.0	WNW	29*	W	17	3	4	23	8.0	45
PITTSBURGH U	749			53	38	45.4	0.8	83	3	26	22	0	10			3.33	0.72	1.43	14		2.8											20
READING U	266	1006.8	1016.2	54	40	47.1	1.7	77	4	27	11	0	6			3.19	0.14	0.99	9	0	1.5	2	12.4		45	E	24	7	7	16	6.6	49
SCRANTON	940	984.3	1019.4	47	33	40.1	- 0.6	70	3	19	11	0	19	33	75	3.57	0.36	0.91	12	0	2.4	1	7.5	NW	28	NW	28	3	7	20	7.8	29
WILLIAMSPORT	527	1000.4	1019.8	50	35	42.6	0.9	72	3	22	11	0	13	33	71	3.65	0.39	0.88	13	0	2.5	2	8.3	W	27*	NW	28	6	4	20	7.4	
RHODE ISLAND																																
BLOCK ISLAND	110	1011.9	1016.1	51	41	45.6	0.3	66	6	27	28	0	6			5.51	1.98	2.00	7	0	0.0	0						8	9	13	6.3	
PROVIDENCE	55	1010.8	1016.9	51	37	43.6	1.0	74	5	25	12	0	12	33	67	3.10	-0.64	1.29	7	0	1.7	1	11.5	NNW	29*	NNW	25+	9	9	12	6.1	48
SOUTH CAROLINA																																
CHARLESTON	41	1017.2	1019.2	71	48	59.2	2.9	88	1	25	30	0	5	49	74	1.59	-0.46	0.70	5	0	0.0	0	7.2	NNE	37	W	23	11	7	12	5.4	75
CHARLESTON U	9			69	55	61.6	3.0	87	1	36	29	0	0			1.26	-0.66	0.89	4		0.0	0	9.7		29	SW	23					
COLUMBIA	217	1006.6	1019.6	71	46	58.7	4.8	90	2	21	30	1	8	46	69	1.01	-1.24	0.89	4	0	0.0	0	5.1	NE	29*	SE	23	8	9	13	5.9	59
FLORENCE	146	1013.4	1019.2	69	47	57.8	4.2	88	2	26	30	0	5	45	69	1.57	-0.71	1.09	5	0	0.0	0	7.2	N	21*	SE	23	8	14	8	5.5	
GREENVILLE	1009	981.6	1019.3	67	46	56.5	5.2	86	1	29	30+	0	6	42	65	2.94	-0.10	1.54	9	0	0.0	0	7.6	NNE	32	N	8	7	8	15	6.3	49
SPARTANBURG	801	989.4	1019.6	66	46	55.8	4.6	83	2	27	29	0	6	42	65	2.73	-0.24	1.31	6	0	0.0	0	6.1	NE	28*	SW	23+	8	8	14	6.1	
SOUTH DAKOTA																																
HURON	1282	969.4	1018.1	44	21	32.5	0.0	73	1	10	20	0	28	25	79	0.07	-0.59	0.06	2	0	0.9	1	11.5	SSE	36	NW	7	11	6	13	5.4	60
RAPID CITY	3165	900.8	1017.7	47	22	34.9	- 0.4	69	10	11	17	0	27	21	62	0.36	-0.19	0.18	4	0	2.7	1	12.1	NNW	59	NW	2	13	4	13	5.2	58
SIOUX FALLS	1420	964.9	1018.0	43	24	33.4	1.2	62	1	13	6+	0	27	25	72	1.40	0.29	1.19	4	1	1.0	1	10.6	S	31*	NNW	2	11	2	17	6.2	
TENNESSEE																																
BRISTOL	1507	964.8	1020.0	60	41	50.7	4.9	80	2	20	30+	0	9	39	68	2.80	0.24	1.23	8	0	T	0	6.7	NW	31*	SSW	3	7	4	19	7.1	
CHATTANOOGA	670	992.2	1020.3	62	44	53.0	3.9	84	2	24	30	0	8	41	68	3.61	-0.42	1.09	10	0	0.0	0	7.8	N	45	S	23	8	5	17	6.6	47
KNOXVILLE	950	984.6	1020.6	61	43	51.7	3.3	83	2	26	30+	0	7	41	71	3.04	-0.11	1.05	11	1	T	0	7.1	NE	37	S	3	5	7	18	7.4	32
MEMPHIS	263	1004.9	1020.1	58	41	49.6	- 1.0	83	2	25	29	0	6	41	75	8.06	3.50	3.14	9	2	T	T	9.6	NNE	34	SE	2	6	5	19	7.1	41
MEMPHIS U	271			57	44	50.3	- 1.8	81	2	29	29	0	2			8.40	4.09	3.27	10		T	T										
NASHVILLE	577	999.8	1020.2	59	40	49.6	0.3	83	2	20	30	0	8	40	72	3.87	0.46	0.95	11	1	T	T	8.3	S	36	W	16	7	5	18	6.9	44
OAK RIDGE	905			60	41	50.8	3.8	83	2	22	30+	0	9			4.41	0.43	1.85	13	1	0.0	0	3.6		37Y		3	7	6	17	6.8	
TEXAS																																
ABILENE	1759	956.4	1018.5	60	40	50.0	- 3.7	82	1	33	19+	0	0	40	73	2.91	1.89	1.16	8	3	T	0	9.6	S	32	SW	2	11	6	13	5.8	49
AMARILLO	3607	889.9	1017.5	52	31	41.3	- 3.9	74	25+	15	17	0	18	31	73	2.26	1.38	1.13	8	0	4.9	5	13.8	N	38	N	15	9	3	18	6.5	49
AUSTIN	597	996.7	1019.0	66	47	56.5	- 2.7	85	1	39	23+	0	0	46	71	2.82	0.47	1.84	8	2	0.0	0	9.2	N	34	N	2	8	5	17	6.6	37

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State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90 F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: .01 inch or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb	Mb.	F	F.	F.	F.	F.		F.				F	%	In	In.	In.			In	In.	M.p.h.		M.p.h.							%
TEXAS																																
BROWNSVILLE	16	1014.3	1016.9	76	59	67.4	- 0.4	88	2	48	6	0	0	60	80	1.63	0.08	1.16	7	0	0.0	0	11.7	NW	42	NW	6	5	11	14	6.7	43
CORPUS CHRISTI	43	1016.5	1017.9	72	53	62.6	- 2.3	86	1	42	6	0	0	54	75	1.09	-0.65	0.83	9	1	0.0	0	12.6	NNE	42	W	22	8	6	16	6.7	46
DALLAS	481	999.9	1019.1	62	43	52.7	- 3.1	83	1	33	19	0	0	43	72	4.04	1.61	2.32	9	2	0.0	0	11.3	S	42	NW	22	9	7	14	6.0	47
DEL RIO U	957			66	48	57.3	- 2.9	83	1	38	23	0	0			0.75	-0.05	0.42	5		0.0	0										
EL PASO	3918	887.3	1017.2	59	36	47.8	- 4.2	73	27	28	14	0	10	33	62	1.63	1.25	0.76	6	2	7.8	7	6.3	NNE	47	NW	21	11	7	12	5.5	65
FORT WORTH	544	997.7	1019.0	63	43	52.7	- 3.1	84	1	35	29+	0	0	43	73	2.72	0.48	1.45	9	1	0.0	0	12.7	S	38*	NW	22	10	7	13	6.0	
GALVESTON U	7			67	56	61.2	- 2.4	79	2+	45	29	0	0			10.80	6.96	7.65	9		0.0	0			36	W	22					54
GALVESTON	5	1015.9	1018.4	67	56	61.3	- 2.1	81	2+	46	30	0	0	53	74	6.93	2.74	5.72	10	3	0.0	0	11.9	N				9	5	16	6.2	
HOUSTON U	41			70	54	62.2	0.3	86	1	42	30	0	0			6.76	2.81	5.29	10		0.0	0										
HOUSTON	50	1015.9	1018.9	69	50	59.8	- 1.1	87	1	38	30	0	0	52	80	10.20	6.02	5.42	11	3	0.0	0	11.0	N				8	6	16	6.4	57
LAREDO	500	1002.3	1017.7	72	53	62.3	- 3.7	90	1	43	6	1	0	50	69	1.74	0.77	1.25	7	0	0.0	0	9.4	SE	40*	NW	22	9	7	14	6.2	
LUBBOCK	3243	905.0	1018.7	55	34	44.7	- 3.9	76	26+	25	19	0	12	34	72	1.31	0.68	0.58	8	0	0.5	1	14.5	WSW	36*	NNE	13	10	5	15	5.6	
MIDLAND	2854	917.2	1017.3	59	38	48.7	- 4.1	83	26	29	15	0	5	37	70	1.63	0.96	1.19	10	1	T	0	10.4	NNE	32*	SW	2	11	4	15	5.8	
PORT ARTHUR	16	1016.6	1018.1	69	49	59.2	- 0.1	85	1	33	30	0	0	53	81	10.42	6.86	7.26	10	5	0.0	0	10.1	N	49	S	22	10	5	15	5.8	45
SAN ANGELO	1903	950.2	1018.4	61	40	50.3	- 6.1	80	12+	30	20	0	1	40	73	1.15	0.06	0.72	6	1	0.0	0	8.6	NE	35*	NW	22	11	3	16	5.9	
SAN ANTONIO	792	993.0	1018.3	68	48	58.0	- 1.8	86	1	39	4	0	0	47	70	2.09	0.69	1.43	10	2	0.0	0	9.4	N	31	W	22	9	5	16	6.3	43
VICTORIA	104	1013.8		70	51	60.3	- 3.5	85	1	41	17	0	0			4.88	2.65	2.00	7	4	0.0	0	11.5		53Y	NNW	2	8	7	15	6.3	
WACO	500	997.7	1019.1	64	45	54.5	- 3.3	84	1	37	23+	0	0	45	75	3.53	1.28	1.95	7	3	0.0	0	12.3	SSE	38*	NW	2	8	5	17	6.2	
WICHITA FALLS	994	981.2	1018.8	58	39	48.1	- 3.6	77	26+	29	17	0	3	36	68	3.24	1.85	1.40	7	4	0.0	0	12.6	NNE	31*	NNE	13	10	6	14	5.8	
UTAH																																
MILFORD	5028	845.2		47	20	33.3	- 4.1	66	10	0	22	0	27			0.47	-0.07	0.39	4	0	4.4	4						15	4	11	4.7	
SALT LAKE CITY	4220	869.6	1021.0	45	26	35.3	- 4.0	59	10	14	19	0	24	26	72	1.15	-0.27	0.50	6	0	11.1	5	9.6	SSE	40	NW	2	10	7	13	6.0	49
WENDOVER	4237	872.7		43	26	34.5		55	26	14	19+	0	26			0.76		0.56	6	0	6.7	4						12	5	13	5.4	
VERMONT																																
BURLINGTON	331	1002.0	1017.2	43	30	36.5	0.1	65	3	10	30	0	19	30	78	2.31	-0.54	0.41	15	0	5.9	2	9.0	SSW	31	SW	3	3	1	26	8.8	34
VIRGINIA																																
LYNCHBURG	947	994.8		58	41	49.6	2.3	80	5	24	22	0	9			2.46	0.09	1.07	11	1	0.6	T	7.9		29	N	28	11	6	13	5.7	55
NORFOLK	26	1018.8	1020.0	61	45	53.2	1.8	81	4	31	11	0	3	43	71	1.20	-1.47	0.68	6	0	T	0	10.7	NNW	31	SE	23+	12	8	10	5.2	70
RICHMOND	162	1014.2	1020.7	61	39	50.1	1.7	82	5+	20	30	0	12	39	69	1.81	-0.68	0.70	8	0	T	0	7.7	S	25	NW	24	8	7	15	6.4	46
ROANOKE	1174	977.4	1020.4	57	42	49.3	2.4	80	5	24	22	0	9	37	66	3.62	0.81	1.66	10	0	2.9	1	8.0	NW	22*	NW	24+	10	4	16	6.3	
WASHINGTON																																
OLYMPIA	190	1010.2	1017.5	49	29	39.1	- 4.4	60	8	18	25+	0	21	35	88	6.78	0.01	2.05	15	0	0.0	0	6.7	SW	41*	SW	10	2	8	20	7.9	
SEATTLE TACOMA	400	1002.0	1016.6	49	35	41.9	- 2.0	62	8	23	25	0	8	35	78	4.67	0.12	1.46	16	1	T	0	9.6	SE	38*	S	10	4	7	19	7.5	
SEATTLE	14		1016.8											37	80								5.2	SSE								
SEATTLE U	14			50	40	45.0	- 2.0	61	8	30	17	0	3			4.39	-0.07	1.35	14		0.0	0			44	SW	21					30
SPOKANE	2357	948.5	1019.0	39	23	30.7	- 5.0	49	10	7	25	0	26	23	75	1.83	-0.05	0.77	14	0	8.9	4	5.9	NE	33	SW	22+	4	8	18	7.3	44
STAMPEDE PASS R	3958	877.4		32	23	27.6	- 4.0	44	9	14	25	0	30			12.05	-1.21	5.34	18	0	63.9	40						5	2	23	7.9	
TATOOSH ISLAND	101	1012.2	1015.4	48	41	44.8	- 2.6	53	11+	35	23	0	0	39	79	9.27	-0.25	2.36	17	1	T	0	18.0	E	63	S	21	3	7	20	7.6	37
WALLA WALLA U	949	982.4		45	29	37.3	- 5.2	59	22	19	25	0	21			1.79	-0.07	0.64	11	0	9.2	6	4.4	W#	40	W	22	6	9	15	6.9	45
YAKIMA	1061	980.0	1020.1	45	22	33.7	- 4.4	56	10	9	17	0	29	24	74	0.51	-0.47	0.25	6	0	1.0	1	7.1	WNW	39*	NW	3	8	5	17	6.5	
WEST INDIES																																
SAN JUAN P.R. U	47			83	72	77.4	- 1.0	87	11+	68	14+	0	0			10.03	3.66	3.66	21	2	0.0	0										
SAN JUAN P.R.	15	1010.2	1013.1	84	71	77.5	- 0.3	88	10	66	26	0	0	70	83	9.26	1.36	2.31	19	5	0.0		4.7	ENE	35	NE	13	2	12	16	7.0	35
WEST VIRGINIA																																
CHARLESTON	939	984.7	1020.9	55	38	46.3	0.5	83	3	20	29	0	13	37	72	2.89	-0.28	1.09	13	0	0.6	1	5.0	WSW	21*	W	17	5	5	20	7.2	
HUNTINGTON U	567			56	38	47.2	0.5	85	3	20	29	0	13			3.12	0.33	0.93	12		T	T										
PARKERSBURG U	621			55	37	46.1	1.1	86	3	19	29	0	14																			
WISCONSIN																2.97	0.30	1.00	10	0	T	T	6.1		24	W	16+					51
GREEN BAY	682	995.3	1018.8	42	27	34.8	1.3	69	2	17	29	0	27	28	79																	
LA CROSSE	652	993.2		42	28	35.1	0.8	63	11+	16	28	0	21	28	76	2.60	0.66	1.16	5	1	3.4	2	10.4	SW	47	SW	2	5	6	19	7.3	37
MADISON	858	982.4	1018.9	44	28	35.6	0.3	71	2	13	28	0	24	29	79	2.52	0.71	1.08	6	0	7.5	2	10.3	S	31*	W	7	6	5	19	7.1	
MILWAUKEE	670	993.7	1019.9	45	30	37.6	0.3	74	2	19	29	0	21	30	77	3.94	1.65	2.18	10	0	1.4	1	9.5	S	42	S	2	7	6	17	6.9	38
																2.37	0.26	1.20	9	0	2.4	1	10.7	SSE	38	S	2	6	8	16	6.6	39

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ENGLISH UNITS

NOVEMBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No of days: .01 inch or more	Precipitation: No of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
WYOMING	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
CASPER	5319	836.1	1017.9	40	20	30.3	- 3.0	53	10	2	17	0	23	21	70	0.56	-0.26	0.17	9	2	7.0	3	16.0	SW	44*	N	2	8	13	9	5.5	
CHEYENNE	6126	810.0	1018.1	44	21	32.3	- 2.8	63	10	9	21	0	28	15	55	0.35	-0.35	0.18	7	0	3.5	3	12.8	WNW	60	W	3	11	7	12	5.6	59
LANDER	5563	834.4		34	13	23.1	- 6.9	48	30	0	17	0	29	13	71	0.90	0.03	0.30	7	0	21.4	14	5.5	SE#	56	W	3	11	9	10	5.2	70
SHERIDAN	3942	883.8	1013.7	39	16	27.7	- 5.4	56	9	- 2	17	0	30	20	74	0.73	-0.20	0.21	9	0	9.1	6	6.7	NW	57	NW	1	12	4	14	5.4	60

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

V Sun below horizon November 18 - 30, inclusive.

X Sun below horizon November 26 - 30, inclusive.

A Maximum hourly average.

\+ And also on an earlier date or dates.

B Number of days maximum 70°F. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm. or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb.	C.	C.	C.	C	C		C.				C.	%	Mm	Mm.	Mm			Mm	Mm	M p s		M p s							%
ALABAMA																																
BIRMINGHAM	186	994.4	1020.1	18.9	7.8	13.3	2.2	28.9	2	- 2.8	30+	0	4	6.7	69	109	8	47	9	3	0	0	4.6	N	17.9	SW	22	7	6	17	6.8	42
HUNTSVILLE	184	996.5	1020.1	17.2	6.1	11.6		28.9	2	- 5.6	30	0	8	5.6	70	94		31	14	1	0	0	4.0	NNW	13.0*	ESE	22	8	5	17	6.7	
MOBILE	64	1016.8	1019.2	21.1	10.6	15.8	1.0	28.9	1	0.0	30	0	1	10.0	73	141	38	64	10	1	0	0	5.1	N	11.6*	WSW	22	8	5	17	6.5	
MONTGOMERY	59	1011.2	1019.6	20.6	7.8	14.2	1.3	30.0	1	- 5.0	30	0	3	8.3	73	89	- 11	40	8	1	0	0	3.4	NNW	13.4	W	3	8	6	16	6.4	43
ALASKA												B																				
ANCHORAGE	27	999.3	1004.6	- 4.4	-12.8	- 8.6	-3.2	7.2	15+	-25.0	26	0	29	-12.8	73	16	- 9	8	8	0	353	229	2.8	N	13.4*	N	24	5	3	22	7.7	28
ANNETTE	34	1005.8	1010.0	5.0	0.0	2.4	-2.4	8.9	12+	- 5.0	3	0	18	0.0	83	393	133	92	21	0	51	T	5.8	ESE	17.9*	SSE	12	3	1	26	8.5	
BARROW	7	1006.8	1007.6	-12.2	-21.7	-16.8	0.6	- 2.8	28	-35.0	23	0	30	-19.4	80	5	- 2	2	10	0	124	305	6.4	SE	17.9*	SW	13	4V	2V	11V		
BARTER ISLAND	12	1007.5	1009.3	-16.1	-24.4	-20.5	-3.0	- 5.6	14	-32.8	25	0	30	-24.4	68	4	- 11	1	9	0	41	152	5.7	W	17.9*	W	24	7X	2X	14X		
BETHEL	38	1000.3	1001.8	- 3.3	-11.1	- 7.3	1.1	3.3	14	-26.1	25	0	30	- 9.4	83	26	1	7	17	0	244	152	7.5	SSE	17.0*	S	15	6	4	20	7.1	
COLD BAY	29	998.0	1002.2	4.4	- 0.6	1.9	0.4	9.4	29	- 5.6	25	0	19	- 1.1	82	104	7	28	24	0	89	25	8.7	WSW	24.1*	S	14+	0	7	23	8.6	
CORDOVA	12	1000.7	1002.5	1.7	- 5.0	- 1.6	-1.1	6.7	12	-16.1	30	0	25	- 3.9	84	253	- 15	111	15	0	574	178	2.6	ESE	10.7*	ESE	14	5	0	25	8.2	
FAIRBANKS	133	990.5	1009.7	-14.4	-25.6	-20.1	-4.1	5.6	15	-39.4	25	0	30	- 3.3	72	12	- 4	4	12	0	239	330	1.8	N	7.2*	ESE	15	10	4	16	6.1	
JUNEAU	5	1007.1	1008.0	2.2	- 3.9	- 0.8	-1.4	7.2	12+	-13.9	30	0	21	- 4.4	78	155	5	58	17	0	152	76	4.6	ESE	19.2*	ESE	8	5	1	24	8.1	23
KING SALMON	13	1000.3	1002.3	- 1.7	-10.0	- 5.9	-0.4	6.7	14	-23.9	26+	0	29	- 8.3	81	52	19	10	14	0	272	305	4.7	N	19.7*	SSE	14	5	7	18	7.1	
KOTZEBUE	3	1005.1	1005.5	-11.1	-16.7	-13.9	-0.3	- 1.1	16+	-27.8	25+	0	30	-17.2	77	6	- 5	2	10	0	183	127	7.9	ESE	20.6*	ESE	27	6	6	18	7.2	
MC GRATH	102	994.9	1007.5	-11.7	-21.7	-16.8	-2.1	4.4	15	-37.2	25	0	30	-21.7	65	33	5	11	11	0	655	533	1.8	ESE	9.4*	S	15	5	7	18	7.2	
NOME	4	1002.4	1002.8	- 5.6	-11.7	- 8.6	-0.1	1.1	1	-27.8	22	0	30	-11.7	75	22	- 7	5	19	0	297	356	7.2	E	17.9*	ENE	30	2	5	23	8.2	17
ST. PAUL ISLAND	7	997.3	998.2	3.3	- 1.1	1.0	0.0	6.1	29+	- 8.9	12	0	20	- 1.1	85	109	44	12	26	0	236	76	9.1	SW	21.9*	W	4	0	7	23	8.5	
SHEMYA	37	1000.3	1004.2	2.8	0.0	1.4		6.7	25+	- 2.8	29+	0	19	- 1.7	80	56		16	25	0	104	51	9.1	NW	21.5*	SW	25	0	7	23	8.6	
YAKUTAT	9	1003.1	1004.5	1.7	- 3.9	- 1.1	-2.1	7.2	15+	-19.4	30	0	26	- 2.8	88	345	- 48	86	21	1	1120	660	3.5	E	16.5*	SE	15	4	3	23	8.0	
ARIZONA																																
FLAGSTAFF	2131	789.7	1019.3	8.3	- 6.1	1.2	-0.9	17.8	4	-17.2	22	0	29	- 5.0	67	36	14	15	6	0	297	102	3.9	SSW	15.6*	N	13	16	3	11	4.6	
PHOENIX	338	976.3	1015.8	21.7	6.1	13.9	-0.7	27.8	5	0.0	22	0	1	1.1	46	3	- 9	2	2	0	0	0	2.5	E	13.4*	WNW	21+	19	3	8	3.5	80
PRESCOTT	1528	846.9	1017.4	13.9	- 1.1	6.3	-1.3	20.0	4	- 8.9	18	0	23	- 4.4	53	11	- 4	8	6	0	38	25	3.0	SSW	16.1	S	16	17	2	11	4.0	73
TUCSON	788	926.2	1015.0	19.4	5.6	12.4	-2.1	25.6	25	0.0	22	0	1	1.7	54	11	- 8	5	4	0	0	0	4.2	SE	22.4	SE	6	13	7	10	4.7	76
WINSLOW	1487	852.0	1017.3	12.8	- 1.1	5.9	-0.1	18.9	30	- 6.7	18	0	22	- 2.2	64	10	- 1	3	7	0	30	T	3.9	ESE	13.0*	SW	21	15	5	10	4.5	
YUMA	61	1010.5	1015.9	23.9	8.9	16.5	-1.4	29.4	10	3.3	19	0	0	0.0	39	2	- 2	2	2	0	0	0	2.5	N	15.2	N	13	19	4	7	3.5	77
ARKANSAS																																
FORT SMITH	137	1002.3	1019.6	15.6	4.4	9.9	-0.3	27.8	1	- 3.9	9	0	8	5.6	79	129	52	85	7	2	0	0	3.2	ENE	11.6	W	2	10	2	18	6.4	47
LITTLE ROCK	78	1006.8	1020.3	16.1	5.0	10.6	-0.2	29.4	1	- 3.9	30	0	5	5.0	74	155	56	107	9	1	T	0	3.7	NNE	18.8	SE	2	8	7	15	6.3	43
TEXARKANA	110			16.7	6.1	11.5	-1.2	26.1	1	- 2.2	30	0	3	7.8	81	96	- 14	65	7	1	0	0	3.5	NE								
CALIFORNIA																																
BAKERSFIELD	151	1000.3	1018.9	18.9	5.6	12.2	-1.2	26.7	8+	1.1	17	0	0	2.8	58	17	6	11	2	0	0	0	2.6	E	11.6*	SE	25	15	6	9	4.2	
BISHOP	1252	875.0		15.6	- 3.3	6.1	-1.8	24.4	7	-11.1	18	0	27			14	2	11	3	0	T	T						15	9	6	3.8	
BLUE CANYON	1609	839.5		10.6	2.2	6.3	-0.3	20.6	6+	- 6.1	21	0	10			185	15	80	8	0	828	432	4.2	ENE	21.0	ENE	13+	13	4	13	5.5	
BURBANK	213	990.5	1016.8	20.6	8.3	14.5	-1.0	29.4	5	3.9	22+	0	0	3.3	56	69	44	36	5	0	0	0	3.2	S	17.9*	NE	5	18	4	9	4.1	
EUREKA U	13	1015.6		12.8	6.7	9.7	-1.0	17.2	28	1.1	16	0	0			144	26	52	16	0	0	0	2.7	S#	14.3	NW	15	6	8	16	7.1	52
FRESNO	99	1005.4	1017.6	18.9	3.3	11.1	-0.9	27.2	9	- 2.8	18	0	4	2.2	63	41	22	23	5	0	0	0	2.2	ESE	8.5	E	29+	17	6	7	4.1	78
LONG BEACH	10	1015.6	1017.0	21.7	10.0	15.8		31.1	5	5.6	28	0	0	6.1	60	36		18	4	0	0	0	2.8	WNW	11.6*	W	20	14	6	10	4.8	
LOS ANGELES	30	1013.2	1017.1	20.0	10.0	15.1	-0.1	30.6	5	6.1	22	0	0	6.7	64	48	20	24	6	0	0	0	2.8	WSW	11.2*	E	25	13	8	9	4.7	
LOS ANGELES U	95			20.6	11.1	15.7	-1.1	30.0	5	7.8	19	0	0	4.4	56	51	25	31	4	0	0	0	3.0	W#	15.2	E	25	17	6	7	4.0	77
MT SHASTA R	1080	893.7		10.0	- 1.1	4.3	-1.0	21.7	8	- 9.4	17	0	22			193	96	82	10	0	897	660						11	4	15	6.1	
OAKLAND	1	1017.3	1017.7	16.7	6.7	11.8	-0.3	24.4	5	0.6	17	0	0	4.4	66	101	51	41	7	0	0	0	2.9	WNW	13.0*	NNE	13	10	8	12	5.9	
POINT ARGUELLO	112	1003.4		17.8	6.7	12.3		28.3	5	1.1	17	0	0			51		30	4	0	0	0	3.8		14.3*	ESE	25	10	9	11	5.4	
RED BLUFF	104	1004.7	1017.7	17.2	5.6	11.4	-1.1	25.6	8+	- 1.7	17	0	1	- 1.1	53	69	11	34	8	0	0	0	4.9	SSE	19.2	NW	15	11	7	12	5.3	66
SACRAMENTO	5	1016.9	1018.0	17.8	5.0	11.2	-0.6	25.6	4	- 3.3	17	0	1	2.2	62	80	41	30	6	0	0	0	3.2	NNW	11.6	NW	12	11	6	13	5.3	69
SACRAMENTO U	7			17.8	6.1	11.8	-0.6	25.0	5+	0.0	17	0	1			75	35	34	5		0	0										
SANDBERG R	1377	862.9		11.1	3.3	7.3	-2.4	21.1	9	- 2.2	21	0	6			71	53	42	4	0	119	76	6.7	S	24.1*	NNW	21	16	7	7	3.6	
SAN DIEGO	4	1013.2	1016.4	20.6	10.6	15.7	-0.3	28.3	8	6.7	23+	0	0	7.2	63	20	- 1	10	6	0	0	0	2.7	NW	13.0	NW	21+	17	7	6	3.9	69
SAN FRANCISCO	2	1017.3	1018.1	16.7	6.7	11.8	-0.7	23.9	6	2.2	17	0	0	6.1	72	111	70	39	7	0	0	0	3.7	WNW	15.6	SSW	29	11	7	12	5.4	
SAN FRANCISCO U	16			17.2	10.0	13.6	-0.4	25.0	5	5.0	20	0	0			113	55	46	7	0	0	0	3.1	W#	12.1	SW	29					65
SANTA MARIA	73	1009.1	1017.9	18.9	4.4	11.8	-1.8	30.0	5	- 1.1	17	0	3	4.4	68	46	22	34	4	0	0	0	3.2	WNW	15.6*	SE	25	15	9	6	3.9	
COLORADO																																
ALAMOSA	2297	770.4		5.6	- 9.4	- 1.8	-0.4	11.7	11	-14.4	22	0	30			15	6	5	8	1	163	51						11	11	8	5.0	
COLORADO SPRINGS	1882	810.4	1020.4	8.3	- 5.6	1.6	-2.3	18.3	11	-11.7	19	0	28	- 6.1	64	11	2	5	6	0	127	51	4.2	N	17.0*	N	15	10	7	13	5.6	
DENVER	1610	836.8	1018.9	8.3	- 5.6	1.5	-2.6	18.3	1	-18.9	19	0	27	- 6.1	64	24	6	10	8	0	290	127	3.5	SSW	15.6	N	2	9	9	12	5.7	57
GRAND JUNCTION	1478	860.8	1019.9	8.9	- 2.2	3.3	-0.4	13.9	10+	- 7.2	22	0	27	- 4.4	62	17	3	7	7	0	28	T	2.7	ESE	12.1	SW	20	12	7	11	5.0	60

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm. or more	No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No. of days sunrise to sunset: Clear, 0-3	No. of days sunrise to sunset: Partly cloudy 4-7	No. of days sunrise to sunset: Cloudy 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	M.	Mb.	Mb.	C	C.	C.	C	C		C.				C.	%	Mm.	Mm.	Mm			Mm.	Mm.	M p s		M.p s							
COLORADO																																
PUEBLO	1414	856.1	1018.0	10.6	- 4.4	3.2	-0.8	20.6	1+	-11.7	14	0	27	- 4.4	66	16	4	9	6	0	234	76	3.3	WNW	22.4	N	15	9	9	12	5.9	69
CONNECTICUT																																
BRIDGEPORT	2	1017.8	1018.6	11.1	3.9	7.4	1.0	22.2	5	- 2.2	11	0	9	1.7	69	52	- 40	15	8	0	8	T	5.8	NNW	6.1*	NNW	25	7	10	13	6.2	
HARTFORD	52	1011.5	1017.6	10.0	0.6	5.2	0.0	23.3	5	- 6.1	12+	0	19	0.6	72	94	6	36	8	0	127	127	4.0	NW	14.3	NW	18	4	13	13	6.7	51
NEW HAVEN	2	1017.7		11.1	3.3	7.0	0.9	22.2	5	- 2.2	30+	0	13			66	- 34	14	7	0	127	127	4.0		17.9	NW	24	7	11	12	6.2	60
DELAWARE																																
WILMINGTON	24	1015.8	1019.2	12.8	3.3	8.2	0.7	27.2	5	- 5.6	11	0	11	2.8	72	61	- 23	21	6	0	84	76	4.8	NW	17.0*	WNW	24	6	9	15	6.3	
DIST.OF COLUMBIA																																
WASHINGTON U	22			13.9	6.1	9.9	1.0	25.6	3	0.6	29+	0	0			53	- 19	25	8													
WASH NATL AP	4	1015.5	1020.0	13.9	6.1	10.1	1.4	27.2	5	- 1.7	22	0	4	2.8	63	44	- 25	18	7	0	33	25	3.8	S	16.5	WNW	24	8	9	13	6.2	48
FLORIDA																																
APALACHICOLA U	4	1016.4		22.2	13.9	18.1	1.7	26.7	3+	4.4	30	0	0			47	- 15	24	6	1	0	0	3.6		16.5	SE	23	9	13	8	5.0	79
DAYTONA BEACH	9	1016.7	1018.5	25.0	14.4	19.7	1.3	29.4	1	9.4	25+	0	0	15.0	77	72	15	36	6	1	0	0	3.5	NW	11.2*	SE	6	6	13	11	6.1	
FORT MYERS	4	1016.4		28.3	16.1	22.2	1.5	31.7	4+	10.6	25	0	0			28	- 2	21	3	1	0	0	3.7		11.2*	SSW	23	13	12	5	4.3	
JACKSONVILLE	7	1017.8	1019.1	24.4	12.8	18.6	2.2	31.1	1	4.4	21	0	0	13.3	75	23	- 19	11	5	1	0	0	4.0	NW	13.0	SW	23	11	7	12	5.6	54
KEY WEST	2	1015.7	1016.7	27.2	22.2	24.6	0.9	28.9	0+	18.3	28	0	0	18.9	71	3	- 48	2	3	0	0	0	4.8	ESE	11.6	SE	3	11	17	2	4.1	76
LAKELAND U	65			26.1	15.6	20.7	1.4	30.0	16	8.3	9	0	0			22	- 13	15	6	0	0	0	3.1					11	12	7	4.8	64
MIAMI BEACH	3			26.7	21.1	23.7	0.4	29.4	8	15.6	30	0	0			46	- 11	15	9		0	0	3.2		10.7	SW	23+	13	14	3	4.4	66
MIAMI	2	1015.5	1016.8	27.2	18.9	23.1	0.8	28.9	19+	13.3	30+	0	0	17.2	72	55	- 7	23	9	2	0	0	4.1	ESE	10.7*	NE	7	11	14	5	5.0	
ORLANDO	32	1013.7	1018.2	26.7	15.0	20.8	1.4	31.1	3	9.4	9	0	0	15.0	75	23	- 10	18	3	1	0	0	3.4	N	10.3*	S	23	10	14	6	4.8	
PENSACOLA U	4			21.1	12.2	16.7	1.0	27.2	5	2.8	30	0	0			146	48	83	10	1	0	0	5.0		12.5	NW	23					63
TALLAHASSEE	18	1016.6	1019.2	23.3	9.4	16.5	1.6	31.1	1	- 2.2	10	0	2	11.1	74	43	- 21	41	3	1	0	0	4.1	N	13.0*	NW	23	9	8	13	5.6	
TAMPA	6	1016.5	1018.2	26.7	15.0	21.0	1.7	32.2	4	7.2	9	1	0	15.0	73	24	- 3	20	5	1	0	0	4.8	NNE	14.3*	S	23	11	11	8	5.0	67
WEST PALM BEACH	5	1015.9	1016.9	27.2	18.3	22.9	0.8	30.6	17	11.7	30+	0	0	17.2	73	73	- 3	20	9	1	0	0	4.2	ESE	12.5*	E	30	11	13	6	5.1	
GEORGIA																																
ATHENS	245	990.3	1019.6	19.4	7.8	13.8	2.7	30.0	2	- 2.8	30	0	5	7.2	70	69	- 7	35	5	0	0	0	2.7	NNE	13.0*	WNW	23	8	8	14	6.0	
ATLANTA	297	977.7	1020.0	18.3	7.2	12.9	1.9	28.9	2	- 3.3	21	0	4	6.1	69	61	- 26	29	9	1	0	0	4.5	NW	11.2*	NW	8	9	7	14	5.8	58
AUGUSTA	44	1012.4	1019.3	21.7	7.8	14.7	2.6	32.2	2	- 4.4	30+	1	7	8.9	73	38	- 24	31	5	0	0	0	2.5	SE	10.3*	W	23	9	7	14	5.8	
COLUMBUS	117	1005.4		21.7	7.8	14.7	2.3	30.0	2	- 3.9	30	0	4			28	- 44	22	5	1	0	0	4.1		11.2*	S	23	10	7	13	6.0	
MACON	109	1005.4	1019.3	22.2	8.9	15.4	2.1	31.1	2+	- 2.8	30	0	3	7.8	66	24	- 46	23	4	0	0	0	3.0	NW	11.6	SW	23	12	5	13	5.4	56
ROME	194	996.4		18.3	6.1	12.1	1.8	30.6	2	- 5.0	30	0	7			87	- 9	40	7		0	0						9	8	13	6.1	
SAVANNAH	15	1017.3	1019.9	22.2	9.4	15.9	1.7	31.7	1	- 2.8	30	0	2	11.1	76	25	- 13	21	4	0	0	0	3.6	NE	11.6	NW	23	12	5	13	5.1	59
THOMASVILLE U	86			23.3	11.7	17.3	2.1	30.6	4+	1.1	30	0	0			35	- 22	25	4	0	0	0										
HAWAII																																
HILO	9	1014.9	1016.3	26.7	19.4	23.0	0.2	29.4	1	17.2	27+	0	0	18.9	80	326	11	125	27	1	0	0	3.4	WSW	11.6*	E	21	3	9	18	7.7	27
HONOLULU	2	1015.6	1016.0	27.8	21.1	24.6	0.3	30.6	12	18.9	9+	0	0	17.8	67	52	7	18	14	0	0	0	6.1	ENE	15.6	NE	15	6	17	7	5.9	78
LIHUE	35	1011.2	1017.0	27.2	20.6	23.6	0.5	28.9	2	16.7	4	0	0	18.9	76	78	- 29	9	27	0	0	0	6.0	NNE	12.5	NE	19+	2	19	9	6.2	57
IDAHO																																
BOISE	865	921.8	1020.1	8.3	- 2.8	2.8	-1.4	14.4	10	-11.1	21	0	21	- 3.9	64	24	- 10	11	8	0	86	76	3.7	SE	13.4	NW	3	11	5	14	5.7	57
IDAHO FALLS 42NW R	1460			5.0	- 7.8	- 1.2	0.5	11.1	10+	-18.9	18	0	29			7	- 1	3	5				3.5	NNW	17.0A	NW	1					
IDAHO FALLS 46W R	1504	849.0		5.6	- 7.8	- 1.2	-0.1	12.2	10+	-17.8	18	0	29			8	- 6	3	6	0	46	25	3.3	SW	15.2A	N	2					
LEWISTON	431	966.8		7.2	- 2.8	2.2	-2.3	13.3	22+	- 9.4	21+	0	25			54	20	21	10	0	366	254						3	9	18	7.4	
POCATELLO	1355	864.2	1020.8	6.7	- 3.9	1.3	-0.8	13.9	10	-11.1	2	0	24	- 3.9	71	17	- 10	5	6	0	132	51	5.1	S	15.2	S	29	7	9	14	6.6	63
ILLINOIS																																
CAIRO U	96	1007.0		12.8	5.0	8.8	-0.4	26.7	2	- 2.2	29	0	5			198	102	62	9	2	0	0	4.0	N#	18.8	SW	16	5	8	17	6.9	44
CHICAGO O HARE	201	993.7	1019.1	8.9	0.0	4.4		25.0	2	- 5.0	29+	0	18	0.0	75	45		19	9	0	51	51	4.6	SSW	14.3*	S	2	4	11	15	6.8	
CHICAGO MIDWAY	186	995.7	1019.3	8.9	1.1	4.9	0.8	25.0	2	- 4.4	29	0	18	0.0	71	42	- 17	17	10	0	41	25	5.1	S	17.9	S	2	5	8	17	7.1	35
MOLINE	177	996.6	1019.5	9.4	0.6	4.9	1.1	25.0	2	- 8.3	28	0	17	0.6	77	125	71	69	6	1	T	T	3.8	S	13.9	NE	16	9	6	15	6.3	47
PEORIA	199	996.6	1020.2	8.9	- 0.6	4.2	-0.1	25.0	2	- 7.8	29	0	18	0.6	80	71	11	27	8	2	18	25	4.6	S	15.6	SW	2	8	6	16	6.4	45
ROCKFORD	222	991.0	1019.1	7.8	- 1.1	3.5	0.7	24.4	2	- 7.8	28	0	19	- 0.6	78	123	62	81	8	0	53	25	4.5	SSE	20.6*	SSW	2	7	9	14	6.5	
SPRINGFIELD	179	996.2	1020.1	10.6	1.1	5.8	0.9	26.7	2	- 6.1	29	0	16	1.1	76	66	- 1	31	9	1	140	127	5.4	S	23.2	S	2	7	5	18	7.0	43
INDIANA																																
EVANSVILLE	116	1004.3	1020.5	13.3	2.2	7.6	-0.2	28.3	2	- 6.1	30+	0	15	3.3	78	122	41	34	10	1	5	T	3.5	NW	13.4	S	2	5	6	19	7.2	44
FORT WAYNE	241	988.1	1020.2	9.4	- 0.6	4.3	0.1	24.4	2	- 7.8	28	0	21	1.1	80	63	1	29	8	0	46	25	4.4	W	16.5	SW	16	6	8	16	7.0	51

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station ⊙	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm	M p.s.		M.p.s							%
INDIANA																																
INDIANAPOLIS	242	989.5	1020.2	10.6	0.6	5.6	0.3	25.6	2	- 6.1	9	0	17	2.2	82	94	15	45	9	0	13	T	4.0	S	13.0*	SW	3	6	6	18	7.1	39
SOUTH BEND	234	990.5	1019.3	8.9	0.6	4.5	0.8	23.9	2	- 5.6	29	0	17	0.6	77	38	- 32	12	10	0	18	T	4.8	S	15.6*	SSW	16	4	5	21	7.9	
IOWA																																
BURLINGTON	212	994.0	1019.9	9.4	0.0	4.7	0.6	23.3	2	- 7.2	28+	0	17	0.0	76	90	32	35	9	0	25	25	4.1	S	15.2	NW	16	8	6	16	6.4	52
DES MOINES	289	988.0	1020.4	6.7	- 1.7	2.6	-0.9	17.8	2+	- 8.3	18	0	24	- 0.6	80	71	28	28	7	1	69	25	4.5	S	14.8	N	16	7	5	18	6.6	46
DUBUQUE	325	992.5		6.7	- 1.7	2.5	0.5	19.4	2	- 8.9	28	0	19			270	216	129	7	3	5	T						10	4	16	6.5	
SIOUX CITY	334	976.4	1019.0	7.8	- 2.8	2.5	0.6	18.9	2+	- 9.4	18	0	24	- 2.2	74	17	- 13	9	4	0	51	51	4.7	NW	16.5	NW	2	10	2	18	6.5	48
WATERLOO	265	986.3	1019.3	7.2	- 1.7	2.7	0.5	18.9	1	- 8.3	28	0	21	0.0	81	119	70	51	8	0	28	25	4.2	S	13.0*	N	16	11	2	17	6.4	
KANSAS																																
CONCORDIA U	419	968.2		8.9	0.0	4.5	-1.1	21.7	1	- 6.1	6+	0	16	0.0	75	49	20	34	5	1	81	51	3.5	S#	13.4	N	16+	8	4	18	6.5	47
DODGE CITY	791	928.8	1018.8	9.4	- 1.7	3.8	-2.2	20.6	11	- 7.8	17+	0	23	- 1.1	75	36	14	30	5	0	81	76	4.8	SSW	9.7	N	2	8	4	18	6.8	53
GOODLAND	1111	888.4	1018.5	8.3	- 5.6	1.3	-1.7	21.7	1	-12.2	14	0	29	- 3.9	75	28	13	16	5	0	216	76	4.6	WSW	19.7*	NNW	2	8	8	14	5.9	
TOPEKA	267	983.1	1019.8	10.6	- 0.6	5.0	-0.9	23.9	1	- 6.1	28	0	21	1.1	78	64	23	28	8	2	30	T	5.5	S	16.1	N	13	7	7	16	6.7	55
WICHITA	403	967.9	1018.9	10.0	1.1	5.4	-1.8	18.9	1	- 5.0	6	0	13	2.2	81	71	27	33	7	1	3	T	5.3	S	21.0	N	2	7	5	18	7.0	48
KENTUCKY																																
COVINGTON	265	987.5	1020.8	11.7	2.2	6.8	0.4	26.7	2	- 7.2	29	0	14	1.1	71	85	8	34	10	0	23	25	4.2	SSE	20.6*	WSW	16	3	7	20	7.8	
LEXINGTON	298	984.2	1020.8	12.2	2.8	7.4	0.3	27.2	2	- 8.9	29	0	14	3.3	76	77	- 3	22	9	0	30	25	4.4	S	13.9*	SW	16+	6	8	16	7.1	
LOUISVILLE	144	1000.7	1020.5	12.2	2.8	7.3	-0.3	27.2	2	- 7.2	29	0	13	2.8	75	107	28	31	10	1	23	T	3.5	SE	15.2	S	3	6	7	17	7.2	37
LOUISIANA																																
ALEXANDRIA	28	1014.4	1019.1	18.9	7.2	13.1		28.3	1	- 3.9	30	0	4	8.9	81	191		58	10	6	0	0	3.1	NNE				8	5	17	6.5	
BATON ROUGE	20	1015.8	1018.8	20.0	8.9	14.4	-0.7	28.9	1	- 1.1	30	0	2	0.6	81	189	69	107	6	3	0	0	3.8	NNE				9	5	16	6.4	
BURWOOD R	2		1018.4	21.7	16.1	18.9	0.1	27.2	2	10.6	30	0	0	15.6	82	167	63	109	8	3	0	0	6.5	NE								
LAKE CHARLES	4	1016.6	1018.2	20.0	10.0	15.0	-0.2	28.9	1	0.0	30	0	1	10.6	80	358	248	279	10	5	0	0	4.4	NNE	22.8*	SSW	22	10	4	16	6.2	
NEW ORLEANS U	3	1016.4		20.6	13.3	16.9	0.0	29.4	1	3.9	30	0	0	11.7	75	154	53	73	8	3	0	0	3.4		9.4	NW	3	7	9	14	6.2	45
NEW ORLEANS	1	1016.4	1018.6	21.1	11.7	16.2	0.1	28.9	2+	1.1	30+	0	0	12.2	80	220	116	136	8	2	0	0	3.7	NNE	11.2*	SSE	2	9	4	17	6.3	
SHREVEPORT	77	1010.3	1019.7	17.2	7.8	12.6	-0.9	29.4	1	- 1.1	30	0	1	8.3	80	131	32	44	10	4	0	0	4.3	SE				7	5	18	6.7	44
MAINE																																
CARIBOU	190	991.2	1015.1	5.0	- 2.2	1.4	2.9	17.2	4	-10.6	20	0	24	- 1.1	86	61	- 16	21	14	0	180	76	4.4	NW	15.6*	WNW	30	1	6	23	8.6	
PORTLAND	19	1012.0	1016.2	8.9	0.0	4.3	1.2	16.7	5	- 7.2	20	0	19	0.6	78	119	23	39	13	0	246	152	4.2	NNW	15.2	N	21	4	10	16	7.3	37
MARYLAND																																
BALTIMORE	45	1014.9	1019.8	13.9	3.3	8.7	1.1	28.3	5	- 5.0	11	0	15	2.8	68	50	- 25	25	8	0	81	51	4.5	WNW	16.5	NW	24	9	8	13	5.9	59
BALTIMORE U	4			13.9	6.7	10.2	0.9	26.7	5	0.0	28+	0	2			70	- 5	38	8													
FREDERICK	90			12.8	2.8	8.0	0.6	25.6	4	- 5.0	11	0	14			85	10	27	10		76	76										
MASSACHUSETTS																																
BLUE HILL OBS R	192	991.8	1015.6	8.9	1.7	5.4		23.3	5	- 5.0	11	0	12		74	96	- 11	37	10		69	76	7.4	NNW	21.9	NW	25					46
BOSTON	5	1011.4	1016.1	10.6	3.9	7.0	0.1	24.4	5	- 2.8	29	0	8	1.7	71	81	- 8	29	12	1	23	25	6.6	NNW	15.6	NNW	25+	5	9	16	6.6	53
NANTUCKET	13	1015.5	1016.1	10.6	4.4	7.4	0.5	19.4	6	- 2.2	20+	0	7	2.8	76	61	- 33	18	10	0	T	0	6.8	NW	16.5	NW	25+	6	6	18	6.9	43
PITTSFIELD	357			7.2	- 1.1	3.1	0.3	18.3	3	- 8.3	28	0	21			108	7	36	14		137	102										
WORCESTER	301	979.1	1016.5	7.8	0.6	4.2	-0.1	21.1	5	- 6.7	28	0	18	- 0.6	72	87	- 23	34	9	0	211	203	4.5	WNW	1.2*	NNW	25+	6	10	14	6.7	
MICHIGAN																																
ALPENA	210	991.8		6.7	- 2.2	2.2	0.1	18.9	3	- 8.3	29	0	24			62	1	21	13	0	56	25	3.3	W#	13.0	E	16	2	7	21	8.5	26
DETROIT	189	992.2	1019.7	9.4	1.1	5.2	0.7	21.1	3+	- 4.4	29+	0	16	0.0	71	75	20	38	5	0	T	T	4.7	S	17.0	W	16	4	9	17	7.1	43
DETROIT M WAYNE CO	193	994.7	1019.3	9.4	- 0.6	4.5		21.7	2	- 6.7	29	0	20	0.6	76	71		33	6	0	T	T	3.7	WNW				6	9	15	7.0	
DETROIT WILLOW RUN	217	990.1	1019.3	8.9	- 1.7	3.8	-0.5	22.8	2	- 8.3	29+	0	24	0.0	77	63	7	37	6	0	T	T	4.2	SW	15.6*	SW	16	5	10	15	7.0	
ESCANABA U	181	994.5		5.6	- 1.1	2.1	1.0	16.1	2	- 7.2	19	0	20	- 2.2	73	61	5	40	10	0	8	T	4.8		17.9	N	26	3	8	19	7.4	33
FLINT	233	991.1	1019.7	8.3	- 1.7	3.4	0.3	21.1	3+	- 8.3	19	0	23	- 0.6	77	35	- 20	21	6	0	T	T	4.1	WNW	12.1*	SW	16+	3	10	17	7.6	
GRAND RAPIDS	208	993.4	1019.3	8.9	0.6	4.5	1.4	24.4	2	- 6.1	29	0	17	- 0.6	72	39	- 25	14	6	0	15	T	4.3	S	13.9	SW	3	2	8	20	8.0	28
LANSING	260	986.2	1019.1	8.9	- 1.1	3.9	0.6	22.8	2	- 7.8	29+	0	22	- 0.6	72	45	- 13	18	4	1	T	T	5.8	S	20.1	S	3	3	10	17	7.4	37
MARQUETTE U	206	989.3		5.6	- 1.7	2.0	0.9	18.9	2	- 7.2	20	0	21			59	- 20	28	16	0	208	76	4.0	W#	14.3	S	3	2	7	21	7.9	35
MUSKEGON	191	995.3	1019.0	8.3	1.7	5.2	1.6	24.4	2	- 6.1	29	0	12	- 0.6	68	64	- 3	23	10	0	137	25	4.4	SE	15.6*	SSW	2	2	8	20	7.9	
SAULT STE MARIE	220	994.1	1017.4	4.4	- 2.2	1.3	1.6	15.6	3	- 7.8	29+	0	25	- 1.7	82	56	- 27	22	13	0	229	76	4.5	ESE	11.2*	WSW	3	1	4	25	8.5	24
MINNESOTA																																
DULUTH	435	974.5	1017.1	2.8	- 5.6	- 1.6	1.2	15.6	11	-12.2	27+	0	29	- 6.1	70	41	- 4	31	6	0	71	51	4.0	SW	16.5	W	7	5	3	22	8.0	31
INTERNATIONAL FALLS	359	973.9	1016.5	1.7	- 7.8	- 3.1	1.4	15.6	11	-16.1	24	0	29	- 6.1	78	25	- 5	15	8	0	112	76	3.6	NW	10.3*	W	3	3	6	21	7.8	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

NOVEMBER 1961

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm. or more	No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
MINNESOTA	M.	Mb	Mb	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm			Mm	Mm	M p s		M p s							%
MINNEAPOLIS	251	983.7	1018.4	5.6	- 3.9	0.8	0.3	18.3	2	-11.1	18	0	28	- 3.3	75	27	- 10	18	6	2	64	25	4.3	S	14.8	NW	7	7	6	17	6.6	35
ROCHESTER	395	969.1	1018.5	3.9	- 4.4	- 0.2	-0.4	17.2	2	-13.3	18	0	26	- 2.2	84	31	- 7	17	8	0	114	76	5.5	S				8	5	17	6.6	
ST CLOUD	315	978.8	1018.2	4.4	- 5.6	- 0.7	0.7	13.9	11	-11.1	27+	0	29		78	17	- 18	12	5	0	53	51						5	9	16	6.9	
MISSISSIPPI																																
JACKSON	93	1007.2	1019.4	18.9	7.8	13.1	0.2	29.4	2	- 4.4	30	0	3	7.2	73	212	109	91	10	2	0	0	3.2	N	17.9	S	22	8	5	17	6.3	47
MERIDIAN	89	1005.0	1019.7	18.9	6.7	12.9	0.7	30.0	1	- 5.0	30	0	4	8.3	78	192	89	69	10	1	0	0	3.3	N	9.4*	NNE	3+	8	6	16	6.3	
VICKSBURG U	71	1010.1		17.2	8.3	12.7	-1.1	28.3	2	- 1.7	30	0	2			226	109	68	10	5	0	0	3.9		16.5	SE	22	8	6	16	6.2	51
MISSOURI																																
COLUMBIA	237	989.5	1018.9	11.1	1.7	6.2	0.0	22.2	2+	- 5.6	29	0	17	1.7	76	83	17	28	8	2	71	51	4.8	SSE	13.9	NW	16	8	6	16	6.5	40
KANSAS CITY	226	983.8	1019.6	11.1	2.2	6.6	-0.3	23.9	1	- 2.8	28+	0	13	1.1	71	141	86	63	10	3	5	T	3.7	SW	13.0	NW	16	7	5	18	7.1	40
ST JOSEPH	247	983.6		9.4	0.0	4.8	-0.9	23.3	1	- 5.0	28	0	21			90	39	41	10	2	20	25	5.1	S	14.8*	NNW	16	9	7	14	6.3	
ST LOUIS	163	999.0	1020.1	11.7	1.7	6.7	-0.5	26.7	2	- 6.1	29	0	15	1.1	71	74	8	40	10	1	119	102	5.1	S	18.3	S	2	5	8	17	7.3	41
ST LOUIS RFC	142			11.7	4.4	7.9	0.2	26.7	2	- 0.6	29+	0	7			62	- 7	39	10		51	T										
SPRINGFIELD	386	971.0	1019.6	12.2	1.1	6.6	-0.3	23.9	1	- 6.7	29	0	15	1.7	75	57	- 13	30	7	3	T	T	5.5	SSE	26.4	SE	21	6	5	19	7.0	47
MONTANA																																
BILLINGS	1087	889.9	1017.3	5.0	- 5.6	- 0.4	-2.6	17.8	10	-16.1	16	0	27	- 6.7	65	39	22	22	7	0	389	178	6.3	WSW	15.2	SW	6	9	10	11	5.8	60
GLASGOW	694	940.4		3.3	- 7.8	- 2.4	-0.2	13.3	9	-16.1	29	0	29	- 6.7	75	5	- 8	3	4	0	36	25						8	7	15	6.4	
GREAT FALLS	1116	886.9	1016.6	4.4	- 6.7	- 1.1	-2.9	20.0	9	-17.8	29	0	26	- 7.8	65	38	21	17	10	0	381	178	5.5	SW	21.0	SW	1	6	10	14	6.3	51
HAVRE	787	925.2		3.9	-10.6	- 3.2	-2.6	20.0	9	-20.0	26	0	28			6	- 7	4	4	0	102	102	4.4	SW#	15.6	SW	13	8	5	17	6.6	62
HELENA	1187	872.7	1019.7	3.9	- 8.3	- 2.3	-2.2	11.1	24+	-18.3	2	0	29	- 7.8	68	9	- 7	4	8	0	163	51	3.2	WNW	17.0	W	22	8	9	13	6.2	51
KALISPELL	904	912.3		1.7	- 7.8	- 3.0	-3.0	6.7	6	-17.2	26	0	29			27	- 12	10	9	1	485	305	1.9					4	4	22	8.2	
MILES CITY	801			3.9	- 6.1	- 1.2	-1.6	15.6	10	-13.3	4	0	28	- 5.0	78	14	2	10	7	0	102	51	4.3	SSE	14.3*	NW	2	10	3	17	5.9	
MISSOULA	972	902.8	1021.0	1.7	- 7.2	- 2.7	-2.7	9.4	1	-13.9	21	0	30	- 5.0	84	35	7	11	10	0	384	254	2.2	NW	18.8	NW	1	7	3	20	7.4	35
NEBRASKA																																
GRAND ISLAND	561	950.8		8.3	- 4.4	1.9	-1.2	21.1	1	-11.7	6	0	25	- 3.3	73	22	- 3	15	5	0	94	51	5.1	SW				9	4	17	6.4	
LINCOLN U	351			8.3	- 1.1	3.6	-1.1	19.4	1	- 6.7	17+	0	18			67	31	53	5	0	173	127	4.6	S#	2.4	NE	15	8	6	16	6.5	46
NORFOLK	471	960.9		7.8	- 4.4	1.8	0.2	19.4	25+	-10.6	3	0	27			13	- 14	8	4	0	61	51						10	5	15	6.0	
NORTH PLATTE	847	916.3	1018.2	8.9	- 6.7	1.1	-1.6	22.8	1	-16.1	3	0	28	- 5.0	69	13	- 1	5	7	0	102	76	4.4	N	23.2	N	2	10	5	15	6.0	60
OMAHA	298	977.9	1019.3	8.3	- 1.7	3.3	-0.5	19.4	1	- 7.2	18+	0	24	- 0.6	78	57	24	36	5	0	102	102	5.3	SSE	9.2	N	2	9	6	15	6.2	53
OMAHA N OMAHA AP	403	969.6		7.2	- 2.2	2.5	-0.3	18.3	1	- 8.9	17	0	21			60	28	39	5	0	107	102						9	4	17	6.4	
SCOTTSBLUFF	1204	879.1	1019.1	8.3	- 7.2	0.4	-1.8	18.9	1	-16.1	20	0	29	- 6.1	69	13	- 2	3	6	0	147	51	4.6	WNW	19.7*	NNW	2	9	7	14	6.1	
VALENTINE	789	924.6		9.4	- 6.7	1.3	-0.1	22.8	1	-13.9	6	0	29	- 4.4	70	2	- 14	2	1	0	56	51	4.9	W#	19.2	N	2	11	10	9	4.9	74
NEVADA																																
ELKO	1547	845.9	1020.5	7.2	- 7.2	0.0	-1.4	15.6	9	-17.8	21	0	28	- 6.7	63	16	- 8	8	5	0	157	102	3.2	SW	11.2*	SSW	29+	9	5	16	5.8	
ELY	1907	809.0		7.2	- 8.9	- 0.8	-2.6	17.2	10	-17.2	18	0	30	- 7.2	63	9	- 8	7	4	0	117	76	3.0	S	18.8	S	20	9	9	12	5.5	68
LAS VEGAS	659	950.9	1017.2	16.7	3.9	10.2	-2.0	22.2	4	- 2.2	18	0	4	- 3.3	44	3	- 3	2	2	0	0	0	4.0	WSW	15.6*	NNE	13	18	7	5	3.3	82
RENO	1342	862.9	1020.2	12.8	- 7.2	2.5	-2.1	20.0	9+	-16.1	17	0	28	- 6.1	61	16	0	13	5	0	221	152	2.5	S	17.9	S	29	12	4	14	5.4	71
WINNEMUCCA	1310	869.6		10.0	- 7.8	1.3	-1.8	18.9	9	-20.6	21	0	28	- 6.1	60																	
																20	- 1	14	4	0	137	127	3.3	S	13.0	W	1	12	4	14	5.5	48
NEW HAMPSHIRE																																
CONCORD	103	1005.9	1016.9	8.9	- 0.6	4.2	1.6	20.0	5	- 7.2	20+	0	19	- 1.1	73																	
MT WASHINGTON OBS	1909	835.0		- 1.7	- 8.9	- 5.2	1.6	8.9	5	-19.4	28	0	27		84	94	3	29	13	0	254	229	2.7	NW	14.8	NW	25	3	12	15	7.2	42
																162	- 5	63	16	0	1031	305	13.3	W	43.3Y	W	18	3	8	19	7.9	28
NEW JERSEY																																
ATLANTIC CITY	18	1017.3	1019.2	13.3	3.9	8.7	0.7	25.0	6	- 5.0	11	0	10	2.8	70																	
ATLANTIC CITY U	3			12.8	7.2	10.2	1.2	18.9	6+	1.7	30	0	0			72	- 7	26	9	1	0	0	6.1	WNW	17.9*	WNW	24	8	10	12	5.8	60
NEWARK	3	1017.4	1018.6	12.2	5.0	8.6	1.4	23.9	5+	- 1.7	28	0	6	1.7	64	96	11	48	6				5.9		13.0*	NW	29+					
TRENTON U	17	1011.1		12.8	4.4	8.6	1.0	26.7	5	- 2.2	28	0	5			67	- 12	19	9	0	20	25	4.6	NW	13.9*	NNW	27	7	9	14	6.4	
																54	- 19	15	9	0	20	25	4.3	NW#	17.0	NW	25	7	13	10	5.9	65
NEW MEXICO																																
ALBUQUERQUE	1618	849.0	1017.5	9.4	- 0.6	4.6	-2.1	15.6	28	- 5.6	20	0	17	- 3.9	59																	
CLAYTON	1515	844.9		8.9	- 3.3	2.8	-3.0	23.3	11	-14.4	20	0	23			12	2	6	6	2	86	76	3.5	N	22.4	E	13	11	7	12	5.7	71
RATON	1944	804.6		10.0	- 5.6	2.1	-1.4	19.4	11	-11.7	19	0	27			47	37	40	5	0	376	305						7	7	16	6.6	
ROSWELL	1101	894.3		11.7	- 2.2	4.7	-4.4	25.0	11	-18.3	15	0	20	- 0.6	74	18	4	12	8	0	157	127						8	7	15	6.5	
SILVER CITY	1638	833.7		12.8	0.0	6.4		21.1	26*	- 5.6	15	0	17			41	31	26	5	1	310	203	3.4		17.0	W	2	8	6	16	6.5	
																49		34	6	1	107	102						11	10	9	5.0	
NEW YORK																																
ALBANY	84	1014.2	1018.1	8.3	0.0	4.1	0.2	19.4	3	- 5.6	28+	0	21	0.0	75																	
																76	7	17	12	0	91	76	4.0	WNW	14.3	NW	1	5	6	19	7.7	36

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm	M.p.s.		M.p.s.							%
NEW YORK																																
BINGHAMTON	485	957.7	1018.0	6.7	- 0.6	2.9	0.1	18.9	3	- 7.2	11+	0	20	0.0	81	79	7	22	13	0	300	76	4.6	WNW	15.2	SE	3	2	6	22	8.2	28
BUFFALO	215	989.8	1019.0	9.4	0.6	4.9	0.5	26.7	3	- 6.1	10	0	17	0.0	73	84	5	27	16	0	142	25	4.2	WNW	17.0	W	16+	4	6	20	7.5	37
NEW YORK U	40	1006.3		13.3	5.6	9.3	1.2	25.6	5	- 1.1	28	0	5	1.7	61	69	- 13	20	7		T	0	4.2	NW	16.1	NW	28	11	11	8	5.1	56
NEW YORK	6	1016.5	1018.3	11.7	6.1	8.9	0.7	22.2	5	- 1.1	28	0	1	2.2	66	63	- 13	17	8	0	10	0	7.2	WNW	17.9	WNW	28	4	13	13	6.6	
ROCHESTER	166	998.9	1018.8	8.9	0.6	4.8	0.5	23.9	3	- 4.4	29+	0	16	0.6	77	101	32	29	16	0	191	102	5.3	WNW	18.8	W	16	4	3	23	8.1	37
SCHENECTADY	66			8.3	1.1	4.4	0.8	19.4	3	- 5.0	28+	0	19			68	- 4	18	12	0	71	76						11	7	12	6.0	
SYRACUSE	129	996.0	1018.6	8.9	1.1	4.8	-0.3	22.8	3	- 5.0	28	0	17	0.6	74	76	- 4	21	18	0	241	102	4.6	WNW	16.5	S	3	2	7	21	8.2	27
NORTH CAROLINA																																
ASHEVILLE U	671	939.7		15.0	5.6	10.2	2.1	25.6	5	- 5.0	29	0	9			123	70	67	10	0	T	T	4.3	NW	14.3	NW	24	10	3	17	6.3	43
CAPE HATTERAS R	2	1018.3	1019.0	17.8	9.4	13.6	-0.5	25.6	4+	- 1.1	30+	0	3	8.9	75	55	- 43	29	6	2	0	0	4.8	NNW	13.9	NW	23+	11	7	12	5.5	69
CHARLOTTE	224	991.0	1019.5	19.4	7.8	13.5	3.3	29.4	2	- 5.6	29	0	7	6.1	65	69	2	30	6	0	0	0	2.6	NE	10.3	S	23	6	11	13	6.4	50
GREENSBORO	272	987.6	1020.1	16.7	5.6	11.2	2.3	28.3	1	- 5.6	30+	0	10	4.4	69	43	- 26	22	7	0	T	T	3.2	NW	9.8	NW	24	8	9	13	6.0	53
RALEIGH	132	1005.6	1019.7	17.2	5.0	11.3	1.1	28.3	1	- 5.6	29	0	10	5.0	68	53	- 19	31	7	0	0	0	3.4	NNW	11.2*	SE	23	8	13	9	5.7	63
WILMINGTON	9	1016.9	1019.7	19.4	7.8	13.5	0.3	27.2	3+	- 2.8	30+	0	7	8.9	77	47	- 19	31	6	1	0	0	4.0	NNW	16.1	NW	23	7	13	10	5.6	64
WINSTON SALEM	295	984.1	1020.0	16.7	6.7	11.5	2.3	27.8	1	- 2.8	30+	0	8	3.3	62	54	- 17	25	9	0	T	0	3.2	NNW	12.1*	NW	24	8	7	15	6.0	
NORTH DAKOTA																																
BISMARCK	502	954.8	1017.0	6.1	- 7.2	- 0.7	1.3	19.4	1	-12.2	27+	0	28	- 8.9	59	T	- 13	0	1	0	3	T	3.3	NW	16.5	NW	2	7	6	17	6.5	56
DEVILS LAKE U	448	960.9		2.8	- 8.3	- 2.7	1.2	18.3	10	-18.3	29	0	28			6	- 11	3	4	0	79	51	4.2	S#	14.8	NW	6	8	3	19	7.0	55
FARGO	274	982.0	1017.7	4.4	- 6.7	- 1.1	1.4	15.0	1	-15.6	27	0	28	- 5.6	72	2	- 21	1	4	0	13	T	5.6	NNW	15.2	NW	2+	8	5	17	6.8	47
WILLISTON U	572	946.4		4.4	- 6.7	- 1.2	0.9	18.9	10	-15.0	29	0	29			2	- 12	2	2	0	13	T	3.4	W#	13.9	W	2	8	7	15	6.3	55
OHIO																																
AKRON	369	981.7	1020.7	9.4	1.1	5.2	0.6	26.7	3	- 6.7	29	0	17	1.1	76	79	18	30	10	0	86	25	6.5	WSW	19.7	SW	16	2	7	21	8.0	
CINCINNATI OBS	232			11.7	2.2	7.0	0.0	27.8	2	- 6.1	29	0	15			98	21	35	10	0	38	25	2.8	S	10.7	SW	16					42
CINCINNATI	169	996.7		12.8	3.3	7.9	0.1	27.8	2	- 4.4	29	0	9			85	7	36	9		46											
CLEVELAND	237	991.5	1019.6	10.0	1.7	5.8	0.4	26.1	3	- 4.4	30	0	17	0.0	67	71	3	34	10	0	23	T	5.3	WNW	15.2	S	3	3	5	22	8.2	29
COLUMBUS	247	990.1	1020.9	10.6	0.6	5.4	-0.1	26.1	3	- 8.9	29	0	19	1.7	77	89	16	40	8	0	33	25	3.6	SE	13.4	SW	16	3	8	19	7.8	25
COLUMBUS U	221			11.1	2.2	6.6	0.3	26.1	3	- 6.7	29	0	15			92	27	39	8	0	41	25										
DAYTON	305	983.3	1020.6	10.6	0.6	5.4	-0.1	25.0	2	- 7.2	28	0	16	1.1	74	66	0	28	9	0	51	51	4.6	WNW	17.0	SW	16	6	6	18	7.1	39
MANSFIELD	395			9.4	0.0	4.8		23.9	3	- 8.3	29	0	19			74		35	11	0	10	T						1	12	17	7.9	
SANDUSKY U	184	996.9		10.6	2.2	6.3	0.6	23.9	2	- 5.6	29	0	13			60	3	23	9	0	13	T	4.2		21.5	SW	16	4	8	18	6.9	52
TOLEDO	206	994.2	1020.2	9.4	- 1.7	3.8	-0.5	24.4	2	- 7.8	28	0	22	1.1	82	52	- 3	31	8	0	23	25	4.2	WSW	16.1	SW	16	5	9	16	6.8	47
YOUNGSTOWN	359	976.3	1019.9	8.9	0.6	4.7	-0.1	26.7	3	- 5.0	22	0	18	0.6	75	76	- 13	34	12	0	102	25	4.4	WSW	11.2*	S	3	2	4	24	8.4	
OKLAHOMA																																
OKLAHOMA CITY	390	975.0	1019.6	12.8	3.3	8.1	-1.4	24.4	12	- 2.8	29	0	8	2.8	73	97	51	51	8	4	0	0	5.7	SSE	18.8	NW	2	6	7	17	6.7	45
TULSA	198	994.3	1019.3	13.3	2.2	7.9	-1.9	25.0	1	- 3.3	29+	0	13	2.8	75	81	20	35	10	1	T	0	4.9	SSE	13.0*	W	16+	7	4	19	7.1	43
OREGON																																
ASTORIA	2	1015.9	1016.7	11.1	1.7	6.5	-1.9	17.2	7	- 3.9	16	0	9	3.9	84	212	- 51	62	19	2	0	0	4.3	ESE	15.6*	WSW	22+	4	6	20	7.5	
BURNS U	1265	873.4		8.3	- 6.7	0.9	-1.6	15.0	9+	-16.7	21	0	28	- 5.6	68	25	- 5	11	9	0	122	76						9	6	15	6.1	
EUGENE	110	1004.4		10.0	0.6	5.4	-2.0	15.6	29	- 6.1	17	0	16			238	93	78	16	2	51	51	3.6		14.3*	W	10	3	8	19	7.7	
MEACHAM	1234			4.4	- 3.3	0.3	-1.3	13.9	9	-10.0	17+	0	23			78	- 20	21	16	0	462	305						4	10	16	7.2	
MEDFORD	396	970.5	1019.2	12.2	- 1.1	5.3	-1.4	17.8	5	-10.0	17	0	20	1.1	80	87	19	33	14	0	43	25	1.5	S	10.7*	SE	29	5	8	17	7.1	
PENDLETON	452	964.4	1019.3	7.8	- 2.8	2.4	-2.7	15.0	22	- 9.4	17+	0	23	- 3.3	68	37	- 1	15	7	0	234	203	3.7	SE	23.7*	SW	22	6	8	16	6.7	
PORTLAND	6	1012.2	1018.1	10.6	1.7	6.1	-1.4	16.1	7	- 5.0	17	0	10	1.7	75	119	- 14	42	18	0	0	0	3.7	SE	25.0	SW	21	4	6	20	7.7	54
PORTLAND U	9			11.1	3.9	7.3	-1.1	15.6	8+	0.0	25+	0	2			138	- 15	56	17		0	0										
ROSEBURG	154	999.3		10.6	1.1	5.7	-2.2	15.6	3	- 7.2	17	0	10			257	142	122	14	0	274	203	1.4	N#	8.5	S	29	0	6	24	8.6	25
SALEM	59	1010.5	1017.9	10.6	- 0.6	5.1	-2.3	16.7	7	- 7.8	17	0	20	1.7	78	112	- 39	34	17	0	0	0	3.4	S	14.3*	S	21	5	7	18	7.5	
SEXTON SUMMIT R	1169	883.2		7.8	0.6	4.3	-0.8	18.3	8	- 6.7	20	0	13			299	184	120	13	0	277	203	6.4	S				7	6	17	6.9	
PACIFIC AREA																																
CANTON ISLAND	2	1009.1	1009.6	32.2	26.1	28.9	0.2	33.3	23	24.4	11+	18	0	21.1	68	2	- 5	1	3	0	0	0	5.0	ENE	9.8*	E	17	10	15	5	4.9	
ENIWETOK	4	1008.5		30.0	25.0	27.6		31.7	1	22.2	4	0	0	23.9	78	186		28	22	0	0	0	6.4									
JOHNSTON	2	1012.5		27.8	23.9	25.7		28.9	11+	17.2	17	0	0	21.1	77	77		22	13	0	0	0	8.3		17.9	SE	16	4	18	8	5.9	46
KOROR R	29	1006.1	1009.9	31.1	23.9	27.6	0.2	32.2	15+	22.8	8+	4	0	23.9	84	198	-102	87	14	1	0	0	2.6	NE	10.7	SE	20	0	6	24	8.8	71
KWAJALEIN	2	1008.1	1009.0	30.0	24.4	27.3		31.7	4	22.8	12	0	0	23.3	79	346		82	23	1	0	0	4.9	ENE	13.4*	ESE	26+	1	7	22	8.6	
MAJURO	3	1008.9	1009.2	30.0	25.0	27.4		31.1	8+	23.3	2	0	0	23.3	77	306		66	24	2	0	0	4.0	ENE	12.5	E	25	0	6	24	8.9	57
PONAPE R	37	1004.1	1008.5	30.6	22.8	26.6	-0.8	32.2	11	20.6	8+	1	0	23.3	86	465	97	85	25	4	0	0	1.8	NE	7.6	E	18+	1	3	26	8.8	51
TAGUAC GUAM R	110			29.4	21.7	25.5	-0.3	31.1	12	17.2	22+	0	0			135	- 75	26	21	0	0	0	2.6	NE#	13.9	E	18					
TRUK MOEN ISLAND	2	1008.3	1008.6	30.0	23.9	27.1	-0.1	31.1	14+	22.2	13+	0	0	23.9	84	199	- 83	66	16	4	0	0	2.1	NNE	10.3	NE	18	0	12	18	7.7	79

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation of ground	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometer): Speed	Wind: Fastest mile (1.6 kilometer): Direction	Wind: Fastest mile (1.6 kilometer): Date	No. of days sunrise to sunset: Clear, 0-3	No. of days sunrise to sunset: Partly cloudy, 4-7	No. of days sunrise to sunset: Cloudy, 8-10	Sky cover tenths sunrise to sunset	Possible sunshine
	M	Mb.	Mb	C	C	C	C	C		C				C	%	Mm	Mm	Mm			Mm	Mm	M.p.s		M.p.s							
PACIFIC AREA																																
WAKE ISLAND	3	1013.3	1013.7	28.9	23.9	26.4	-0.2	30.0	1	20.0	28	0	0	22.8	79	84	4	43	13	0	0	0	7.9	ENE	14.3*	E	6	7	17	6	5.1	
YAP R	17	1007.4	1009.4	30.6	23.3	26.7	-0.9	32.8	14	21.1	7+	1	0	23.9	85	112	-160	55	16	0	0	0	3.3	NE	13.0	SE	19	0	0	30	10.0	84
PENNSYLVANIA																																
ALLENTOWN	115	1004.5	1019.0	11.7	2.2	6.9	1.3	23.9	4+	- 4.4	19+	0	15	1.7	72	92	14	36	8	0	74	76	5.1	W	17.0*	NW	27	7	8	15	6.6	
ERIE	223	992.2	1018.9	10.0	2.2	6.2	1.2	26.7	3	- 2.8	11+	0	12	1.1	70	56	- 26	23	14	1	20	T	6.4	SSE	14.8*	SSE	3	4	2	24	8.2	
HARRISBURG	102	1005.6	1019.6	12.2	3.3	7.8	1.1	24.4	3	- 4.4	11	0	11	2.2	69	90	21	35	12	0	94	102	4.3	NW	13.9	NW	24	6	5	19	7.2	40
PHILADELPHIA	2	1014.2	1018.8	12.8	2.2	7.3	-0.4	26.7	5	- 6.1	11	0	16	1.7	69	52	- 26	14	8	0	81	25	4.1	NW	13.9	NW	24	6	8	16	6.6	68
PHILADELPHIA U	11			13.9	6.1	9.8	1.1	27.2	5	- 1.1	28	0	3																			
PITTSBURGH	351	989.3	1020.5	10.0	1.7	6.0	1.0	27.8	3	- 5.0	22	0	15	1.1	74	87	21	35	14	0	56	25	4.0	WNW	13.0*	W	17	3	4	23	8.0	45
PITTSBURGH U	228			11.7	3.3	7.4	0.4	28.3	3	- 3.3	22	0	10			85	18	36	14		71											20
READING U	81	1006.8	1016.2	12.2	4.4	8.4	0.9	25.0	4	- 2.8	11	0	6			81	4	25	9	0	38	51	5.5		20.1	E	24	7	7	16	6.6	49
SCRANTON	287	984.3	1019.4	8.3	0.6	4.5	-0.3	21.1	3	- 7.2	11	0	19	0.6	75	91	9	23	12	0	61	25	3.4	NW	12.5	NW	28	3	7	20	7.8	29
WILLIAMSPORT	161	1000.4	1019.8	10.0	1.7	5.9	0.5	22.2	3	- 5.6	11	0	13	0.6	71	93	10	22	13	0	64	51	3.7	W	12.1*	WNW	28	6	4	20	7.4	
RHODE ISLAND																																
BLOCK ISLAND	34	1011.9	1016.1	10.6	5.0	7.6	0.2	18.9	6	- 2.8	26	0	6			140	50	51	7	0	0	0						8	9	13	6.3	
PROVIDENCE	17	1010.8	1016.9	10.6	2.8	6.4	0.6	23.3	5	- 3.9	12	0	12	0.6	67	79	- 16	33	7	0	43	25	5.1	NNW	13.0*	NNW	25+	9	9	12	6.1	48
SOUTH CAROLINA																																
CHARLESTON	12	1017.2	1019.2	21.7	8.9	15.1	1.6	31.1	1	- 3.9	30	0	5	9.4	74	40	- 12	18	5	0	0	0	3.2	NNE	16.5	W	23	11	7	12	5.4	75
CHARLESTON U	3			20.6	12.8	16.4	1.7	30.6	1	2.2	29	0	0			32	- 17	23	4		0	0	4.3		13.0	SW	23					
COLUMBIA	66	1006.6	1019.6	21.7	7.8	14.8	2.7	32.2	2	- 6.1	30	1	8	7.8	69	26	- 31	23	4	0	0	0	2.3	NE	13.0*	SE	23	8	9	13	5.9	59
FLORENCE	45	1013.4	1019.2	20.6	8.3	14.3	2.3	31.1	2	- 3.3	30	0	5	7.2	69	40	- 18	28	5	0	0	0	3.2	N	9.4*	SE	23	8	14	8	5.5	
GREENVILLE	308	981.6	1019.3	19.4	7.8	13.6	2.9	30.0	1	- 1.7	30+	0	6	5.6	65	75	- 3	39	9	0	0	0	3.4	NNE	14.3	N	8	7	8	15	6.5	49
SPARTANBURG	244	989.4	1019.6	18.9	7.8	13.2	2.6	28.3	2	- 2.8	29	0	6	5.6	65	69	- 6	33	6	0	0	0	2.7	NE	12.5*	WSW	23+	8	8	14	6.1	
SOUTH DAKOTA																																
HURON	391	969.4	1018.1	6.7	- 6.1	0.3	0.0	22.8	1	-12.2	20	0	28	- 3.9	79	2	- 15	2	2	0	23	25	5.1	SSE	16.1	NW	7	11	6	13	5.4	60
RAPID CITY	965	900.8	1017.7	8.3	- 5.6	1.6	-0.2	20.6	10	-11.7	17	0	27	- 6.1	62	9	- 5	5	4	0	69	25	5.4	NNW	26.4	NW	2	13	4	13	5.2	58
SIOUX FALLS	433	964.9	1018.0	6.1	- 4.4	0.8	0.7	16.7	1	-10.6	6+	0	27	- 3.9	72	36	7	30	4	1	25	25	4.7	S	13.9*	NNW	2	11	2	17	6.2	
TENNESSEE																																
BRISTOL	459	964.8	1020.0	15.6	5.0	10.4	2.7	26.7	2	- 6.7	30+	0	9	3.9	68	71	6	31	8	0	T	0	3.0	NW	13.9*	SSW	3	7	4	19	7.1	
CHATTANOOGA	204	992.2	1020.3	16.7	6.7	11.7	2.2	28.9	2	- 4.4	30	0	8	5.0	68	92	- 11	28	10	0	0	0	3.5	N	20.1	S	23	8	5	17	6.6	47
KNOXVILLE	290	984.6	1020.6	16.1	6.1	10.9	1.8	28.3	2	- 3.3	30+	0	7	5.0	71	77	- 3	27	11	1	T	0	3.2	NE	16.5	S	3	5	7	18	7.4	32
MEMPHIS	80	1004.9	1020.1	14.4	5.0	9.8	-0.6	28.3	2	- 3.9	29	0	6	5.0	75	205	89	80	9	2	T	T	4.3	NNE	15.2	SE	2	6	5	19	7.1	41
MEMPHIS U	83			13.9	6.7	10.2	-1.0	27.2	2	- 1.7	29	0	2			213	104	83	10		T	T										
NASHVILLE	176	999.8	1020.2	15.0	4.4	9.8	0.2	28.3	2	- 6.7	30	0	8	4.4	72	98	12	24	11	1	T	T	3.7	S	16.1	W	16	7	5	18	6.9	44
OAK RIDGE	276			15.6	5.0	10.4	2.1	28.3	2	- 5.6	30+	0	9			112	11	47	13	1	0	0	1.6		16.5Y		3	7	6	17	6.8	
TEXAS																																
ABILENE	536	956.4	1018.5	15.6	4.4	10.0	-2.1	27.8	1	0.6	19+	0	0	4.4	73	74	48	29	8	3	T	0	4.3	S	14.3	SW	2	11	6	13	5.8	49
AMARILLO	1099	889.9	1017.5	11.1	- 0.6	5.2	-2.2	23.3	25+	- 9.4	17	0	18	- 0.6	73	57	35	29	8	0	124	127	6.2	N	17.0	N	15	9	3	18	6.5	49
AUSTIN	182	996.7	1019.0	18.9	8.3	13.6	-1.5	29.4	1	3.9	23+	0	0	7.8	71	72	12	47	8	2	0	0	4.1	N	15.2	N	2	8	5	17	6.6	37
BROWNSVILLE	5	1014.3	1016.9	24.4	15.0	19.7	-0.2	31.1	2	8.9	6	0	0	15.6	80	41	2	29	7	0	0	0	5.2	NW	18.8	NW	6	5	11	14	6.7	43
CORPUS CHRISTI	13	1016.5	1017.9	22.2	11.7	17.0	-1.3	30.0	1	5.6	6	0	0	12.2	75	28	- 17	21	9	1	0	0	5.6	NNE	18.8	W	22	8	6	16	6.7	46
DALLAS	147	999.9	1019.1	16.7	6.1	11.5	-1.7	28.3	1	0.6	19	0	0	6.1	72	103	41	59	9	2	0	0	5.1	S	18.8	NW	22	9	7	14	6.0	47
DEL RIO U	292			18.9	8.9	14.1	-1.6	28.3	1	3.3	23	0	0			19	- 1	11	5		0	0										
EL PASO	1194	887.3	1017.2	15.0	2.2	8.8	-2.3	22.8	27	- 2.2	14	0	10	0.6	62	41	32	19	6	2	198	178	2.8	NNE	21.0	NW	21	11	7	12	5.5	65
FORT WORTH	166	997.7	1019.0	17.2	6.1	11.5	-1.7	28.9	1	1.7	29+	0	0	6.1	73	69	12	37	9	1	0	0	5.7	S	17.0*	WNW	22	10	7	13	6.0	
GALVESTON U	2			19.4	13.3	16.2	-1.3	26.1	2+	7.2	29	0	0			274	177	194	9		0	0			16.1	W	22					54
GALVESTON	2	1015.9	1018.4	19.4	13.3	16.3	-1.2	27.2	2+	7.8	30	0	0	11.7	74	176	70	145	10	3	0	0	5.3	N				9	5	16	6.2	
HOUSTON U	12			21.1	12.2	16.8	0.2	30.0	1	5.6	30	0	0			172	71	134	10		0	0										
HOUSTON	15	1015.9	1018.9	20.6	10.0	15.4	-0.6	30.6	1	3.3	30	0	0	11.1	80	259	153	138	11	3	0	0	4.9	N				8	6	16	6.4	57
LAREDO	152	1002.3	1017.7	22.2	11.7	16.8	-2.1	32.2	1	6.1	6	1	0	10.0	69	44	20	32	7	0	0	0	4.2	SE	17.9*	WNW	22	9	7	14	6.2	
LUBBOCK	988	905.0	1018.7	12.8	1.1	7.1	-2.2	24.4	26+	- 3.9	19	0	12	1.1	72	33	17	15	8	0	13	25	6.5	WSW	16.1*	NNE	13	10	5	15	5.6	
MIDLAND	870	917.2	1017.3	15.0	3.3	9.3	-2.3	28.3	26	- 1.7	15	0	5	2.8	70	41	24	30	10	1	T	0	4.6	NNE	14.3*	WSW	2	11	4	15	5.8	
PORT ARTHUR	5	1016.6	1018.1	20.6	9.4	15.1	-0.1	29.4	1	0.6	30	0	0	1.7	81	265	174	184	10	5	0	0	4.5	N	21.9	S	22	10	5	15	5.8	45
SAN ANGELO	580	950.2	1018.4	16.1	4.4	10.2	-3.4	26.7	12+	- 1.1	20	0	1	4.4	73	29	2	18	6	1	0	0	3.8	NE	15.6*	WNW	22	11	3	16	5.9	
SAN ANTONIO	241	993.0	1018.3	20.0	8.9	14.4	-1.0	30.0	1	3.9	4	0	0	8.3	70	53	18	36	10	2	0	0	4.2	N	13.9	W	22	9	5	16	6.3	43
VICTORIA	32	1013.8		21.1	10.6	15.7	-1.9	29.4	1	5.0	17	0	0			124	67	51	7	4	0	0	5.1		23.7Y	NNW	2	8	7	15	6.3	
WACO	152	997.7	1019.1	17.8	7.2	12.5	-1.8	28.9	1	2.8	23+	0	0	7.2	75	90	33	50	7	3	0	0	5.5	SSE	17.0*	NW	2	8	5	17	6.2	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
TEXAS	M.	Mb	Mb.	C	C.	C	C	C		C				C	%	Mm	Mm	Mm			Mm	Mm	M.p.s		M.p.s							%
WICHITA FALLS	303	981.2	1018.8	14.4	3.9	8.9	-2.0	25.0	6+	- 1.7	17	0	3	2.2	68	82	47	36	7	4	0	0	5.6	NNE	13.9*	NNE	13	10	6	14	5.8	
UTAH																																
MILFORD	1533	845.2		8.3	- 6.7	0.7	-2.3	18.9	10	-17.8	22	0	27			12	- 2	10	4	0	112	102						15	4	11	4.7	
SALT LAKE CITY	1286	869.6	1021.0	7.2	- 3.3	1.8	-2.2	15.0	0	-10.0	19	0	24	- 3.3	72	29	- 7	13	6	0	282	127	4.3	SSE	17.9	NW	2	10	7	13	6.0	49
WENDOVER	1291	872.7		6.1	- 3.3	1.4		12.8	26	-10.0	19+	0	26			19		14	6	0	170	102						12	5	13	5.4	
VERMONT																																
BURLINGTON	101	1002.0	1017.2	6.1	- 1.1	2.5	0.1	18.3	3	-12.2	30	0	19	- 1.1	78	59	- 14	10	15	0	150	51	4.0	SSW	13.9	SW	3	3	1	26	8.8	34
VIRGINIA																																
LYNCHBURG	289	994.8		14.4	5.0	9.8	1.3	26.7	5	- 4.4	22	0	9			62	2	27	11	1	15	T	3.6		13.0	N	28	11	6	13	5.7	55
NORFOLK	8	1018.8	1020.0	16.1	7.2	11.8	1.0	27.2	4	- 0.6	11	0	3	6.1	71	30	- 37	17	6	0	T	0	4.8	NNW	13.9	SE	23+	12	8	10	5.2	70
RICHMOND	49	1014.2	1020.7	16.1	3.9	10.1	0.9	27.8	5+	- 6.7	30	0	12	3.9	69	46	- 17	18	8	0	T	0	3.4	S	11.2	NW	24	8	7	15	6.4	46
ROANOKE	358	977.4	1020.4	13.9	5.6	9.6	1.3	26.7	5	- 4.4	22	0	9	4.8	66	92	21	42	10	0	74	25	3.6	NW	9.8*	WNW	24+	10	4	16	6.3	
WASHINGTON																																
OLYMPIA	58	1010.2	1017.5	9.4	- 1.7	3.9	-2.4	15.6	8	- 7.8	25+	0	21	1.7	88	172	0	52	15	0	0	0	3.0	SW	18.3*	SW	10	2	8	20	7.9	
SEATTLE TACOMA	122	1002.0	1016.6	9.4	1.7	5.5	-1.1	16.7	8	- 5.0	25	0	8	1.7	78	119	3	37	16	1	T	0	4.3	SE	17.0*	S	10	4	7	19	7.5	
SEATTLE	4		1016.8											2.8	80								2.3	SSE								
SEATTLE U	4			10.0	4.4	7.2	-1.1	16.1	8	- 1.1	17	0	3			11.	- 2	34	14		0	0			19.7	SW	21					30
SPOKANE	718	948.5	1019.0	3.9	- 5.0	- 0.7	-2.8	9.4	10	-13.9	25	0	26	- 5.0	75	46	- 1	20	14	0	226	10	2.1	NE	14.8	SW	22+	4	8	18	7.3	44
STAMPEDE PASS R	1206	877.4		0.0	- 5.0	- 2.4	-2.2	6.7	9	-10.0	25	0	30			306	- 31	136	18	0	1623	1016						5	2	23	7.4	
TATOOSH ISLAND	31	1012.2	1015.4	8.9	5.0	7.1	-1.4	11.7	11+	1.7	23	0	0	3.9	79	235	- 6	65	17	1	T	0	2.0	E	26.2	S	21	3	7	20	7.6	37
WALLA WALLA U	289	982.4		7.2	- 1.7	2.9	-2.9	15.0	22	- 7.2	25	0	21			45	- 2	16	11	1	234	152	2.0	W*	17.9	W	22	6	9	15	6.4	45
YAKIMA	323	980.0	1020.1	7.2	- 5.6	0.9	-2.4	13.3	10	-12.8	17	0	29	- 4.4	74	13	- 12	6	6	0	25	25	3.2	WNW	17.4*	WNW	3	8	5	17	6.5	
WEST INDIES																																
SAN JUAN P.R. U	14			28.3	22.2	25.2	-0.6	30.6	11+	20.0	14+	0	0			255	93	95	21	2	0	0										
SAN JUAN P.R.	5	1010.2	1013.1	28.9	21.7	25.3	-0.2	31.1	10	18.9	26	0	0	21.1	83	235	35	59	19	5	0	0	2.1	ENE	15.6	NE	13	2	12	16	7.0	35
WEST VIRGINIA																																
CHARLESTON	286	984.7	1020.9	12.8	3.3	7.9	0.3	28.3	3	- 6.7	29	0	13	2.8	72	73	- 7	28	13	0	15	25	2.2	WSW	9.4*	W	17	5	5	20	7.2	
HUNTINGTON U	173			13.3	3.3	8.4	0.3	29.4	3	- 6.7	29	0	13			79	8	24	12		T	T										
PARKERSBURG U	189			12.8	2.8	7.8	0.6	30.0	3	- 7.2	29	0	14			75	8	25	10	0	T	T	2.7		10.7	W	16+					31
WISCONSIN																																
GREEN BAY	208	995.3	1018.8	5.6	- 2.8	1.6	0.7	20.6	2	- 8.3	29	0	27	- 2.2	79	66	17	29	5	1	86	51	4.6	SW	21.[illegible]	SW	2	5	6	19	7.3	37
LA CROSSE	199	993.2		5.6	- 2.2	1.7	0.4	17.2	11+	- 8.9	28	0	21	- 2.2	76	64	18	27	6	0	191	51	4.5	S	18.[illegible]*	W	7	6	5	19	7.1	
MADISON	262	982.4	1018.9	6.7	- 2.2	2.0	0.2	21.7	2	-10.6	28	0	24	- 1.7	79	120	42	55	10	0	36	25	4.2	S	18.[illegible]	S	2	7	6	17	6.7	38
MILWAUKEE	204	993.7	1019.9	7.2	- 1.1	3.1	0.2	23.3	2	- 7.2	29	0	21	- 1.1	77	60	7	30	9	0	61	25	4.6	SSE	17.[illegible]	S	1	6	5	16	6.6	39
WYOMING																																
CASPER	1621	836.1	1017.8	4.4	- 6.7	- 1.[illegible]	-1.7	11.7	10	-16.7	17	0	23	- 6.1	70	14	- 7	4	4	2	173	75	7.[illegible]	SW	18.7*	N	2	8	13	[illegible]	5.5	
CHEYENNE	1867	816.0	1018.1	6.7	- 6.1	0.2	-1.6	17.2	10	-12.8	21	0	28	- 9.4	55	9	- 5	5	7	0	84	76	6.[illegible]	WNW	26.8	W	2	11	7	12	5.6	54
LANDER	1696	834.4		1.1	-10.6	- 4.[illegible]	-3.8	8.4	30	-17.8	17	0	29	-10.6	71	23	1	8	7	0	544	356	2.5	SE*	25.[illegible]	W	3	11	9	10	5.2	72
SHERIDAN	1202	883.8	1013.7	3.9	- 8.9	- 2.4	-3.0	13.3	9	-18.9	17	0	30	- 6.7	74	19	- 5	5	4	0	231	152	3.0	NW	25.5	NW	1	12	4	14	5.4	60

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.
† Maximum hourly average.
‡ And also on an earlier date or dates.
d Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.
B Number of days maximum 21.1 C. or above for Alaskan Stations.
\# Wind direction to 8 compass points only.
Y Peak gust.

V Sun below horizon November 18 - 30, inclusive.
X Sun below horizon November 26 - 30, inclusive.

Data in the "Table" is obtained by converting the data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	301	397	532
Huntsville	374	544	
Mobile	193	235	247
Montgomery	267	360	373
ALASKA			
Anchorage	1450	3590	3220
Annette	852	2060	2126
Barrow	1897	6083	6055
Barter Island	2100	6259	
Bethel	1375	3967	3767
Cold Bay	877	3099	3059
Cordova	1067	3266	3000
Fairbanks	2078	4526	4077
Juneau	1027	2899	2807
King Salmon	1302	3750	3352
Kotzebue	1738	4553	4500
McGrath	1893	4555	4137
Nome	1450	4319	4191
St. Paul	929	3535	3449
Shemya	905	3257	
Yakutat	1040	3065	2918
ARIZONA			
Flagstaff	919	1948	1832
Phoenix (U)	190	229	195
Phoenix	233	284	245
Prescott	645	985	877
Tucson	312	373	246
Winslow	662	1007	957
Yuma	118	136	105
ARKANSAS			
Ft. Smith	454	593	575
Little Rock	425	555	525
Texarkana	371	465	386
CALIFORNIA			
Bakersfield	324	431	314
Bishop	655	958	872
Blue Canyon	642	1235	1184
Burbank	215	283	256
Eureka (U)	459	1601	1525
Fresno	382	508	431
Long Beach	153	176	
Los Angeles (U)	161	195	198
Los Angeles	182	236	396
Mt. Shasta (R)	754	1392	1387
Oakland	345	605	730
Point Arguello (R)	319	1084	
Red Bluff	365	479	378
Sacramento (U)	342	466	413
Sacramento	378	506	477
Sandberg (R)	590	980	702
San Diego	152	185	241
San Francisco (U)	246	787	841
San Francisco	346	678	873
San Jose (U)	281	411	411
Santa Maria	348	733	722
COLORADO			
Alamosa	1080	2224	2207
Colorado Springs	898	1756	1352
Denver	902	1645	1332
Grand Junction	809	1372	1161
Pueblo	810	1381	1228
CONNECTICUT			
Bridgeport	584	876	1045
Hartford	706	1119	1198
Middletown	657	1035	
New Haven	604	909	1137
DELAWARE			
Wilmington	553	839	914
DIST. OF COLUMBIA			
Washington (U)	422	586	773
Washington	459	656	793
FLORIDA			
Apalachicola (U)	105	130	171
Daytona Beach	33	41	83
Fort Myers	3	3	25
Jacksonville	96	130	164
Key West	0	0	0
Lakeland (U)	17	23	60
Miami	0	0	8
Miami Beach	0	0	0
Orlando	16	21	61
Pensacola (U)	154	186	195
Tallahassee	168	229	240
Tampa	15	20	60
West Palm Beach	3	4	7
GEORGIA			
Athens	284	419	495
Atlanta	310	472	511
Augusta	263	392	341
Columbus	248	332	404
Macon	222	304	343
Rome	353	581	583
Savannah	217	286	263
Thomasville (U)	148	189	218
IDAHO			
Boise	833	1557	1286
Idaho Falls 46W (R)	1048	2175	2077
IDAHO (Cont'd.)			
Idaho Falls 42NW(R)	1050	2239	2142
Lewiston	864	1509	1286
Pocatello	914	1860	1543
ILLINOIS			
Cairo (U)	514	686	681
Chicago (Midway)	718	1093	1205
Chicago (O'Hare)	747	1259	
Moline	722	1153	1253
Peoria	752	1226	1195
Rockford	796	1313	
Springfield	669	1023	1127
INDIANA			
Evansville	582	835	844
Ft. Wayne	750	1171	1260
Indianapolis	684	1023	1090
South Bend	740	1173	1289
IOWA			
Burlington	729	1162	1184
Des Moines	841	1319	1269
Dubuque	850	1439	1511
Sioux City	847	1362	1443
Waterloo	836	1366	1459
KANSAS			
Concordia (U)	740	1110	1019
Dodge City	777	1151	971
Goodland	910	1559	1333
Topeka	714	1092	1010
Wichita	688	960	848
KENTUCKY			
Lexington	588	846	951
Louisville	593	855	862
LOUISIANA			
Alexandria	293	422	
Baton Rouge	238	295	242
Lake Charles	205	237	240
New Orleans (U)	134	145	146
New Orleans	173	199	176
Shreveport	320	392	358
MAINE			
Caribou	905	1838	2356
Greenville (U)	832	1861	
Portland	751	1401	1610
MARYLAND			
Baltimore (U)	451	616	725
Baltimore	533	793	910
Frederick	563	915	911
MASSACHUSETTS			
Blue Hill Obs. (R)	692	1108	
Boston	604	910	1017
Nantucket	582	940	1154
Pittsfield	820	1421	1687
Worcester	758	1281	
MICHIGAN			
Alpena	868	1697	1744
Detroit (City AP)	705	1051	1232
Detroit (M. Wayne Co.)	742	1148	
Detroit (Willow Run)	779	1228	1258
Escanaba (U)	872	1650	1892
Flint	798	1315	1468
Grand Rapids	741	1222	1471
Lansing	772	1307	
Marquette (U)	873	1687	1868
Muskegon	703	1164	1483
S. Ste. Marie	913	1790	2177
MINNESOTA			
Duluth	1070	2100	2236
Internat. Falls	1148	2269	2490
Minneapolis	938	1583	1601
Rochester	992	1689	1718
St. Cloud	1022	1823	1948
MISSISSIPPI			
Jackson	308	422	379
Meridian	315	453	428
Vicksburg (U)	316	410	319
MISSOURI			
Columbia	647	966	984
Kansas City	626	966	905
St. Joseph	723	1106	1000
St. Louis (RFC)	555	766	810
St. Louis	623	886	878
Springfield	633	920	933
MONTANA			
Billings	1008	1935	1595
Butte	1225	2729	2587
Glasgow	1116	2160	1948
Great Falls	1043	2071	1765
Havre	1158	2203	1915
Helena	1109	2245	2038
Kalispell	1146	2407	2085
Miles City	1046	1987	1695
Missoula	1128	2326	1987
NEBRASKA			
Grand Island	883	1413	1281
Lincoln (U)	793	1248	1137
Norfolk	891	1500	1464
North Platte	926	1683	1409
Omaha	805	1266	1207
Omaha N. Omaha AP	848	1380	
Scottsbluff	961	1754	1460
Valentine	915	1690	1518
NEVADA			
Elko	985	1934	1724
Ely	1029	2083	1749
Las Vegas	438	574	405
Reno	848	1601	1440
Tonopah	843	1444	1246
Winnemucca	915	1727	1527
NEW HAMPSHIRE			
Concord	756	1277	1636
Mt. Washington Obs. (R)	1261	3656	
NEW JERSEY			
Atlantic City	525	780	
Atlantic City (U)	435	600	766
Newark	526	747	951
Trenton (U)	532	792	922
NEW MEXICO			
Albuquerque	731	1022	858
Clayton	831	1343	1064
Raton	869	1576	1430
Roswell	730	945	665
Silver City	639	859	
NEW YORK			
Albany	761	1204	1386
Binghamton	825	1379	1623
Buffalo	722	1168	1354
New York (U)	490	678	863
New York (LaGuardia)	501	704	824
Rochester	728	1160	1375
Schenectady	744	1196	1404
Syracuse	724	1113	1256
NORTH CAROLINA			
Asheville (U)	433	779	864
Cape Hatteras (R)	281	405	307
Charlotte	323	464	592
Greensboro	413	653	741
Raleigh	403	619	603
Wilmington	303	422	361
Winston-Salem	392	598	702
NORTH DAKOTA			
Bismarck	1017	1940	1989
Devils Lake (U)	1128	2134	2235
Fargo	1039	1878	1989
Grand Forks CAA	1060	1914	
Pembina	1102	2000	
Williston (U)	1046	2021	2038
OHIO			
Akron	701	1103	1216
Cincinnati (U)	559	771	831
Cincinnati	622	834	1026
Cincinnati Obs.	612	877	931
Cleveland	668	1022	1124
Columbus	689	1050	1107
Columbus (U)	633	913	1012
Dayton	686	1028	1096
Mansfield	725	1136	
Sandusky (U)	647	938	1077
Toledo	775	1245	1257
Youngstown	731	1175	1189
OKLAHOMA			
Oklahoma City	547	693	648
Tulsa	563	729	632
OREGON			
Astoria	632	1529	1270
Burns (U)	937	1892	1673
Eugene	695	1328	1183
Meacham	965	2159	1992
Medford	696	1219	1027
Pendleton	855	1480	1174
Portland (U)	585	1024	926
Roseburg	673	1243	1074
Salem	706	1322	1071
Sexton Summit (R)	752	1733	1496
Portland	656	1199	1067
PENNSYLVANIA			
Allentown	620	970	1154
Erie	648	1023	1246
Harrisburg	569	856	1007
Philadelphia (U)	463	640	768
Philadelphia	593	921	889
Pittsburgh (U)	587	864	966
Pittsburgh	666	1058	1211
Reading (U)	540	781	935
Scranton	743	1203	1215
Williamsport	666	1052	1193
RHODE ISLAND			
Block Island	577	884	1036
Providence	633	972	1186
SOUTH CAROLINA			
Charleston (U)	187	232	248
Charleston	251	346	322
Columbia	272	402	420
Florence	285	404	441
Greenville	297	422	552
Spartanburg	310	466	557
SOUTH DAKOTA			
Huron	971	1701	1622
Pierre	913	1596	
Rapid City	898	1696	1640
Sioux Falls	943	1606	1648
TENNESSEE			
Bristol	446	738	873
Chattanooga	372	559	670
Knoxville	405	642	710
Memphis (U)	443	571	503
Memphis	467	623	575
Nashville	471	680	647
Oak Ridge	435	694	857
TEXAS			
Abilene	449	540	453
Amarillo	702	954	871
Austin	270	291	244
Brownsville	37	38	59
Corpus Christi	123	127	113
Dallas	382	432	352
Del Rio (U)	246	256	
El Paso	513	595	460
Ft. Worth	381	431	357
Galveston (U)	148	155	131
Galveston	142	146	132
Houston (U)	132	138	162
Houston	184	200	188
Laredo	131	131	91
Lubbock	602	776	688
Midland	481	559	452
Port Arthur	198	231	238
San Angelo	437	511	352
San Antonio	223	242	226
Victoria	168	183	131
Waco	326	363	295
Wichita Falls	499	565	524
UTAH			
Milford	945	1687	1404
Salt Lake City	881	1549	1240
Wendover	906	1502	
VERMONT			
Burlington	849	1502	1617
VIRGINIA			
Lynchburg	476	723	816
Norfolk	368	530	569
Richmond	459	704	741
Roanoke	485	732	826
WASHINGTON			
Olympia	771	1626	1460
Seattle (U)	594	1111	1097
Seattle	644	1223	1231
Seattle-Tacoma	689	1354	1382
Spokane	1025	1898	1637
Stampede Pass (R)	1117	2826	2628
Tatoosh Island (R)	603	1916	1832
Walla Walla	871	1424	
Walla Walla (U)	826	1330	1076
Yakima	931	1666	1410
WEST VIRGINIA			
Charleston	559	894	886
Huntington (U)	535	783	794
Parkersburg (U)	569	853	928
WISCONSIN			
Green Bay	900	1581	1733
La Crosse	891	1455	1551
Madison	876	1537	1544
Milwaukee	815	1398	1445
WYOMING			
Casper	1033	2088	1796
Cheyenne	977	2029	1787
Lander	1250	2380	1956
Sheridan	111	1210	1842

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

NOVEMBER 1961

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				∅ ALL OTHER			
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS	DEATHS	INJURIES	†DAMAGE PROPERTY	†DAMAGE CROPS
Alabama										0	0	5	0													0	0	4	0
Alaska *																													
Arizona *																													
Arkansas	3	2	0	0	3																								
California										1	38	5	5																
Colorado *																													
Connecticut *																													
Delaware										0	0	4	0																
Florida	4	2	0	2	5	0	0	0	4	0	1	2	0																
Georgia	1	1	0	0	3																								
Hawaii																										0	0	6	C
Idaho																				7	3			1					
Illinois N																													
Indiana	1	1	0	0	1																								
Iowa																		0	0	5	5					0	0	6	5
Kansas	1	1		2	4										1	3													
Kentucky *																													
Louisiana N																													
Maine																		0	0	4	0					0	0	4	0
Maryland										0	1	4	0																
Massachusetts																		0	0	4	0					0	0	2	0
Michigan *																													
Minnesota *																													
Mississippi N																													
Missouri										0	0	4	0																
Montana *																													
Nebraska *																													
Nevada N																													
New Hampshire																		0	0	4	0								
New Jersey *																													
New Mexico																		0	0	4	6								
New York N																													
North Carolina *																													
North Dakota *																													
Ohio *																													
Oklahoma										0	0	3	0	0	0	4	0	0	0	3	0					0	0	°4	C
Oregon										0	0	5	3					0	0	4	4								
Pennsylvania *																													
Puerto Rico																										1	0		0
Rhode Island *																													
South Carolina	3	1	0	1	3					0	0	4	0																
South Dakota																				3									
Tennessee										0	2	4	0																
Texas	9	3	1	10	5	0	0	5	4	0	1	4	0	0	0	4	0					1	0	0	0	1	0	0	0
Utah N																													
Vermont *																													
U. S. Virgin Is. *																													
Virginia *																													
Washington												4																	
West Virginia *																													
Wisconsin *																													
Wyoming										0	1	3	0																

* No occurrence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
∅ For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
C Crop Damage
Includes Crop damage.
N No report received by printing deadline.

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

NOVEMBER 1961

Moderate flooding occurred on the Marais des Cygnes in Kansas on two occasions during November. The lower portion of the main channel was at flood stage from 9 to 12 days. Flood damages in the Missouri Basin were minor since higher levels were recorded in September and October. Although flooding lasted mostly from a few hours to a couple of days in the Arkansas Basin, the Neosho-Grand River at Commerce, Okla., was in flood for 9 days. The highest stage of the year was reported on the Salt Fork at Tonkawa, Okla., with a crest 5.08 feet above flood stage. Flooding reported elsewhere was mostly minor.

Local flooding occurred on all islands of Hawaii except Kauai. Drought continued in southern Florida and although alleviated some in the Southwest persisted in parts of that region.

EAST GULF OF MEXICO DRAINAGE

Minor flooding occurred on the Tibbie River at Tibbie, Miss., on the 16th due to moderately heavy rains from the 13th to the 15th. Runoff was light due to the dry condition of the soil. Additional rains on the 22d caused slight flooding on the East Fork of the Tombigbee at Fulton, Miss., on the 22d and along the main stem of the Tombigbee at Amory, Miss., on the 24th and 25th.

Brief moderate flash flooding occurred along the Bogue Chitto at Franklinton, La., and extensive flooding along the Pearl River in Mississippi and Louisiana from below Columbia, Miss., to the coast. This rapid rise was due to heavy local rains from the 13th to the 14th. The ensuing rise was the most rapid in recent history on the lower Pearl River. Warnings were widely distributed in the areas below the confluence of the Bogue Chitto and the Pearl River. Contractors working on interstate highways in the vicinity removed equipment from the flood plain.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Two periods of flooding occurred during the month of November in the Maquoketa and Wapsipinicon Rivers in eastern Iowa and on the Pecatonica in northern Illinois and southern Wisconsin. Flooding during the first week of the month was due to rains amounting to 2 to 2.5 inches during the last days of October. Before the streams had returned to normal, 24-hour rainfall amounts of 2 to 3 inches occurred on the 16th. Lack of vegetation, and frozen ground in some localities produced excessive and rapid runoff which again caused overflows in the same streams. Damage was confined to farmland flooding, including flooding of a few unharvested corn and soybean fields.

The lower portions of the Des Moines and Skunk Rivers in south-central and southeast Iowa were above flood stage on two different occasions, while the lower portion of the South River in central Iowa was above on one occasion. Flooding was minor and occurred from the 2d to the 4th and from the 16th to the 19th. The early November flooding was due to 1 to 4.5 inches falling in south-central and southeast Iowa on November 1 and 2. The greatest concentration was in the Eddyville, Sigourney, and Albia areas. The second period of flooding was due to more general rains over the State ranging from 1 to 2.5 inches on the 15th and 16th. Flood damages were primarily to the lower lying agricultural grounds where crops had not yet been harvested. Damages were minor.

The only flooding along the main stem of the Mississippi occurred at Clarksville, Mo.

Missouri Basin.--There were two general periods of flooding in the Missouri Basin during November. The first was due to general rains that started on October 27 and continued through November 2. The second was due to extended rainfall that began on the 10th and continued off-and-on through about the 23d. Snowfall on the 18th and 19th accumulated up to 4 to 5 inches through Missouri, except the southeast, and into central and northern Illinois. Most of the snow melted in 24 hours after it ended, but it was one of the heaviest snows for so early in the season in about 10 years.

Moderate flooding occurred on the Marais des Cygnes at the beginning and again during the middle of the month. The lower portion of the main channel was at flood stage from 9 to 12 days during the period. Minor flooding occurred in the lower Kansas River Basin on Stranger Creek, and in the Wakarusa and Marmaton Rivers in Kansas.

The floods in the Missouri Basin during November amounted to little more than a nuisance with damage of a minor nature since levels appreciably higher were recorded in September and October. There was some flooding of secondary roads, but otherwise flooding was limited to farmlands in the lower areas and damage was of little consequence.

Arkansas Basin.--Most of the streams in the Arkansas Basin had above average stages at the beginning of the month, due to heavy rainfall near the end of October. This was the 7th month during 1961 that there had been flooding in the Arkansas Basin. Floods during November occurred mostly in southeastern Kansas and northern and eastern Oklahoma. Although most of the flooding lasted from a few hours to a couple of days, the Neosho-Grand River at Commerce, Okla., reported above flood stages from the 1st to the 9th. The Salt Fork at Tonkawa, Okla., had its highest stage of the year, cresting 5.08 feet above flood stage.

There were three significant periods of heavy rainfall during November. The first storm was general with a concentration over the Chikaskia River Basin below Argonia, Kans., with an average of 2.66 inches. This, added to the existing moist soil, produced adequate runoff for 4.5-foot overflow in Kay County, Oklahoma. Heavy rains during the middle of the month centered over the Little Caney River area with a basin average of 1.41 inches on the morning of the 16th. The storm of the 22d was concentrated over the Poteau River Basin with an average rainfall of 3 inches. Damages from flooding were limited to fall crops in the lowlands.

Rains in the North Canadian Basin were also moderate to heavy on the 1st, but no overflow was reported. Heavy runoff from the rains at Watonga, Okla., threatened to close a highway, but there was no actual overflow of the river.

Red Basin.--Moderate to heavy rains over the Washita Basin on the 1st and 2d caused overflow along the river from near Hammon to Carnegie, Okla. Overflow ranged from 2 feet above flood stage at Clinton, Okla., to 1 foot above flood stage at other gaging stations. No damage was reported as a direct result of this flooding, but runoff from the heavy rains caused some roads to become impassable and some schools dismissed classes.

General heavy rains on the 22d and 23d caused light flooding on the Ouachita River at Arkadelphia, Ark., on the 23d and 24th. Damage was negligible.

Three- to 4-inch rainfall amounts over the Sulphur Basin in Texas and the Little River Basin in Arkansas on the 21st and 22d caused light flooding in those basins. The main losses were to sand and gravel operations.

WEST GULF OF MEXICO DRAINAGE

Unusually heavy rains on the 13th and 14th produced sharp rises with light flooding on the Calcasieu River in Louisiana. The 24-hour amount at Lake Charles, La., was 10.99 inches which is next to the greatest of record there for a 24-hour period. During the 13th and 14th amounts ranged from 2 to more than 11 inches. Flooding was confined to lowlands and no damage resulted.

Excessive rains in the San Jacinto Basin near Houston, Tex., on the 13th, ranging from 4 to 6 inches, brought the highest peak on White Oak Bayou at Yale Street bridge, since 1936. No flooding occurred, but one 11-year old boy drowned while swimming in the swollen bayou. On the 22d, excessive rains occurred on the upper Trinity Basin with flooding reported along Chambers and Richland Creeks near Corsicana, Tex. Minor flooding was reported along Aquilla Creek, a tributary of the Brazos, near Waco, Tex. A crest of 27.2 feet (2.2 feet above flood stage) occurred on the 22d.

Heavy rains on the 13th resulted in light flooding on the Guadalupe, Lavaca, and Navidad Rivers between the 14th and 16th. Damage was comparatively light and confined to the lower portions of the Lavaca and Navidad Rivers with no damage of consequence on the Guadalupe.

PACIFIC SLOPE DRAINAGE

Moderate to heavy rain on the 22d, 23d, and 24th resulted in light flooding on the Smith River at Fort Dick, Calif., on the 23d. The heaviest rain occurred during the 24-hour period ending at 8 a.m. on the 23d, with Crescent City reporting 6.16 inches with an additional 3.97 inches during the following 24 hours. No damage resulted from the flooding.

Heavy precipitation in southwestern Oregon from the 21st to the 25th caused rapid rising of waters in the Coquille and Umpqua drainages. Fortunately, most of the precipitation was in the form of snow at the higher elevations. Continued warming and steady rain at the lower elevations resulted in rises of 1 foot per hour or more by the morning of the 23d. Flood stages were reached at Coquille and Myrtle Point, Oreg., on the Coquille River, and at Roseburg and Kellogg on the Umpqua on the morning of the 23d. Cresting took place that afternoon or night. Total precipitation for the 4-day period from the 21st to the 24th was 5 to 10 inches over the Coquille and Umpqua Basins with much greater amounts in the form of snow very likely at higher elevations. The entire lower Coquille Valley was inundated, but little if any damage was reported.

Minor flooding occurred in the Columbia Basin on the Santiam, Tualatin, and Willamette Rivers in Oregon between the 22d and 24th. Flooding was localized and only three reporting stations exceeded flood stage. The only damage attributable to flooding was cleanup expense at several dwellings in the Marshall Island area 6 miles above Harrisburg, Oreg., on the Willamette River. The storm that produced this year's rise was termed a "near twin" to last year's deluge, although the areal extent of the heavy precipitation was not nearly so extensive in the Willamette River Basin. Only two minor storms preceded the storm of the 21st to 24th. These came about a week apart on the 2d and 9th-10th. Precipitation from each of these windy, stormy periods was near 1.25 inches at medium elevation stations and generally less than 0.50 inch at lower elevation stations. Temperatures during the first 3 weeks of November remained much below normal with the result that very little runoff was experienced and all rivers were at base flow levels by the 20th. The precipitation which caused the minor flooding in the Columbia Basin during November resulted from two storms which approached the western United States simultaneously -- one, off the northern California coast and the other off the Alaskan Panhandle. The California frontal system arrived first and the accompanying low pressure center moved slowly inland and southeastward on the 20th. The Alaskan front followed and moved southeastward onto the northern Oregon coast. By 10 p.m. of the 21st Oregon's northern coastal area had already received copious precipitation and heavy amounts were falling in the Willamette Valley and Cascade Mountain foothills. By midnight this front moved inland and became stationary in an east-west position through northern Oregon. Precipitation amounts reported at 0800 on the 22d were equally as heavy at low and medium elevation stations alike and tributary streams were up sharply from the evening before. This stationary front moved slowly southward during the daylight hours of the 22d and colder air north of the system brought showery precipitation to northern Willamette tributaries and gradually reduced the freezing level in the Willamette Basin until snow was falling on the valley floor in the Eugene area by nightfall of the 23d. This drop in the freezing level held down runoff in all Cascade Range tributaries with the result of only minor flooding.

FLOOD STAGE DATA

(All dates in November unless otherwise specified)

River and station	Flood stage	Above flood stages -dates From—	Above flood stages -dates To—	Crest * Stage	Crest * Date
	Ft.			Ft.	
EAST GULF OF MEXICO DRAINAGE					
East Fork Tombigbee: Fulton, Miss.	16	26	26	16.1	26
Tibbie: Tibbie, Miss.	23	16	16	23.3	16
Tombigbee: Amory, Miss.	20	24	25	22.0	24
Bogue Chitto: Franklinton, La.	11	14	15	13.4	14
Pearl: Jackson, Miss.	18	23	24	18.2	23
Monticello, Miss.	19	15	15	19.0	15
Bogalusa, La.	15	13	30	19.75	14
Pearl River, La.	12	15	24	16.5	17
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Maquoketa: Makuoketa, Iowa	13	3	5	17.5	4
		17	17	16.05	17
Wapsipinicon: DeWitt, Iowa	10	6	9	10.9	8
		17	22	10.7	17
Pecatonica: Martintown, Wis.	11	Oct. 31	9	13.2	7
		17	21	12.3	19-20
Shirland, Ill.	10	1	10	11.1	2
		16	26	13.0	19
Rock Joslin, Ill.	10	18	21	12.9	19
Iowa: Wapello, Iowa	10	17	20	11.4	18
North Skunk: Sigourney, Iowa	16	2	5	E18.5	3
		16	18	19.1	16
Skunk: Augusta, Iowa	15	17	22	18.4	20
South: Ackworth, Iowa	15	16	16	17.8	16
Des Moines: Tracy, Iowa	14	17	18	16.9	17
Eddyville, Iowa	15	3	4	E15.6	4
		16	18	E19.0	18
Ottumwa, Iowa	9	2	3	9.6	2
		16	19	11.4	19
Mississippi: Hannibal, Mo.	16	19	21	16.6	20
				14.6	5
Louisiana, Mo.	15	18	21	15.8	20
Clarksville, Mo.	25	19	21	25.9	20
Missouri Basin					
Platte: Agency, Mo.	20	3	4	#21.3	3
		16	19	23.5	17
Wakenda: Carrollton, Mo.	15	2	3	#22.1	3
		16	18	#21.9	17
		22	22	#17.6	22
Wakarusa: Lawrence, Kans.	23	2	3	27.9	2
Stranger Creek: Tonganoxie, Kans.	22	Oct. 31	4	24.3	1
				24.8	3
		16	18	23.1	18
Blue: Kansas City, Mo. (Bannister Rd.)	21	2	2	28.1	2
		16	16	25.3	16
Little Blue: Lake City, Mo.	18	2	4	#24.2	3
		16	17	23.9	17
Crooked: Richmond, Mo.	18	2	3	#24.1	3
Thompson: Trenton, Mo.	20	2	2	20.6	2
Grand: Pattonsburg, Mo.	25	2	4	#28.8	3
		16	18	#29.6	17
Gallatin, Mo.	21	3	4	#22.4	4
		16	18	24.25	18
Chillicothe, Mo.	24	2	5	31.5	4
		16	19	30.55	17
Sumner, Mo.	26	Oct. 30	1	#29.2	Oct. 30
		2	8	35.2	5
		16	24	34.5	19
Brunswick, Mo.	12	1	1	12.45	1
		3	8	#17.63	6
		17	23	#17.4	20
Lamine: Clifton City, Mo.	19	3	4	21.5	4
Chariton: Novinger, Mo.	20	3	3	#20.6	3
		16	17	21.0	16
Prairie Hill, Mo.	15	3	4	#17.8	3
		16	18	#17.3	17
		22	23	16.65	22
Blackwater: Blue Lick, Mo.	25	Oct. 30	8	#30.0	5
		16	21	#28.4	19
Petite Saline: Boonville, Mo.	16	3	3	#19.0	3
MISSISSIPPI SYSTEM (Cont'd.)					
Missouri Basin (Cont'd.)					
Pottawatomie Creek: Garnett, Kans.	26	2	3	29.4	2
		16	16	26.1	16
110 Mile Creek: Quenemo, Kans.	20			29.5	≡
Big Sugar Creek: Farlinville, Kans.	24			27.4	2
Marmaton: Ft. Scott, Kans.	38	5	7	44.2	5
		8	9	39.8	8
South Grand: Brownington, Mo.	19	3	8	25.6	5
		18	21	21.6	19
Marais des Cygnes: Quenemo, Kans.	28	2	4	34.85	3
		16	17	30.45	17
Ottawa, Kans.	21	2	5	26.6	4
		16	17	22.2	17
Osawatomie, Kans.	28	2	6	35.8	4
		16	19	32.6	18
LaCygne, Kans.	25	3	8	30.8	5
		17	20	29.15	19
Trading Post, Kans.	24	3	9	28.1	6
		17	21	25.5	20
Osage: Schell City, Mo.	25	3	27	31.1	7-8
Missouri: Hermann, Mo.	21	4	7	22.6	4
Arkansas Basin					
Walnut: Augusta, Kans.	23	3	3	25.7	3
Chikaskia: Blackwell, Okla.	26	2	3	30.6	2
Salt: Tonkawa, Okla.	17	2	4	22.1	2
Little Caney: Copan, Okla.	21	Oct. 31	1	21.6	1
		≡	5	23.7	3
		16	18	22.9	17
Verdigris: Independence, Kans.	30	2	5	39.6	4
		16	17	31.0	17
Lenapah, Okla.	30	6	6	30.0	6
Neosho: Burlington, Kans.	27	2	3	E29.0	2
LeRoy, Kans.	23	2	4	#26.0	2
Iola, Kans.	15	2	5	18.75	4
Chanute, Kans.	20	2	6	25.75	4
Parsons, Kans.	24	6	7	24.5	7
Grand: Commerce, Okla.	15	1	9	17.9	8
		17	17	15.0	17
Arkansas: Ralston, Okla.	16	3	4	18.1	≡
Webbers Falls, Okla.	23	5	5	23.3	5
Red Basin					
Washita: Clinton, Okla.	18	2	2	19.9	2
Carnegie, Okla.	18	4	4	19.0	4
Ouachita: Arkadelphia, Ark.	17	23	24	17.7	23
Little: Horatio, Ark.	27	24	24	27.9	24
Wilton, Ark.	25	24	28	28.6	26
Sulphur: Naples, Tex.	22	28	Dec. 2	23.7	30
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	15	20	13.2	18
		24	29	13.4	26
Old Town Bay, La.	4	14	16	4.4	14,15
Aquilla Creek: Aquilla, Tex.	25	22	22	27.2	22
Guadalupe: Gonzales, Tex.	20	14	15	21.5	14
Victoria, Tex.	21	16	18	23.1	17
Lavaca: Edna, Tex.	21	14	15	24.0	15
Navidad: Ganado, Tex.	21	14	16	25.8	15
PACIFIC SLOPE DRAINAGE					
Smith: Fort Dick, Calif.	30	23	23	30.85	23
Coquille: Coquille, Oreg.	21	23	25	23.9	24
Myrtle Point, Oreg.	35	23	25	43.2	23
Umpqua: Roseburg, Oreg.	22	23	23	22.6	23
Kellogg, Oreg.	31	23	24	E37.0	23
Columbia Basin					
Santiam: Jefferson, Oreg.	15	22	23	15.3	24
Tualatin: Dilley, Oreg.	12	22	22	12.5	22
Willamette: Harrisburg, Oreg.	12	23	24	13.7	23

* Provisional ≡ Highest stage observed E Estimated

RAWINSONDE DATA

Average monthly values

NOVEMBER 1961

ALBANY, N. Y. (1007 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	86	2.0	84	259	3.1
1,000	29	142			244	3.1
950	29	557	2.0	74	272	9.1
900	29	993	.6	74	288	14.6
850	29	1,452	- .2	65	292	17.7
800	29	1,936	- 1.6	62	286	18.7
750	29	2,448	- 3.3	58	282	21.2
700	29	2,993	- 5.5	58	278	24.1
650	29	3,567	- 8.2	54	280	25.8
600	29	4,191	-11.2	49	276	25.3
550	29	4,848	-15.0	46	272	26.6
500	29	5,570	-19.5		268	29.3
450	29	6,341	-24.6		267	30.5
400	29	7,195	-30.4		262	32.6
350	29	8,132	-36.9		265	37.9
300	29	9,184	-43.5		272	41.8
250	29	10,392	-50.2		276	47.6
200	29	11,833	-54.9		276	46.6
175	29	12,684	-56.4		273	44.9
150	29	13,659	-58.4		274	44.3
125	29	14,802	-59.8		270	40.0
100	29	16,194	-61.0		273	35.0
80	25	17,586	-59.9		269	22.9
70	25	18,422	-59.4		269	18.8
60	25	19,385	-59.7		274	16.3
50	25	20,525	-59.1		273	11.3
40	25	21,926	-58.7		271	9.3
30	24	23,741	-57.3		285	12.4
25	23	24,895	-56.6		289	12.6
20	21	26,316	-55.8		282	15.0
15	21	28,156	-54.0		278	19.4
10	13	30,768	-50.1			

ALBUQUERQUE, N. MEX. (838 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,619	1.1	70	63	3.7
1,000	30	180				
950	30	597				
900	30	1,042				
850	30	1,508				
800	30	1,998	2.2	57	73	1.0
750	30	2,516	.1	59	277	7.0
700	30	3,069	- 2.5	56	272	13.4
650	30	3,650	- 5.1	51	264	17.5
600	30	4,281	- 8.2	50	265	23.1
550	30	4,944	-12.4	49	266	25.8
500	30	5,674	-16.9	43	264	31.1
450	30	6,452	-22.2	39	268	31.3
400	30	7,316	-27.9	38	273	33.8
350	30	8.261	-34.8		274	36.1
300	30	9,321	-42.0		267	43.5
250	30	10,536	-48.9		268	50.3
200	30	11,979	-56.0		276	48.6
175	30	12,823	-59.1		275	46.0
150	30	13,783	-61.9		276	41.2
125	30	14,906	-64.4		275	40.4
100	29	16,261	-65.8		273	29.5
80	28	17,611	-65.2		269	19.6
70	28	18,432	-63.7		268	18.7
60	28	19,375	-62.4		266	14.8
50	28	20,502	-61.5		269	12.0
40	28	21,890	-60.0		278	11.1
30	24	23,702	-57.1		267	20.0
25	24	24,859	-55.7		271	17.1
20	21	26,287	-53.8		278	16.7
15	15	28,149	-52.1		331	20.4
10						

AMARILLO, TEXAS (892 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,095	2.0	83	272	2.9
1,000	30	165				
950	30	586				
900	30	1,028				
850	30	1,488	3.9	61	290	8.4
800	30	1,982	4.2	53	282	9.7
750	30	2,505	3.2	46	267	14.2
700	30	3,063	.7	44	256	18.3
650	30	3,649	- 2.5	40	258	22.3
600	30	4,286	- 6.4	36	262	26.8
550	30	4,956	-10.6		260	28.2
500	30	5,689	-15.3		254	35.6
450	30	6,470	-20.5		252	39.1
400	30	7,339	-26.6		252	43.5
350	30	8,288	-33.5		254	48.8
300	30	9,355	-40.9		254	56.3
250	30	10,575	-48.2		257	64.9
200	29	12,020	-56.2		261	63.3
175	29	12,863	-59.2		261	62.6
150	29	13,823	-62.1		261	52.8
125	29	14,943	-64.3		265	47.6
100	27	16,302	-65.5		269	35.2
80	24	17,657	-64.8		273	23.3
70	22	18,484	-63.3		272	16.7
60	21	19,435	-62.2		272	12.0
50	21	20,565	-60.5		283	10.9
40	17	21,954	-58.9		283	11.9
30	17	23,769	-57.0		277	10.7
25	15	24,940	-55.5		276	14.8
20	11	26,362	-54.2		274	17.3
15						
10						

ANCHORAGE, ALASKA (1001 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	29	- 8.4	74	353	1.7
1,000	29	36			5	5.1
950	29	434	- 6.4	62	17	6.2
900	29	859	- 6.3	59	30	3.9
850	29	1,305	- 8.1	61	110	2.5
800	29	1,774	-10.3	61	150	3.1
750	29	2,268	-13.0	58	186	4.5
700	29	2,791	-15.8	55	191	7.6
650	29	3,340	-19.3	52	218	10.3
600	29	3,937	-22.6	51	222	11.7
550	29	4,565	-26.8	47	231	13.6
500	29	5,250	-31.7	45	237	16.7
450	29	5,982	-37.0		233	17.7
400	29	6,792	-42.9		242	19.4
350	29	7,681	-48.5		259	22.3
300	29	8,682	-53.5		258	23.1
250	29	9,851	-54.3		254	26.4
200	29	11,284	-52.8		251	28.8
175	29	12,147	-52.4		250	29.1
150	29	13,144	51.9		252	29.9
125	29	14,324	-52.1		252	29.0
100	29	15,766	-52.4		249	29.1
80	29	17,207	-53.1		250	31.1
70	29	18,067	-53.8		250	30.5
60	29	19,055	-54.0		255	25.3
50	28	20,236	-53.8		253	29.9
40	27	21,688	-54.5		252	25.8
30	26	23,525	-54.6		252	26.6
25	21	24,817	-51.9		256	20.4
20	17	26,323	-52.1		268	24.7
15	8	28,176	-51.9			
10						

ANNETTE, ALASKA (1007 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	37	2.3	83	117	4.7
1,000	29	92			123	6.0
950	29	502	.0	74	157	9.7
900	29	937	- 2.8	73	178	12.8
850	29	1,388	- 5.0	73	201	12.2
800	29	1,863	- 7.3	68	215	14.8
750	29	2,364	- 9.8	61	221	17.3
700	29	2,894	-12.9	61	232	20.0
650	29	3,451	-16.2	57	240	22.3
600	29	4,054	-19.6	55	241	26.8
550	29	4,689	-23.3	52	262	19.4
500	29	5,388	-27.9	50	273	20.2
450	29	6,129	-33.1	51	277	19.8
400	29	6,957	-38.7		277	23.1
350	29	7,862	-44.6		270	28.8
300	28	8,889	-50.2		272	29.3
250	28	10,067	-54.1		279	35.8
200	27	11,484	-54.5		281	33.0
175	27	12,340	-53.8		282	33.6
150	27	13,330	-54.0		280	31.5
125	25	14,477	-54.5		279	30.3
100	23	15,916	-54.9		278	27.0
80	21	17,327	-55.6		282	25.5
70	19	18,198	-55.2		283	24.5
60	19	19,184	-55.1		284	21.8
50	18	20,345	-56.6		292	21.0
40	17	21,771	-56.6		282	17.1
30	15	23,608	-56.0			
25	11	24,781	-55.9			
20	8	26,251	-53.6			
15						
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ATHENS, GA. (990 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	246	9.5	87	1	1.9
1,000	30	165				
950	30	592	11.6	65	170	2.1
900	30	1,045	10.7	62	217	6.0
850	30	1,521	9.5	52	249	7.0
800	30	2,022	7.6	46	264	9.3
750	30	2,547	5.0	44	270	13.8
700	30	3,113	2.2	42	277	15.9
650	30	3,703	- 1.1	42	271	18.3
600	30	4,343	- 4.7	40	274	23.3
550	30	5,019	- 8.6	39	281	25.6
500	30	5,756	-13.1		276	30.3
450	30	6,544	-18.8		277	32.3
400	30	7,419	-25.1	37	277	36.1
350	30	8,376	-32.0		275	43.1
300	30	9,447	-40.0		278	53.0
250	30	10,669	-48.8		281	60.4
200	30	12,106	-57.6		282	67.4
175	30	12,942	-61.4		282	66.8
150	30	13,891	-64.7		279	54.2
125	29	15,001	-66.8		281	40.6
100	29	16,342	-68.8		279	34.2
80	29	17,683	-66.9		276	21.2
70	29	18,496	-65.7		280	15.2
60	29	19,434	-63.4		277	13.2
50	29	20,560	-60.7		278	9.5
40	29	21,957	-58.2		289	10.5
30	29	23,780	-55.5		277	11.1
25	27	24,938	-54.1		273	15.3
20	25	26,379	-52.4		276	19.0
15	17	28,266	-49.5		276	25.3
10	5	30,875	-48.0			

BARROW, ALASKA (1007 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	8	-16.9	81	160	5.2
1,000	30	56			116	4.9
950	30	447	-14.6	70	168	3.5
900	30	853	-15.8	66	259	2.1
850	30	1,283	-17.6	64	263	5.2
800	30	1,735	-19.6	62	268	6.6
750	30	2,208	-21.7	60	270	8.4
700	30	2,719	-24.4	56	264	10.1
650	30	3,252	-27.1	57	261	11.7
600	30	3,829	-30.3	52	259	13.8
550	30	4,440	-33.7	45	255	17.1
500	30	5,108	-37.8		250	19.4
450	30	5,827	-42.3		250	21.8
400	30	6,617	-47.0		251	25.1
350	30	7,493	-51.6		266	26.4
300	30	8,484	-55.4		265	26.6
250	30	9,644	-55.7		265	22.9
200	30	11,072	-53.9		259	21.6
175	30	11,930	-53.7		255	20.2
150	29	12,920	-53.5		248	19.8
125	28	14,085	-53.6		247	21.2
100	27	15,518	-54.3		246	23.7
80	27	16,945	-55.0		244	26.0
70	26	17,803	-55.2		243	26.8
60	25	18,789	-55.8		241	28.4
50	25	19,947	-57.0		242	29.3
40	24	21,361	-57.5		237	33.6
30	20	23,231	-56.2		234	42.7
25	18	24,424	-55.7		232	45.7
20	5	25,844	-54.5			
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BARTER IS., ALASKA (1008 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	15	-20.1	66	189	3.7
1,000	30	70			231	3.1
950	30	457	-15.3	64	257	4.1
900	30	864	-15.1	57	283	5.8
850	30	1,296	-15.9	54	282	7.2
800	30	1,751	-17.5	54	272	8.2
750	30	2,230	-19.6	53	264	9.9
700	30	2,743	-21.8	50	259	11.9
650	30	3,281	-24.6	47	266	12.8
600	30	3,865	-28.0	44	264	15.5
550	30	4,477	-31.9	43	266	18.1
500	30	5,153	-36.2		263	20.8
450	30	5,870	-40.9		259	23.9
400	30	6,671	-46.2		259	27.4
350	30	7,547	-51.4		258	27.8
300	30	8,538	-55.5		256	28.0
250	30	9,698	-55.3		254	27.8
200	30	11,126	-54.4		253	27.0
175	30	11,981	-54.4		256	25.8
150	29	12,974	-53.6		256	26.0
125	28	14,154	-53.2		257	26.2
100	28	15,591	-53.5		256	26.4
80	27	17,019	-54.0		255	29.0
70	27	17,875	-54.7		254	30.9
60	26	18,866	-54.9		254	31.1
50	25	20,036	-55.2		251	30.5
40	21	21,543	-54.8		256	36.9
30	17	23,487	-53.1		267	40.2
25	14	24,750	-51.5		264	41.4
20	12	26,213	-53.2			
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BETHEL, ALASKA (997 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	25	39	- 8.2	83	105	2.5
1,000	25	12			212	5.4
950	25	413	- 6.0	72	139	3.9
900	25	837	- 7.3	69	185	4.3
850	25	1,280	- 9.5	69	222	6.0
800	25	1,747	-12.0	69	232	6.8
750	25	2,235	-14.3	62	245	8.0
700	25	2,759	-17.2	57	244	9.3
650	25	3,306	-20.5	52	252	11.5
600	25	3,900	-24.4	48	255	12.6
550	25	4,523	-28.5	46	252	13.0
500	25	5,207	-33.0		255	14.6
450	25	5,934	-37.8		256	18.1
400	25	6,744	-43.4		263	18.7
350	25	7,633	-48.7		257	22.9
300	25	8,637	-52.4		265	30.7
250	25	9,809	-54.3		266	36.3
200	25	11,241	-53.8		269	38.3
175	25	12,100	-53.6		264	35.6
150	25	13,092	-53.2		263	37.3
125	23	14,270	-53.7		263	34.6
100	23	15,704	-54.0		261	36.1
80	22	17,131	-54.9		259	36.3
70	21	17,976	-55.4		259	37.3
60	21	18,960	-56.3		258	32.4
50	21	20,115	-57.4		264	39.1
40	20	21,515	-58.4		262	40.6
30	15	23,446	-56.4		261	35.2
25	11	24,739	-52.0		246	26.6
20	10	26,159	-52.6			
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BISMARCK, N. DAK. (956 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	505	- 4.6	66	321	1.6
1,000	30	144				
950	30	550			295	1.9
900	30	979	- 2.7	63	282	11.3
850	30	1,432	- 3.0	57	290	15.0
800	30	1,912	- 3.5	47	295	16.7
750	30	2,418	- 5.1	48	297	19.6
700	30	2,962	- 7.3	47	292	20.8
650	30	3,531	-10.0	46	286	23.7
600	30	4,150	-13.6	40	283	25.8
550	30	4,799	-17.3	39	275	27.6
500	30	5,517	-21.9	39	271	32.4
450	30	6,276	-26.8		271	36.9
400	30	7,127	-32.8		274	41.8
350	30	8,054	-39.4		275	41.4
300	30	9,094	-46.6		274	40.6
250	30	10,285	-53.4		274	42.2
200	29	11,702	-56.7		278	44.7
175	28	12,540	-56.2		273	45.5
150	27	13,522	-56.7		273	43.7
125	26	14,684	-57.5		274	38.1
100	25	16,087	-58.6		271	33.2
80	25	17,491	-58.3		273	27.4
70	25	18,335	-58.3		272	22.5
60	25	19,301	-58.8		272	20.4
50	25	20,447	-58.3		272	18.3
40	22	21,878	-57.5		279	14.6
30	20	23,694	-57.2		275	7.6
25	19	24,852	-56.3		316	9.1
20	16	26,274	-56.4		337	8.2
15	7	28,118	-56.1			
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BOISE, IDAHO (919 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	868	0.2	71	136	3.9
1,000	30	179				
950	30	594				
900	30	1,031	2.5	59	136	4.5
850	30	1,494	1.6	53	177	4.5
800	30	1,980	- .6	54	246	6.8
750	30	2,495	- 3.[illegible]	51	267	11.5
700	30	3,038	- 5.6	48	284	14.4
650	30	3,612	- 8.5	44	294	17.1
600	30	4,233	-12.0	42	294	20.[illegible]
550	30	4,890	-15.7	38	290	26.2
500	30	5,608	-19.9	40	286	32.1
450	30	6,378	-25.0	40	287	34.6
400	30	7,229	-31.2	41	287	35.4
350	30	8,162	-38.2		294	38.3
300	30	9,205	-46.3		295	37.9
250	30	10,396	-53.6		293	36.5
200	30	11,814	-58.3		298	37.1
175	30	12,653	-59.0		291	35.4
150	30	13,619	-59.5		292	35.4
125	30	14,755	-61.2		284	29.3
100	29	16,147	-61.4		282	23.7
80	29	17,530	-61.5		274	18.3
70	29	18,363	-61.0		279	14.2
60	27	19,315	-60.2		286	12.0
50	27	20,452	-60.1		267	8.4
40	23	21,882	-59.1		283	5.1
30	20	23,707	-57.5		316	1.9
25	14	24,895	-55.9		61	7.4
20	8	26,347	-54.5			
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BROWNSVILLE, TEXAS (1015 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	7	16.9	90	347	2.1
1,000	30	137	17.3	84	16	3.3
950	30	573	16.4	77	95	4.3
900	30	1,036	15.2	71	158	6.4
850	30	1,519	13.[illegible]	63	182	10.1
800	30	2,030	12.3	58	189	9.1
750	30	2,566	10.5	48	200	7.0
700	30	3,143	8.5	38	235	8.2
650	30	3,741	4.7	39	251	8.9
600	30	4,400	.7	38	260	10.3
550	30	5,083	- 3.[illegible]		263	11.9
500	30	5,838	- 8.8		256	17.7
450	30	6,640	-13.9		258	22.0
400	30	7,533	-20.4		263	25.3
350	30	8,507	-27.4		262	29.7
300	30	9,596	-36.3		263	36.9
250	28	10,835	-46.0		261	44.9
200	27	12,285	-57.2		262	47.6
175	27	13,118	-63.1		261	51.3
150	27	14,056	-67.8		263	47.2
125	27	15,141	-72.4		267	42.6
100	24	16,441	-75.9		272	29.5
80	20	17,730	-73.5		281	18.1
70	17	18,525	-69.3		283	10.7
60	14	19,448	-64.9		291	7.6
50	14	20,568	-61.3		287	7.6
40	11	21,952	-57.9		270	6.0
30	7	23,780	-53.1			
25	7	24,960	-50.5			
20	6	26,432	-47.4			
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BUFFALO, N. Y. (993 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	218	2.9	79	253	3.1
1,000	30	157				
950	30	571	2.6	73	270	10.5
900	30	1,009	.7	68	275	14.6
850	30	1,467	- .7	56	271	18.5
800	30	1,950	- 2.1	54	269	20.6
750	30	2,458	- 3.9	56	270	23.1
700	30	3,004	- 6.4	52	271	26.6
650	30	3,575	- 9.1	43	276	27.2
600	30	4,197	-11.9	39	274	29.0
550	30	4,857	-15.5	40	275	34.4
500	30	5,574	-19.7	39	275	32.3
450	30	6,341	-24.7	38	274	37.5
400	30	7,197	-30.8		273	40.2
350	30	8,133	-37.1		275	46.6
300	30	9,184	-43.9		271	50.9
250	30	10,390	-50.6		265	54.4
200	29	11,839	-55.6		266	53.8
175	29	12,687	-57.2		268	51.9
150	29	13,658	-58.9		266	44.3
125	29	14,799	-59.8		266	39.6
100	28	16,191	-61.0		267	27.2
80	25	17,583	-60.6		272	22.5
70	25	18,415	-60.6		274	18.1
60	24	19,375	-60.4		283	13.2
50	24	20.513	-59.6		284	11.1
40	24	21,910	-59.1		284	8.5
30	24	23,718	-57.6		285	8.5
25	21	24,874	-56.8		275	9.9
20	19	26,297	-56.3		282	9.7
15	15	28,129	-54.9		281	11.7
10	7	30,709	-53.0			

BURRWOOD, LA. (1017 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	3	17.7	83	47	5.8
1,000	30	149	17.5	79	44	5.6
950	30	591	15.4	77	107	4.5
900	30	1,045	14.7	62	182	5.1
850	30	1,527	13.1	52	226	4.1
800	30	2,036	11.4	45	261	5.6
750	30	2,575	8.9	43	269	8.2
700	30	3,141	6.3	40	271	11.5
650	30	3,742	2.8	38	263	14.4
600	30	4,388	- 1.2	39	260	17.5
550	30	5,070	- 5.4	37	266	20.2
500	29	5,817	-10.6	37	266	22.0
450	29	6,617	-15.7	34	263	25.1
400	29	7,501	-21.8	33	265	30.9
350	29	8,470	-28.8		268	36.3
300	29	9,554	-37.0		272	45.7
250	29	10,791	-46.5		272	55.0
200	29	12,234	-57.9		276	60.4
175	27	13,082	-63.2		282	56.7
150	26	14,017	-67.6		279	54.6
125	26	15,106	-71.0		280	42.2
100	25	16,424	-73.8		279	28.8
80	25	17,735	-70.5		279	16.5
70	25	18,541	-67.8		281	11.1
60	25	19,468	-64.5		285	7.2
50	23	20,594	-60.8		289	7.2
40	22	21,995	-57.4		277	8.4
30	20	23,835	-53.1		273	14.0
25	19	25,018	-50.6		269	16.7
20	17	26,490	-48.1		260	24.1
15	14	28,421	-44.3		258	30.7
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CAPE HATTERAS, N. C. (1018 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	12.0	81	354	5.1
1,000	30	154	12.9	73	350	6.4
950	30	578	10.3	73	329	7.8
900	30	1,032	8.1	61	311	8.[illegible]
850	30	1,504	7.1	49	296	12.2
800	30	2,001	5.7	45	288	14.8
750	30	2,524	3.4	44	288	17.9
700	30	3,085	.9	36	283	20.0
650	30	3,672	- 2.0	31	284	24.7
600	30	4,310	- 5.5		280	24.9
550	30	4,979	- 9.6		280	28.0
500	30	5,718	-14.4		279	31.5
450	30	6,502	-20.2	35	280	35.4
400	30	7,371	-26.4	35	282	36.9
350	30	8,321	-33.6		284	41.4
300	30	9,385	-41.7		285	45.9
250	30	10,599	-49.6		287	50.1
200	30	12,036	-56.6		288	51.7
175	30	12,876	-59.9		291	48.8
150	30	13,831	-63.1		286	44.9
125	30	14,946	-65.1		284	37.3
100	30	16,303	-65.9		282	27.4
80	30	17,657	-65.1		276	18.8
70	30	18,478	-63.5		282	15.0
60	30	19,424	-61.5		285	10.9
50	30	20,558	-59.9		284	9.1
40	30	21,958	-57.6		287	10.5
30	26	23,789	-54.4		277	13.2
25	21	24,950	-52.7		266	17.5
20	17	26,390	-50.8		265	22.3
15	5	28,219	-48.5			
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

NOVEMBER 1961

Standard pressure surface (mb.)	CARIBOU, ME. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CHARLESTON, S. C. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	19[illegible]	- 0.[illegible]	91	290	3.5	30	13	11.5	84	6	2.9
1,000	30	120					30	160	13.7	73	41	4.9
950	30	530	[illegible]	73	288	4.9	30	569	13.4	65	41	4.5
900	30	965	- .3	69	280	7.6	30	1,048	12.2	58	312	2.7
850	30	1,421	- 1.8	70	280	8.9	30	1,526	10.5	51	279	6.8
800	30	1,902	- 3.3	67	272	10.7	30	2,030	8.3	44	274	10.3
750	30	2,412	- 4.7	58	271	14.4	30	2,558	5.9	42	273	14.4
700	30	2,953	- 6.9	54	267	17.5	30	3,124	3.1	40	277	19.1
650	30	3,525	- 9.8	51	258	20.6	30	3,716	- .4	38	279	20.6
600	30	4,143	-13.1	49	258	22.2	30	4,357	- 4.0		281	22.5
550	30	4,794	-17.2	48	260	25.3	30	5,034	- 7.9		287	25.5
500	30	5,510	-21.8	46	255	27.2	30	5,775	-12.3		286	29.5
450	30	6,272	26.9	41	251	32.1	30	6,565	-18.2		278	31.7
400	30	7,119	-32.4	38	251	33.8	30	7,442	-24.5		278	34.0
350	30	8,049	-38.4		250	37.3	30	8,400	-31.7		285	37.7
300	30	9,095	-44.7		248	40.2	30	9,472	-39.9		281	47.8
250	30	10,298	50.9		252	37.3	30	10,694	-49.0		290	53.6
200	30	11,736	-56.0		253	39.8	30	12,130	-57.6		291	63.7
175	30	12,588	-55.9		254	38.7	30	12,965	-61.6		290	61.4
150	30	13,566	-57.3		256	34.2	30	13,915	-64.8		291	49.0
125	30	14,717	-57.9		257	30.1	30	15,020	-67.7		286	38.7
100	30	16,124	-58.2		259	24.1	30	16,359	-68.5		284	31.1
80	30	17,528	-58.3		260	15.3	30	17,701	-66.8		285	18.1
70	30	18,371	-58.3		261	14.0	29	18,520	-64.9		283	14.8
60	30	19,338	-58.5		258	12.2	29	19,462	-62.8		295	9.7
50	30	20,484	-58.8		262	8.9	29	20,593	-60.4		291	8.2
40	30	21,886	-58.4		279	7.8	27	21,988	-57.8		293	8.0
30	29	23,698	-57.7		295	8.9	24	23,818	-54.2		279	11.5
25	28	24,847	-57.5		297	9.9	23	24,990	-52.2		270	15.3
20	26	26,255	-57.1		296	13.8	22	26,434	-50.0		266	25.5
15	22	28,081	-56.2		293	18.5	19	28,330	-46.5		272	34.6
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Standard pressure surface (mb.)	COLD BAY, ALASKA (998 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	COLUMBIA, MO. (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DAYTON, OHIO (985 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	30	2.0	82	239	6.8	30	238	3.6	85	189	1.9	30	297	3.8	83	210	1.4
1,000	30	14			227	7.6	30	153					30	169				
950	30	422	- .3	77	237	8.2	30	570	4.1	71	239	5.8	30	587	3.8	75	261	4.5
900	30	857	- 3.1	77	253	11.9	30	1,011	3.1	65	262	11.5	30	1,026	2.7	67	256	10.9
850	30	1,308	- 5.6	76	253	14.8	30	1,473	2.3	59	267	13.8	30	1,488	2.0	55	260	15.7
800	30	1,781	- 8.1	67	256	18.8	30	1,962	1.6	52	261	15.9	30	1,977	.6	48	262	17.5
750	30	2,279	-11.1	63	263	18.8	30	2,478	.2	48	262	19.6	30	2,491	- .9	51	264	21.6
700	30	2,807	-14.2	58	261	19.4	30	3,032	- 2.0	47	264	24.5	30	3,044	- 2.6	44	265	24.5
650	30	3,362	-17.4	46	259	21.6	30	3,610	- 5.0	43	264	28.8	30	3,625	- 5.4	42	268	28.5
600	30	3,961	-21.1	42	255	24.5	30	4,244	- 8.4	40	261	33.2	30	4,254	- 8.8	40	265	31.5
550	30	4,593	-25.3	43	255	29.7	30	4,909	-12.4	36	266	33.8	30	4,920	-12.8	41	266	33.6
500	30	5,284	-29.9	41	256	32.1	30	5,636	-17.1		260	38.9	30	5,645	-17.7	40	266	37.5
450	30	6,023	-34.8		250	34.6	30	6,412	-22.6		261	46.8	30	6,421	-22.9	39	265	40.4
400	30	6,842	-40.3		245	37.7	30	7,273	-28.5		264	48.0	30	7,281	-28.8		267	44.3
350	30	7,741	-46.0		249	41.4	30	8,217	-35.1		262	53.0	30	8,224	-35.4		269	49.0
300	30	8,755	-50.5		249	43.9	30	9,276	-42.8		263	64.1	30	9,281	-42.8		269	55.4
250	30	9,936	-52.9		244	38.5	30	10,488	-49.6		269	62.0	30	10,490	-50.8		270	60.4
200	30	11,375	-52.5		247	41.4	30	11,926	-56.1		267	65.5	30	11,924	-57.0		270	62.4
175	29	12,234	-52.4		248	37.9	30	12,769	-59.0		268	64.5	30	12,765	-59.3		271	64.3
150	29	13,229	-52.4		246	37.5	30	13,732	-61.1		270	55.4	29	13,729	-60.9		275	51.3
125	28	14,407	-52.7		252	36.1	30	14,858	-63.2		270	45.3	28	14,851	-63.1		277	45.3
100	27	15,855	-52.6		250	35.4	30	16,229	-63.2		271	36.3	25	16,204	-62.8		275	36.7
80	26	17,293	-53.3		252	33.0	30	17,600	-63.1		272	27.6	23	17,580	-61.8		272	26.8
70	25	18,168	-52.6		250	29.9	30	18,423	-62.3		274	22.7	23	18,413	-60.9		274	23.7
60	24	19,159	-53.2		245	29.1	29	19,372	-61.5		278	17.7	23	19,367	-60.8		277	19.6
50	24	20,331	-54.1		247	28.0	29	20,504	-60.9		283	12.8	23	20,505	-59.8		280	15.0
40	22	21,769	-53.9		248	27.0	25	21,893	-60.0		282	10.9	22	21,904	-58.7		280	14.6
30	20	23,617	-54.1		240	22.3	19	23,692	-57.3		292	7.8	18	23,726	-56.7		280	14.0
25	19	24,777	-54.4		246	27.4	16	24,854	-56.5		317	7.2	17	24,888	-56.1		281	15.5
20	11	26,228	-55.2				11	26,276	-55.8				15	26,323	-54.9		279	16.9
15	5	28,228	-50.4										13	28,177	-53.2		272	24.9
10													7	30,810	-50.2			

Standard pressure surface (mb.)	DENVER, COLO. (837 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DODGE CITY, KANS. (926 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,611	- 1.4	70	185	3.5	29	792	0.8	82	258	1.7
1,000	30	172					29	166				
950	30	587					29	584				
900	30	1,022					29	1,019	2.5	65	303	3.7
850	30	1,483					29	1,483	4.2	49	302	6.4
800	30	1,969	2.3	45	223	4.1	29	1,975	2.9	45	286	8.9
750	30	2,487	.0	41	281	6.8	29	2,495	.9	43	280	11.1
700	30	3,039	- 2.8	41	277	13.8	29	3,049	- 1.4	40	279	14.8
650	30	3,619	- 5.7	39	279	14.2	29	3,635	- 4.3	39	270	18.7
600	30	4,247	- 9.7	37	279	15.5	29	4,263	- 8.0	35	269	20.6
550	30	4,909	-13.9	38	279	20.2	29	4,933	-12.6	34	269	22.2
500	30	5,632	-18.8	36	280	21.6	29	5,656	-16.8		273	27.6
450	30	6,403	-24.0	33	278	21.8	29	6,452	-22.2		270	31.9
400	30	7,259	-30.3		275	29.1	29	7,296	-28.5		269	36.7
350	30	8,195	-37.2		271	31.7	29	8,240	-35.2		264	43.1
300	30	9,243	-44.9		272	36.7	29	9,298	-42.6		264	50.7
250	30	10,445	-54.2		274	40.6	29	10,509	-50.0		265	55.6
200	30	11,876	-56.5		271	46.4	29	11,946	-56.7		269	62.0
175	30	12,620	-58.3		270	44.3	29	12,787	-59.4		267	58.5
150	30	13,685	-60.7		266	41.0	29	13,748	-61.3		264	53.8
125	30	14,816	-61.3		267	35.9	28	14,875	-62.8		268	44.3
100	30	16,198	-62.2		269	28.4	27	16,245	-64.4		269	37.7
80	30	17,579	-62.0		271	22.0	25	17,605	-63.5		273	27.6
70	30	18,413	-62.5		268	19.8	25	18,436	-62.8		269	24.1
60	29	19,365	-61.2		268	16.9	25	19,378	-61.8		270	22.5
50	29	20,498	-60.6		280	12.0	25	20,509	-60.8		276	16.9
40	29	21,891	-59.7		279	9.7	25	21,900	-59.6		272	15.7
30	29	23,702	-57.7		284	8.0	23	23,708	-57.2		265	18.5
25	27	24,855	-57.1		297	8.4	20	24,861	-55.8		267	18.1
20	24	26,296	-54.8		300	7.2	19	26,279	-54.8		261	23.7
15	17	28,159	-53.3		314	8.2	11	28,172	-51.7			
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Standard pressure surface (mb.)	EL PASO, TEXAS (884 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ELY, NEV. (809 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FAIRBANKS, ALASKA (993 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	1,193	4.8	77	325	1.4	30	1,908	- 5.4	73	186	3.3	30	135	-20.1	71	27	1.4
1,000	30	171					30	214					30	77				
950	30	596					30	628					30	460	-14.0	57	116	5.6
900	30	1,046					30	1,062					30	875	-12.9	59	155	8.0
850	30	1,512	7.8	51	293	1.4	30	1,519					30	1,311	-12.3	57	203	7.6
800	30	2,010	5.6	48	260	5.4	30	1,999	- 1.3	63	186	2.7	30	1,773	-13.6	57	225	8.9
750	30	2,534	3.7	44	253	10.7	30	2,516	- .9	51	267	1.9	30	2,257	-15.9	56	226	10.3
700	30	3,095	1.6	41	248	15.9	30	3,063	- 3.5	49	295	7.2	30	2,780	-18.6	53	235	12.2
650	30	3,685	- 1.4	41	255	21.2	30	3,643	- 6.3	47	303	12.0	30	3,325	-21.6	50	236	13.6
600	30	4,323	- 5.4	41	257	23.5	30	4,269	- 9.0	38	309	16.5	30	3,915	-25.2	47	236	14.2
550	30	4,993	-10.0	39	258	30.5	30	4,931	-12.7	35	305	19.4	30	4,538	-29.2	45	241	15.7
500	30	5,731	-14.7	39	255	35.6	30	5,659	-17.7	36	302	20.0	30	5,217	-33.4	43	239	18.8
450	30	6,519	-20.0		256	38.5	30	6,431	-23.1	35	302	23.5	30	5,949	-38.4		241	21.2
400	30	7,387	-25.9		253	45.5	30	7,292	-29.3	34	293	25.5	30	6,750	-44.0		237	25.1
350	30	8,342	-32.2		257	51.1	30	8,232	-36.2		295	21.6	30	7,636	-49.4		234	26.2
300	30	9,414	-39.6		255	57.1	30	9,285	-43.9		284	26.0	30	8,634	-54.4		240	28.8
250	30	10,640	-47.5		257	62.8	30	10,491	-51.1		287	31.3	30	9,797	-55.4		244	27.6
200	30	12,087	-56.2		260	62.0	30	11,927	-55.7		305	26.2	30	11,227	-54.0		245	28.6
175	30	12,928	-60.8		258	59.3	30	12,774	-58.3		293	24.3	30	12,086	-53.4		250	28.4
150	30	13,879	-64.4		261	56.3	30	13,738	-60.2		279	22.3	29	13,091	-52.7		252	29.9
125	30	14,989	-66.2		262	47.4	30	14,871	-61.6		281	24.3	29	14,269	-52.6		255	31.5
100	29	16,337	-68.6		262	36.5	29	16,255	-62.4		274	18.7	28	15,716	-52.5		254	29.5
80	28	17,675	-68.1		267	25.8	28	17,634	-62.5		271	12.6	27	17,171	-52.6		252	30.9
70	28	18,486	-65.8		266	22.9	28	18,466	-61.4		274	9.7	25	18,043	-53.4		254	32.1
60	27	19,420	-63.6		270	12.4	27	19,420	-60.8		277	5.8	23	19,054	-53.2		256	30.9
50	26	20,544	-61.9		275	9.1	25	20,558	-59.8		285	4.7	20	20,274	-52.0		255	29.9
40	26	21,932	-59.3		272	11.5	23	21,958	-57.5		331	3.1	17	21,787	-50.6		253	28.0
30	25	23,740	-56.8		273	15.3	21	23,774	-55.6		295	4.7	16	23,399	-50.2		253	27.0
25	25	24,898	-55.2		274	18.7	21	24,939	-54.3		327	4.7	16	24,890	-50.5		254	25.5
20	22	26,329	-53.4		262	21.4	13	26,422	-52.8				8	26,442	-49.3			
15	12	28,159	-50.6		274	29.5	5	28,382	-50.9									
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Standard pressure surface (mb.)	FLINT, MICH. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FORT WORTH, TEXAS (998 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	29	234	1.1	82	237	2.1	30	180	8.1	83	339	3.9
1,000	29	159					30	163			357	7.8
950	29	573	1.2	70	263	6.6	30	592	8.3	70	312	2.5
900	29	1,006	- .4	65	259	9.1	30	1,036	8.8	60	282	4.1
850	29	1,463	- 1.8	55	260	12.6	30	1,509	8.2	58	271	7.0
800	29	1,945	- 2.6	47	267	16.9	30	2,010	7.2	53	252	11.1
750	29	2,457	- 4.0	49	265	19.6	30	2,540	5.3	47	247	14.2
700	29	2,999	- 6.0	44	266	23.7	30	3,101	2.8	47	249	19.4
650	29	3,574	- 7.9	41	268	26.2	30	3,694	- .8	45	251	24.1
600	29	4,197	-10.9	39	264	29.5	30	4,332	- 4.3	37	253	27.0
550	29	4,857	-14.8	38	261	32.4	30	5,007	- 8.4		257	32.8
500	29	5,577	-19.6		267	34.6	30	5,746	-13.2		267	36.3
450	29	6,344	-21.9		273	37.5	30	6,538	-18.7		257	40.2
400	29	7,198	-30.8		272	40.0	30	7,408	-24.8		260	44.5
350	29	8,133	-37.7		277	47.2	30	8,367	-31.4		260	50.5
300	29	9,181	-44.1		267	49.0	30	9,441	-39.3		263	56.3
250	29	10,384	-51.1		265	51.9	30	10,668	-47.9		263	65.9
200	29	11,817	-56.1		267	56.3	30	12,109	-57.3		263	69.9
175	28	12,665	-57.6		270	53.8	30	12,944	-61.6		265	64.1
150	28	13,635	-59.2		270	46.8	30	13,891	-64.5		262	58.1
125	28	14,774	-60.1		269	38.1	30	14,999	-67.2		266	49.7
100	28	16,164	-60.4		267	30.1	30	16,338	-68.7		272	40.6
80	28	17,557	-60.1		273	23.3	29	17,675	-67.9		279	23.9
70	28	18,394	-59.9		274	19.8	29	18,493	-65.9		276	19.0
60	28	19,350	-59.6		275	15.5	26	19,430	-63.4		277	11.3
50	28	20,497	-59.3		280	15.0	25	20,561	-61.1		292	9.9
40	28	21,898	-58.2		278	13.0	24	21,956	-58.6		276	10.1
30	25	23,716	-57.1		285	14.0	23	23,776	-56.0		278	11.9
25	25	24,872	-56.5		280	14.6	22	24,943	-54.6		278	13.1
20	21	26,283	-55.9		280	15.3	20	26,372	-52.7		275	16.7
15	18	28,117	-54.5		284	19.6	11	28,246	-50.4			
10	7	30,719	-51.9									

Standard pressure surface (mb.)	GLASGOW, MONT. (933 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GRAND JUNCTION, COLO. (853 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREAT FALLS, MONT. (886 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	696	- 5.4	83	275	1.2	30	1,474	- 0.1	70	113	3.3	30	1,123	- 2.1	67	226	9.9
1,000	30	149					30	179					30	148				
950	30	552					30	596					30	559				
900	30	983	- 2.0	64	278	6.8	30	1,038					30	995				
850	30	1,438	- 2.0	51	291	17.9	30	1,503			109	4.3	30	1,453	- .4	47	236	17.5
800	30	1,919	- 3.6	48	294	21.8	30	1,991	1.2	54	149	4.9	30	1,935	- 2.7	51	261	17.1
750	30	2,426	- 5.5	47	293	24.5	30	2,505	- 1.5	57	208	4.7	30	2,440	- 4.8	52	273	17.7
700	30	2,966	- 8.1	48	291	26.2	30	3,055	- 4.7	57	242	7.6	30	2,985	- 7.4	52	275	20.6
650	30	3,534	-11.2	47	289	26.8	30	3,633	- 7.5	54	259	10.1	30	3,554	-10.8	50	285	23.9
600	30	4,149	-14.6	45	288	29.3	30	4,256	-11.1	54	264	13.2	30	4,171	-14.2	47	284	26.6
550	30	4,799	-18.7	43	285	32.3	30	4,913	-14.8	50	272	16.7	30	4,823	-18.2	44	278	29.1
500	30	5,507	-23.0	44	282	34.2	30	5,636	-18.8	44	276	18.7	30	5,532	-22.7	41	280	29.1
450	30	6,266	-27.9	46	285	37.1	30	6,408	-24.1	37	272	21.8	30	6,292	-27.9	39	277	32.4
400	30	7,108	-33.6	43	284	38.5	30	7,260	-30.2	38	278	23.3	30	7,134	-33.8	45	275	35.6
350	30	8,032	-40.4		283	40.8	29	8,205	-37.1		271	28.2	30	8,057	-40.5		279	38.1
300	30	9,066	-47.6		285	43.7	29	9,255	-44.3		273	31.9	30	9,091	-47.6		280	43.3
250	30	10,252	-54.3		285	44.9	29	10,457	-51.1		281	33.2	30	10,278	-54.1		283	47.8
200	30	11,670	-57.2		286	45.7	29	11,891	-55.9		286	37.3	30	11,697	-57.1		285	46.6
175	30	12,517	-56.7		284	41.8	29	12,738	-57.6		286	37.3	30	12,542	-57.3		278	43.1
150	30	13,494	-57.3		282	38.9	29	13,705	-59.9		285	33.4	30	13,516	-57.9		275	39.2
125	30	14,646	-57.4		282	35.0	29	14,838	-62.0		282	28.4	28	14,673	-58.2		278	35.6
100	30	16,054	-58.1		278	30.5	29	16,213	-63.0		275	23.9	25	16,065	-58.4		274	30.7
80	30	17,458	-58.2		274	26.4	29	17,586	-63.0		274	19.0	23	17,463	-58.3		270	24.7
70	30	18,297	-58.3		276	21.2	29	18,413	-62.7		273	18.5	22	18,315	-58.7		267	21.6
60	30	19,268	-57.9		272	17.5	29	19,362	-61.4		272	14.4	22	19,279	-57.6		271	20.6
50	29	20,423	-57.7		276	15.7	26	20,507	-60.7		277	11.3	21	20,413	-58.6		276	16.1
40	27	21,841	-57.9		283	10.1	25	21,899	-59.9		268	10.1	20	21,804	-58.6		268	13.8
30	24	23,677	-56.6		290	7.4	23	23,704	-57.6		279	9.5	13	23,682	-56.3		263	8.7
25	21	24,830	-55.5		266	7.8	21	24,859	-56.0		282	10.5	13	24,841	-55.8		328	3.5
20	12	26,224	-54.6				17	26,303	-54.6		281	10.7	8	26,318	-55.2			
15							6	28,167	-51.3									
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

NOVEMBER 1961

GREEN BAY, WIS. (992 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	210	0.0	81	271	2.9
1,000	29	143				
950	29	551	-.6	74	270	8.4
900	29	986	-1.5	70	274	11.1
850	29	1,441	-1.8	59	266	12.2
800	29	1,922	-2.9	52	261	13.8
750	29	2,430	-4.5	44	265	15.5
700	29	2,975	-6.5	43	266	[illegible]0.4
650	29	3,549	-8.8	40	271	24.7
600	28	4,170	-11.8	36	269	26.2
550	28	4,825	-15.7		267	28.2
500	28	5,544	-20.2		268	30.3
450	38	6,315	-25.5	39	265	35.8
400	28	7,162	-31.5		276	38.1
350	28	8,093	-38.4		276	40.4
300	28	9,136	-45.8		274	45.5
250	28	10,331	-52.6		273	50.3
200	28	11,758	-55.9		273	52.3
175	28	12,603	-57.0		272	50.3
150	28	13,574	-58.2		275	45.7
125	28	14,719	-59.4		275	36.9
100	27	16,109	-59.4		274	31.9
80	27	17,506	-59.6		278	24.7
70	27	18,346	-59.6		275	21.2
60	27	19,307	-59.8		279	16.9
50	25	20,448	-59.3		279	14.4
40	24	21,851	-58.6		289	12.4
30	22	23,662	-57.4		290	10.[illegible]
25	20	24,813	-56.8		293	11.3
20	19	26,229	-55.7		286	14.[illegible]
15	11	28,066	-54.8			
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GREENSBORO, N. C. (988 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	273	7.3	82	353	1.4
1,000	30	170				
950	30	593	8.8	63	314	4.3
900	30	1,041	7.4	62	302	6.8
850	30	1,512	6.8	56	286	9.7
800	30	2,009	5.1	55	278	13.6
750	30	2,534	3.0	49	274	16.5
700	30	3,092	.3	44	279	19.2
650	30	3,680	-2.6	39	279	21.6
600	29	4,314	-6.3	39	278	24.7
550	29	4,985	-10.4		277	28.8
500	29	5,718	-15.0		279	31.3
450	29	6,500	-20.6		279	36.1
400	29	7,370	-27.0		278	38.1
350	29	8,319	-33.9		280	45.1
300	29	9,383	-41.7		281	51.3
250	29	10,597	-49.8		283	55.6
200	29	12,032	-56.9		282	63.1
175	29	12,873	-60.0		282	61.2
150	29	13,829	-63.0		283	55.4
125	29	14,945	-65.4		282	43.5
100	29	16,300	-66.9		275	28.0
80	29	17,653	-65.2		277	23.7
70	29	18,474	-64.2		278	19.4
60	29	19,415	-62.5		275	15.2
50	28	20,549	-60.6		287	13.0
40	27	21,945	-58.6		283	8.9
30	26	23,763	-56.3		286	14.2
25	22	24,913	-54.8		288	17.7
20	19	26,327	-53.8		284	23.3
15	15	28,187	-52.1		272	27.4
10	10	30,816	-48.4			

HILO, HAWAII (1015 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	11	20.6	89	244	2.3
1,000	30	140	21.5	83	339	.6
950	30	582	19.1	83	55	6.0
900	30	1,049	16.0	85	78	8.4
850	30	1,534	13.2	85	77	7.2
800	30	2,043	10.3	87	83	7.0
750	30	2,580	8.0	72	90	7.4
700	30	3,147	5.6	53	94	4.7
650	30	3,747	3.2	35	124	2.7
600	29	4,396	-.3		153	1.4
550	29	5,083	-4.3		278	1.9
500	29	5,833	-8.9		295	5.6
450	29	6,637	-14.2		275	7.0
400	29	7,526	-20.2		262	11.5
350	29	8,501	-27.3		255	16.3
300	29	9,592	-35.7		255	20.8
250	29	10,833	-45.5		261	30.1
200	29	12,287	-55.9		263	30.5
175	29	13,126	-61.2		271	29.1
150	29	14,071	-66.3		280	25.1
125	29	15,163	-70.6		289	20.0
100	28	16,475	-74.1		299	12.0
80	25	17,778	-72.1		336	3.7
70	24	18,567	-70.4		30	3.3
60	23	19,492	-66.5		21	1.0
50	23	20,606	-62.3		81	2.1
40	23	22,000	-57.8		212	1.2
30	23	23,836	-53.6		9	1.4
25	22	25,014	-51.8		67	4.5
20	20	26,466	-49.4		60	6.8
15	20	28,361	-47.3		85	9.9
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INTERNAT. FALLS, MINN. (972 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	360	-4.5	80	241	2.3
1,000	30	133				
950	30	538	-4.5	79	246	5.8
900	30	964	-4.2	75	263	10.1
850	30	1,414	-4.0	61	276	13.1
800	30	1,892	-5.1	51	283	16.3
750	30	2,394	-6.9	51	280	17.5
700	30	2,934	-8.9	50	279	20.0
650	30	3,499	-11.6	45	281	22.2
600	30	4,115	-14.8	47	281	25.5
550	30	4,764	-18.3	46	280	27.8
500	30	5,475	-22.5	46	281	31.1
450	30	6,233	-27.8	45	280	33.6
400	30	7,078	-33.8	45	276	37.7
350	30	8,003	-40.0		276	42.7
300	30	9,040	-46.4		278	45.1
250	30	10,234	-52.6		281	44.7
200	30	11,661	-55.6		278	44.1
175	30	12,512	-55.2		271	40.0
150	30	13,496	-55.3		272	36.1
125	30	14,656	-56.3		273	33.0
100	30	16,070	-57.0		270	26.8
80	30	17,483	-57.2		273	21.2
70	29	18,332	-57.3		275	19.0
60	28	19,305	-57.5		276	13.8
50	28	20,457	-57.5		287	11.1
40	26	21,865	-57.0		283	10.1
30	20	23,696	-56.2		292	9.5
25	17	24,864	-55.6		289	9.3
20	13	26,294	-56.1		2	8.7
15	7	28,188	-55.4			
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JACKASS FLATS, NEV. (892 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,102	4.2	33	13	4.3
1,000	30	163				
950	30	585				
900	30	1,033				
850	30	1,503	7.6	40	85	3.9
800	30	1,998	4.2	39	85	[illegible]
750	30	2,517	1.6	38	323	[illegible]
700	30	3,074	-.7	35	305	7.0
650	30	3,658	-4.0		300	11.3
600	30	4,290	-7.5	33	303	12.6
550	30	4,954	-11.2		304	[illegible]
500	30	5,687	-16.2		[illegible]	[illegible]
450	30	6,464	-21.4		302	[illegible]
400	30	7,331	-27.7		303	[illegible]
350	30	8,276	-35.2		298	32.8
300	30	9,334	-42.6		298	[illegible]
250	30	10,545	-50.0		293	[illegible]
200	30	[illegible]	-56.7		287	[illegible]
175	30	12,822	-59.2		286	42.6
150	29	13,779	-61.4		283	40.6
125	29	14,904	-63.6		280	[illegible]
100	28	16,272	-64.8		282	27.4
80	28	17,638	-64.0		287	21.1
70	28	18,461	-63.0		271	15.5
60	28	19,408	-62.3		261	11.7
50	28	20,537	-60.7		272	9.7
40	28	21,930	-59.6		278	[illegible]
30	26	23,741	-57.7		294	8.4
25	25	24,902	-56.0		300	7.0
20	20	26,338	-54.8		303	7.2
15	9	28,209	-53.2			
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JACKSON, MISS. (1007 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	94	9.1	86	4	1.2
1,000	30	155	9.6	78	34	1.7
950	30	581	10.1	69	110	.8
900	30	1,032	10.2	61	254	5.1
850	30	1,508	9.9	53	261	9.1
800	30	2,010	8.4	46	256	13.0
750	30	2,544	6.3	44	259	15.2
700	30	3,105	3.4	41	266	18.8
650	30	3,701	.3		256	18.7
600	30	4,340	-3.5		261	21.6
550	30	5,018	-7.5		262	26.2
500	30	5,758	-12.4		263	31.7
450	30	6,549	-18.0		264	33.2
400	30	7,426	-24.3		267	38.7
350	30	8,387	-30.9		265	45.5
300	30	9,464	-38.6		266	51.3
250	30	10,694	-47.5		269	59.7
200	30	12,137	-57.4		274	65.1
175	30	12,971	-62.5		274	63.9
150	30	13,914	-66.1		277	61.6
125	30	15,014	-68.3		279	50.7
100	28	16,344	-69.7		279	35.4
80	27	17,675	-68.3		283	24.3
70	27	18,499	-66.4		282	18.5
60	27	19,418	-63.8		277	13.8
50	27	20,542	-61.1		282	12.6
40	25	21,938	-59.0		284	12.0
30	22	23,756	-55.7		277	13.0
25	20	24,924	-53.9		269	15.5
20	16	26,357	-51.7			
15	8	28,240	-48.8			

JACKSONVILLE, FLA. (1018 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	5	14.0	92	334	3.9
1,000	30	160	16.7	78	9	3.1
950	30	595	15.3	72	108	2.1
900	30	1,054	13.3	61	219	1.9
850	30	1,534	11.6	52	258	3.9
800	30	2,040	9.7	43	268	5.2
750	30	2,568	6.9	41	270	7.6
700	30	3,137	4.2	39	276	9.3
650	30	3,730	1.1	37	276	13.2
600	30	4,376	-2.6	32	282	18.1
550	30	5,051	-6.7	34	286	20.8
500	30	5,800	-11.5	37	286	24.5
450	30	6,590	-16.8		285	25.8
400	29	7,471	-23.5	39	287	30.7
350	29	8,434	-30.5		289	37.9
300	29	9,511	-38.8		290	43.9
250	29	10,738	-48.2		293	54.2
200	29	12,174	-58.1		291	59.5
175	29	13,006	-62.6		292	56.7
150	29	13,948	-66.4		291	47.4
125	28	15,042	-69.5		288	40.0
100	27	16,364	-70.8		285	29.0
80	27	17,692	-68.6		286	18.8
70	26	18,501	-65.8		292	11.7
60	26	19,437	-63.1		294	6.2
50	25	20,569	-59.9		286	6.6
40	25	21,974	-56.2		295	8.7
30	25	23,818	-52.4		279	12.6
25	25	25,002	-50.5		271	17.5
20	18	26,479	-47.8		277	21.4
15	12	28,371	-44.8			

JOHNSTON IS., PACIFIC AREA (1013 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	3	25.5	78	78	14.8
1,000	29	120	24.6	79	73	17.3
950	29	561	21.3	80	74	20.4
900	29	1,036	17.9	79	81	19.6
850	29	1,523	14.6	78	80	17.1
800	29	2,034	12.1	68	82	13.2
750	29	2,569	10.2	51	82	11.5
700	29	3,146	7.[illegible]	38	83	8.5
650	29	3,747	4.8		77	7.8
600	29	4,402	1.0		70	7.4
550	29	5,089	-3.4		70	4.3
500	29	5,844	-8.2		78	3.3
450	29	6,650	-13.1		22	2.5
400	29	7,543	-19.2		336	4.9
350	29	8,524	-25.9		285	6.8
300	29	9,622	-33.8		288	13.0
250	29	10,877	-42.9		283	22.7
200	29	12,349	-53.5		288	25.1
175	29	13,195	-59.5		292	22.5
150	29	14,147	-65.7		298	19.8
125	28	15,237	-71.9		308	12.4
100	26	16,538	-76.8		345	7.2
80	22	17,824	-74.7		4	8.0
70	21	18,607	-70.9		35	6.2
60	19	19,532	-66.9		36	5.4
50	19	20,646	-62.5		63	3.7
40	18	22,038	-58.3		60	3.9
30	18	23,867	-53.4		61	5.1
25	17	25,051	-50.1		57	9.3
20	14	26,506	-47.9		88	8.9
15	11	28,425	-45.4			

KING SALMON, ALASKA (1001 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	15	-5.3	81	105	1.9
1,000	30	20			111	1.0
950	30	423	-4.4	67	157	4.9
900	30	849	-5.7	62	187	4.7
850	30	1,295	-7.8	60	202	7.2
800	30	1,765	-10.1	59	211	7.0
750	30	2,259	-12.6	57	214	9.5
700	30	2,784	-15.6	57	228	10.9
650	30	3,337	-18.8	53	240	11.9
600	30	3,932	-22.5	51	240	13.2
550	30	4,560	-26.7	51	251	14.6
500	30	5,247	-31.1	49	250	16.7
450	30	5,981	-36.2		252	20.2
400	30	6,795	-41.7		246	23.7
350	30	7,690	-46.9		249	26.8
300	30	8,700	-51.8		252	32.4
250	30	9,879	-52.9		252	35.8
200	29	11,320	-52.7		257	37.9
175	27	12,180	-52.3		257	36.1
150	26	13,169	-51.6		256	35.8
125	25	14,350	-51.1		254	32.4
100	24	15,799	-51.6		254	33.6
80	23	17,235	-51.9		255	33.6
70	23	18,100	-52.3		252	33.4
60	22	19,115	-52.4		251	31.1
50	22	20,292	-53.5		250	29.5
40	20	21,727	-53.9		248	28.6
30	19	23,591	-52.8		251	22.2
25	16	24,843	-51.7		228	18.8
20	11	26,417	-49.2			
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KOTZEBUE, ALASKA (1005 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	5	-13.8	77	96	13.4
1,000	30	44			106	11.1
950	30	437	-11.6	71	121	9.3
900	30	850	-12.6	71	151	6.4
850	30	1,284	-14.2	69	196	3.9
800	30	1,743	-16.0	66	216	6.0
750	30	2,223	-18.5	64	230	6.6
700	30	2,738	-21.4	61	239	9.1
650	30	3,278	-24.3	52	238	10.9
600	30	3,860	-27.8	50	234	12.2
550	30	4,478	-31.5	49	234	15.7
500	30	5,148	-36.0	45	235	16.5
450	30	5,872	-40.9		240	18.1
400	30	6,665	-46.2		244	21.4
350	30	7,542	-51.3		242	23.9
300	30	8,531	-56.0		245	24.5
250	30	9,687	-56.1		239	21.2
200	30	11,111	-54.3		244	23.7
175	30	11,968	-53.7		243	23.1
150	29	12,955	-53.5		242	25.8
125	29	14,128	-53.3		244	27.2
100	27	15,554	-54.3		246	28.4
80	27	16,981	-54.9		246	31.9
70	26	17,815	-55.9		246	31.9
60	25	18,794	-56.2		247	32.4
50	22	19,985	-55.8		242	33.0
40	18	21,459	-54.0		237	34.6
30	14	23,439	-50.7		229	38.7
25	14	24,623	-51.7		234	40.4
20	10	26,206	-50.0			
15						

LAKE CHARLES, LA. (1018 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	29	5	12.3	87	45	3.3
1,000	29	151	13.1	77	61	6.4
950	29	583	12.4	69	65	4.3
900	29	1,037	12.6	62	288	4.1
850	29	1,518	11.7	53	270	8.5
800	29	2,024	9.9	47	267	11.1
750	29	2,560	7.6	43	262	13.6
700	29	3,125	5.1	39	261	15.3
650	29	3,729	2.3	35	261	18.7
600	29	4,371	-1.4		257	22.5
550	29	5,056	-5.7		258	26.0
500	29	5,800	-10.8		262	29.5
450	29	6,604	-16.3		266	34.2
400	29	7,481	-22.3		267	42.2
350	28	8,445	-29.3		265	46.8
300	28	9,528	-37.3		265	53.0
250	28	10,764	-46.5		267	63.3
200	28	12,209	-57.2		264	68.2
175	28	13,043	-62.6		267	67.0
150	28	13,984	-66.7		268	63.5
125	28	15,079	-69.4		270	51.7
100	27	16,400	-71.4		268	39.2
80	26	17,722	-70.4		274	24.1
70	26	18,533	-67.9		281	15.0
60	26	19,457	-64.0		284	10.9
50	26	20,583	-61.3		286	8.4
40	26	21,977	-58.9		284	8.5
30	25	23,799	-55.2		279	12.8
25	23	24,973	-53.0		281	16.9
20	22	26,421	-50.2		270	23.7
15	18	28,309	-46.2		264	32.6
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LANDER, WYO. (828 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	1,696	-6.9	72	265	3.3
1,000	30	194				
950	30	604				
900	30	1,033				
850	30	1,488				
800	30	1,965	-2.0	55	255	2.5
750	30	2,479	-2.5	47	266	4.3
700	30	3,025	-4.8	44	285	9.9
650	30	3,600	-7.6	45	282	12.2
600	30	4,224	-11.3	43	291	14.8
550	30	4,881	-15.3	42	281	19.4
500	30	5,602	-20.1	41	285	20.2
450	30	6,367	-25.7	37	289	22.0
400	30	7,220	-31.9		290	24.9
350	30	8,151	-38.4		287	28.4
300	30	9,193	-46.0		293	32.3
250	30	10,388	-52.8		287	35.4
200	30	11,813	-56.9		283	40.4
175	30	12,658	-57.8		278	41.4
150	30	13,628	-58.9		277	40.4
125	30	14,769	-60.4		275	35.2
100	30	16,157	-60.8		271	27.6
80	30	17,542	-61.2		273	21.0
70	30	18,376	-60.7		267	18.7
60	29	19,331	-60.4		279	14.8
50	29	20,468	-59.7		277	14.0
40	27	21,875	-58.3		295	8.5
30	23	23,697	-57.0		297	6.4
25	18	24,875	-56.0		309	6.4
20	9	26,287	-54.0			
15						
10						

LAS VEGAS, NEV. (941 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	660	6.2	53	252	2.9
1,000	30	155				
950	30	579				
900	30	1,028	9.0	39	346	1.7
850	30	1,499	6.5	39	349	4.5
800	30	1,994	3.9	40	328	6.2
750	30	2,513	1.3	37	318	6.4
700	30	3,068	-.8	34	307	7.0
650	30	3,652	-4.0	32	299	10.7
600	30	4,284	-7.6	30	298	12.6
550	30	4,948	-11.7		303	16.3
500	30	5,679	-16.6		299	21.0
450	30	6,453	-21.9		294	25.5
400	30	7,320	-28.4		303	31.7
350	30	8,264	-34.9		296	34.2
300	30	9,323	-42.7		294	37.3
250	30	10,533	-50.1		288	41.8
200	30	11,969	-56.6		281	47.8
175	30	12,809	-59.7		276	45.5
150	29	13,767	-61.8		277	40.4
125	29	14,889	-64.1		279	35.4
100	29	16,249	-65.7		271	26.4
80	26	17,604	-64.4		267	20.4
70	26	18,427	-63.5		264	14.6
60	25	19,371	-62.0		259	10.1
50	25	20,502	-60.7		262	8.7
40	24	21,888	-58.7		268	8.0
30	20	23,716	-55.9		256	10.9
25	16	24,880	-54.4		256	16.1
20	9	26,300	-51.7			
15						
10						

LIHUE, HAWAII (1013 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	36	22.3	82	20	9.3
1,000	30	149	21.7	81	38	11.5
950	30	591	18.3	82	61	14.6
900	30	1,054	14.9	84	66	15.7
850	30	1,537	11.9	83	67	15.9
800	30	2,043	9.5	71	69	14.2
750	30	2,577	7.6	44	73	12.4
700	30	3,144	6.0	30	70	9.5
650	30	3,744	3.2		56	7.0
600	30	4,392	-.8		51	5.4
550	30	5,076	-5.2		31	5.6
500	30	5,824	-9.7		15	3.5
450	30	6,626	-15.0		341	2.9
400	30	7,511	-21.3		333	6.0
350	30	8,483	-28.3		325	8.2
300	30	9,570	-36.3		290	11.1
250	30	10,811	-45.4		280	16.5
200	30	12,268	-55.2		289	19.4
175	30	13,110	-60.1		297	[illegible]
150	30	14,061	-64.9		300	16.5
125	30	15,161	-69.3		306	15.9
100	29	16,480	-72.9		318	11.7
80	29	17,789	-71.9		349	6.2
70	29	18,579	-69.2		36	6.8
60	29	19,506	-66.2		54	6.4
50	29	20,622	-62.3		69	6.4
40	29	22,016	-57.9		91	3.3
30	28	23,855	-52.9		331	1.0
25	27	25,037	-51.4		356	2.7
20	25	26,496	-49.2		359	4.1
15	21	28,390	-46.5		272	3.3
10	8	31,120	-41.3			

LITTLE ROCK, ARK. (1011 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind	
					Direction	Speed
SURFACE	30	79	7.2	86	2	[illegible]
1,000	30	165	7.1	75	29	4.3
950	30	583	7.8	[illegible]	88	[illegible]
900	30	1,034	[illegible]	60	271	3.3
850	30	1,504	[illegible]	52	[illegible]	8.9
800	30	2,002	[illegible]	45	[illegible]	[illegible]
750	30	2,529	3.7	44	[illegible]	16.9
700	30	3,087	1.3	42	[illegible]	[illegible]
650	30	3,673	-1.3		[illegible]	23.5
600	30	4,315	-5.0		264	27.4
550	30	4,983	-9.2		264	[illegible]
500	30	5,726	-13.9		262	36.1
450	30	6,511	-19.2		264	37.1
400	30	7,385	-25.4		[illegible]	[illegible]
350	30	8,341	-32.3		[illegible]	[illegible]
300	30	9,413	-39.6		264	[illegible]
250	30	10,639	-47.7		270	[illegible]
200	30	12,084	-56.8		270	[illegible]
175	30	12,922	-60.9		270	[illegible]
150	30	13,873	-63.9		268	[illegible]
125	30	[illegible]	-66.2		271	[illegible]
100	30	16,334	[illegible]		273	[illegible]
80	29	17,683	-66.2		274	[illegible]
70	26	18,497	[illegible]		281	[illegible]
60	25	19,433	[illegible]		281	12.6
50	24	20,558	[illegible]		279	9.7
40	23	21,955	-59.1		273	8.7
30	19	23,761	[illegible]		269	[illegible]
25	19	24,922	-54.7		270	[illegible]
20	17	26,346	-53.3		[illegible]	[illegible]
15	13	28,205	-51.1		262	21.2
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

NOVEMBER 1961

Standard pressure surface (mb.)	McGRATH, ALASKA (995 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	MEDFORD, OREG. (972 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	103	-16.8	66		0.0	29	401	1.5	89	254	0.6
1,000	30	60					29	167				
950	30	460	-12.3	67	129	4.3	29	586	4.4	75	257	1.9
900	30	865	-10.3	68	168	8.7	29	1,025	5.2	60	188	4.1
850	30	1,305	-10.8	63	194	9.7	29	1,491	4.1	55	194	7.2
800	30	1,770	-13.0	6[illegible]	202	8.5	29	1,983	2.2	53	226	8.5
750	30	2,271	-15.4	57	204	9.1	29	2,499	- .3	52	249	11.3
700	30	2,778	-18.0	52	221	11.1	29	3,051	- 3.1	49	264	15.3
650	30	3,331	-21.2	48	233	11.5	29	3,630	- 6.6	46	263	18.5
600	30	3,915	-24.9	48	230	12.6	29	4,256	- 9.7	43	267	20.8
550	30	4,546	-29.1	47	233	12.2	29	4,920	-13.5	49	273	23.7
500	30	5,217	-33.9	45	223	14.8	29	5,642	-18.3	50	276	25.6
450	30	5,951	-38.8		224	18.8	29	6,414	-23.5	48	278	29.7
400	29	6,748	-44.1		230	20.2	29	7,273	-29.7	47	276	31.7
350	29	7,632	-49.7		234	22.0	29	8,212	-36.9		278	35.2
300	29	8,631	-51.1		237	24.9	29	9,261	-44.8		286	35.9
250	29	9,789	-55.0		239	27.2	29	10,460	-52.5		283	39.2
200	29	11,229	-52.0		241	29.3	29	11,884	-57.8		286	38.9
175	29	12,092	-52.4		247	29.5	29	12,724	-59.1		285	39.1
150	28	13,080	-51.8		245	29.5	29	13,689	-60.0		283	33.4
125	28	14,261	-51.6		247	30.5	29	14,823	-61.7		278	29.3
100	28	15,709	-51.9		248	34.0	29	16,202	-62.6		269	27.4
80	28	17,151	-52.8		249	35.8	29	17,583	-61.6		277	19.6
70	28	18,029	-53.2		249	35.6	27	18,429	-60.7		273	13.8
60	27	19,011	-53.5		246	31.9	26	19,393	-60.5		269	12.2
50	24	20,201	-53.5		240	32.4	25	20,531	-59.7		267	9.5
40	20	21,724	-51.0		233	29.1	22	21,961	-58.7		298	3.9
30	17	23,666	-50.2		240	22.5	21	23,784	-57.1		303	2.1
25	15	24,875	-50.4		237	18.1	20	24,955	-55.7		31	2.3
20	11	26,387	-49.9				14	26,403	-53.7		90	4.7
15	5	28,227	-50.4				6	28,305	-52.0			
10												

Standard pressure surface (mb.)	MIAMI, FLA. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	MIDLAND, TEXAS (918 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	4	19.7	83	17	2.5	30	874	4.8	85	7	1.6
1,000	30	145	20.3	77	38	4.5	30	166				
950	30	588	18.1	78	74	6.6	30	587				
900	30	1,049	15.0	78	89	4.7	30	1,033	6.4	69	341	.6
850	30	1,532	12.4	70	66	2.5	30	1,503	7.1	55	267	4.9
800	30	2,040	11.1	48	9	2.9	30	2,002	7.0	47	257	11.7
750	30	2,580	9.3	33	348	4.9	30	2,530	5.3	41	256	17.5
700	30	3,147	6.7	32	337	5.2	30	3,092	2.6	39	250	20.0
650	30	3,746	3.5	31	330	6.0	30	3,686	- .7	39	250	24.9
600	30	4,399	- .4	31	313	8.2	30	4,323	- 4.5		252	26.6
550	30	5,083	- 4.7	29	313	11.3	30	5,001	- 8.[illegible]		250	34.6
500	30	5,834	- 9.4	28	305	14.4	30	5,735	-13.8		250	36.9
450	30	6,636	-15.2		295	17.9	30	6,528	-18.7		251	42.6
400	30	7,522	-21.7		299	20.8	30	7,397	-24.7		253	48.8
350	30	8,492	-28.6		298	25.3	30	8,355	-31.4		254	54.4
300	30	9,577	-39.0		302	28.8	30	9,429	-39.0		256	62.6
250	30	10,813	-46.4		305	36.9	30	10,657	-47.4		256	67.2
200	29	12,258	-57.3		309	43.1	30	12,101	-56.8		258	71.3
175	29	13,092	-63.0		306	42.6	29	12,944	-60.9		261	67.0
150	29	14,029	-67.7		302	42.7	29	13,893	-64.5		261	60.0
125	29	15,116	-71.8		302	35.2	29	15,001	-66.6		264	51.9
100	29	16,423	-73.7		297	26.4	28	16,343	-69.3		263	40.4
80	29	17,731	-71.7		288	16.3	27	17,674	-68.5		268	26.0
70	29	18,531	-67.8		288	11.3	27	18,486	-65.8		273	18.5
60	29	19,460	-64.2		280	7.6	27	19,417	-63.9		275	11.9
50	29	20,585	-60.6		292	7.6	26	20,540	-61.9		272	8.2
40	28	21,986	-56.5		290	8.5	23	21,927	-59.1		284	7.2
30	24	23,836	-51.8		280	9.1	20	23,735	-56.6		270	14.8
25	19	25,029	-49.5		259	9.7	15	24,905	-54.7		260	16.5
20	8	26,493	-46.3				12	26,339	-53.4		258	20.2
15							7	28,204	-50.1			
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Standard pressure surface (mb.)	MONTGOMERY, ALA. (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	NANTUCKET, MASS. (1015 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	61	9.6	86	7	0.8	30	14	6.3	81	324	7.4
1,000	30	162	10.8	76	39	2.5	30	134	7.1	77	309	6.8
950	30	595	12.2	62	102	3.3	30	550	4.9	74	297	11.1
900	30	1,045	11.8	53	211	4.3	30	995	3.3	67	294	11.5
850	30	1,524	10.9	45	233	7.6	30	1,458	2.2	61	290	13.0
800	30	2,028	9.2	37	256	11.1	30	1,947	1.0	50	283	14.6
750	30	2,563	6.8		262	15.0	30	2,463	- .7	45	279	16.3
700	30	3,125	3.8		263	17.7	30	3,013	- 3.3	43	275	17.5
650	30	3,721	.4		257	19.2	30	3,591	- 5.9	38	273	22.0
600	30	4,361	- 3.4	37	264	21.8	30	4,221	- 9.1		269	23.3
550	30	5,040	- 7.4		269	24.7	30	4,882	-13.3	36	270	22.9
500	30	5,781	-12.4		268	27.6	30	5,608	-18.0	34	269	23.5
450	30	6,578	-17.4		270	32.4	30	6,379	-23.4		265	28.2
400	30	7,453	-23.6		271	37.9	30	7,241	-29.3		268	28.2
350	30	8,416	-30.5		273	45.9	30	8,182	-36.0		270	30.7
300	30	9,493	-38.8		272	52.3	30	9,237	-43.2		273	33.2
250	30	10,719	-48.0		274	61.8	30	10,446	-50.4		279	36.7
200	30	12,156	-58.0		279	71.5	30	11,883	-55.9		284	34.6
175	30	12,989	-62.3		280	71.1	30	12,730	-57.8		274	36.1
150	30	13,933	-65.7		277	61.2	30	13,698	-59.7		276	35.6
125	29	15,029	-67.8		278	47.0	30	14,835	-61.1		274	29.5
100	28	16,358	-70.3		276	35.8	29	16,217	-61.6		267	24.3
80	26	17,692	-68.4		277	23.7	29	17,599	-61.3		270	17.7
70	26	18,505	-66.0		280	17.1	29	18,431	-60.5		270	14.2
60	26	19,438	-63.3		272	10.1	29	19,389	-60.2		267	11.1
50	26	20,565	-60.4		286	10.7	29	20,527	-59.6		275	9.7
40	26	21,963	-58.0		283	9.5	28	21,932	-58.1		288	10.5
30	26	23,789	-54.[illegible]		277	12.0	23	23,748	-57.1		293	10.9
25	24	24,958	-53.6		278	15.7	22	24,901	-56.1		284	13.0
20	23	26,394	-51.2		278	22.3	21	26,329	-55.1		284	17.1
15	19	28,275	-48.4		277	33.4	21	28,158	-52.1		285	22.7
10	6	30,940	-46.2				7	30,776	-50.2			

Standard pressure surface (mb.)	NASHVILLE, TENN. (999 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	N. Y. INT. AP, IDLEWILD (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	177	7.1	81	311	0.8	30	5	6.2	69	320	6.0
1,000	30	166			346	3.7	30	152	6.3	66	310	8.0
950	30	586	7.2	69	249	2.9	30	573	4.4	68	299	9.3
900	30	1,034	6.1	61	238	6.0	30	1,011	3.0	63	296	10.9
850	30	1,502	6.1	55	251	10.9	30	1,474	1.9	56	297	15.0
800	30	1,998	4.7	54	252	14.4	30	1,961	.5	52	293	17.5
750	30	2,523	3.5	44	256	18.8	30	2,477	- 1.6	51	286	20.6
700	30	3,081	.7	43	259	19.2	30	3,025	- 3.8	44	281	23.3
650	30	3,670	- 2.5	43	260	24.9	30	3,607	- 6.5	41	279	25.3
600	30	4,305	- 5.9	38	259	29.5	30	4,230	- 9.6		278	29.1
550	30	4,977	-10.0		261	32.6	30	4,894	-13.2		277	29.7
500	30	5,711	-14.5		265	36.1	30	5,617	-17.6		277	31.9
450	30	6,499	-19.9		264	39.4	30	6,391	-22.9		278	35.9
400	30	7,364	-26.1		267	44.3	30	7,250	-29.2		278	35.2
350	30	8,317	-33.1		265	50.3	30	8,191	-36.1		275	38.3
300	30	9,383	-41.2		266	61.2	30	9,245	-43.[illegible]		280	42.0
250	30	10,599	-49.5		267	65.3	30	10,453	-50.3		282	42.6
200	30	12,036	-57.4		271	65.7	30	11,891	-55.4		281	46.2
175	30	12,873	-60.9		274	64.5	30	12,739	-57.5		281	46.4
150	30	13,826	-63.5		275	58.3	29	13,705	-59.6		281	43.3
125	30	14,940	-65.5		273	49.0	29	14,842	-60.9		274	35.2
100	30	16,294	-66.4		276	36.5	29	16,225	-62.1		279	29.1
80	26	17,657	-65.5		279	24.1	29	17,604	-61.4		279	22.3
70	28	18,481	-64.4		292	19.4	29	18,444	-60.5		278	18.5
60	23	19,414	-62.8		293	14.4	29	19,394	-60.1		275	14.2
50	23	20,541	-61.2		293	12.0	29	20,532	-59.7		272	10.9
40	23	21,932	-59.1		297	11.3	28	21,927	-58.1		280	9.7
30	23	23,745	-56.9		303	11.7	27	23,745	-57.1		287	11.1
25	22	24,900	-55.1		298	12.8	25	24,906	-55.7		288	13.8
20	21	26,329	-53.8		287	17.9	22	26,333	-54.4		290	15.9
15	12	28,195	-50.9				17	28,173	-52.4		281	15.5
10							5	30,790	-49.5			

Standard pressure surface (mb.)	NOME, ALASKA (1003 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	NORFOLK VA. (1019 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	7	- 8.4	74	62	7.8	30	9	9.9	78	339	2.7
1,000	30	26			80	6.4	30	165	10.6	70	309	2.7
950	30	426	- 8.7	70	105	8.5	30	587	8.[illegible]	65	308	7.2
900	30	843	-10.1	70	131	6.2	30	1,037	6.5	61	309	8.9
850	30	1,282	-11.9	68	162	4.3	30	1,506	5.2	53	294	12.8
800	30	1,745	-13.9	63	200	4.1	30	2,000	3.9	46	288	15.2
750	30	2,231	-16.5	56	209	6.2	30	2,525	1.7	41	288	19.4
700	30	2,748	-19.3	54	229	7.0	30	3,077	- .4	32	286	22.7
650	30	3,292	-22.3	53	236	8.4	30	3,664	- 3.5		285	26.4
600	30	3,880	-26.0	54	242	11.3	30	4,296	- 6.6		279	28.4
550	30	4,498	-30.1	52	235	11.7	30	4,967	-10.9		277	30.9
500	30	5,177	-34.5	52	233	13.2	30	5,697	-15.5		278	34.6
450	30	5,896	-39.6		237	15.3	30	6,477	-21.2		280	38.9
400	30	6,701	-45.5		244	16.9	30	7,342	-27.7		278	39.8
350	30	7,580	-50.9		248	17.7	30	8,289	-35.0		279	42.6
300	30	8,572	-55.5		241	15.9	30	9,347	-43.0		279	50.3
250	30	9,733	-55.2		249	20.0	30	10,557	-50.5		279	55.4
200	30	11,163	-53.4		247	22.9	30	11,990	-56.6		285	59.3
175	30	12,022	-53.4		249	23.5	30	12,832	-59.6		281	53.6
150	30	13,016	-52.4		245	27.0	30	13,790	-62.7		280	47.2
125	30	14,194	-52.6		245	26.2	30	14,907	-65.0		279	39.4
100	30	15,634	-52.9		247	26.6	30	16,269	-65.1		278	28.6
80	30	17,082	-53.1		245	29.5	30	17,632	-63.9		276	19.0
70	27	17,946	-53.5		245	29.9	30	18,460	-62.5		277	14.0
60	27	18,933	-54.4		246	31.1	30	19,409	-60.7		278	10.5
50	26	20,121	-54.4		238	31.7	30	20,546	-59.8		296	8.0
40	24	21,574	-54.6		239	33.8	30	21,947	-57.7		286	8.0
30	18	23,554	-50.6		236	30.3	29	23,778	-55.2		281	11.5
25	18	24,740	-51.4		237	29.5	28	24,949	-53.2		276	14.6
20	14	26,325	-49.0		244	20.8	27	26,388	-51.3		267	19.4
15	5	28,217	-49.3				23	28,269	-48.5		264	31.9
10												

Standard pressure surface (mb.)	NORTH PLATTE, NEBR. (918 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	OAKLAND, CALIF. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	848	- 3.4	82	326	2.7	29	6	9.1	73	115	2.1
1,000	30	164					29	143	10.7	65	129	2.5
950	30	573					29	572	10.3	56	111	1.4
900	30	1,004	- .7	74	308	4.7	29	1,021	9.8	48	216	1.0
850	30	1,464	1.7	54	302	9.5	29	1,495	8.1	46	243	3.7
800	30	1,952	.3	50	301	13.2	29	1,992	5.9	38	268	6.8
750	30	2,466	- 1.5	43	300	14.4	29	2,517	3.6		270	9.5
700	30	3,016	- 3.5	40	293	13.2	29	3,076	.8		277	11.5
650	30	3,593	- 6.6	38	275	15.5	29	3,663	- 2.7		285	14.0
600	30	4,220	-10.2	39	274	19.6	29	4,298	- 6.7	32	285	16.9
550	30	4,880	-14.5	38	271	21.8	29	4,967	-10.4		290	16.9
500	30	5,602	-19.2		275	23.7	29	5,700	-15.2		277	22.2
450	30	6,371	-24.4		283	29.0	29	6,479	-21.0	34	282	25.6
400	30	7,228	-30.7		268	29.7	29	7,346	-27.2	35	284	29.5
350	30	8,163	-37.6		272	32.1	29	8,294	-34.4		285	33.8
300	30	9,210	-44.9		279	34.0	29	9,354	-42.9		285	37.5
250	30	10,409	-51.6		279	37.5	28	10,574	-51.4		287	43.3
200	30	11,841	-56.4		273	40.8	28	12,002	-57.8		283	44.3
175	30	12,685	-57.7		270	41.6	28	12,839	-60.5		280	40.4
150	30	13,655	-58.7		267	43.1	28	13,795	-62.4		278	38.1
125	30	14,795	-60.1		276	34.4	27	14,924	-64.4		281	33.6
100	29	16,184	-61.7		274	29.7	27	16,285	-65.6		278	28.6
80	29	17,566	-61.2		275	22.2	24	17,626	-64.9		274	21.6
70	29	18,397	-60.7		273	18.3	24	18,448	-63.5		273	19.0
60	29	19,354	-60.9		269	14.6	22	19,398	-61.9		270	15.3
50	28	20,491	-59.7		276	12.0	21	20,538	-61.0		276	10.3
40	27	21,896	-59.1		280	7.6	21	21,929	-59.5		261	8.4
30	24	23,709	-56.8		286	4.7	18	23,758	-57.5		280	2.7
25	24	24,864	-56.4		263	5.6	13	24,946	-55.3			
20	20	26,276	-54.9		270	10.3						
15	10	28,147	-52.2									
10												

Standard pressure surface (mb.)	OKLAHOMA CITY, OKLA. (973 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	OMAHA, NEBR. (970 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	392	5.2	81	19	1.0	30	403	0.4	84	244	1.7
1,000	30	165					30	152				
950	30	586	5.8	69		.0	30	566	.4	73	282	3.9
900	30	1,028	5.9	57	253	5.2	30	1,000	.9	64	283	8.4
850	30	1,496	5.9	53	255	9.3	30	1,460	.7	53	288	11.3
800	30	1,992	4.8	51	259	13.2	30	1,946	.1	46	285	13.8
750	30	2,516	2.8	46	261	18.7	30	2,458	- 2.0	47	283	16.5
700	30	3,073	.4	47	262	20.8	30	3,009	- 4.2	44	277	17.9
650	30	3,662	- 2.5	45	255	25.3	30	3,584	- 6.9	42	273	22.5
600	30	4,296	- 6.0	38	256	27.6	30	4,211	-10.4	39	273	24.3
550	30	4,966	-10.0	34	257	30.5	30	4,872	-14.1	36	268	26.2
500	30	5,702	-14.6		256	35.8	30	5,595	-19.1		266	27.4
450	30	6,485	-20.2		256	40.8	30	6,366	-25.0		265	30.7
400	30	7,354	-26.3		255	46.6	30	7,217	-31.2		267	34.0
350	30	8,306	-33.2		258	54.0	30	8,149	-38.2		268	37.5
300	30	9,373	-40.4		260	63.3	30	9,193	-45.1		265	43.1
250	30	10,595	-48.5		262	67.6	29	10,394	-50.9		263	50.7
200	30	12,036	-56.5		262	72.5	29	11,830	-55.7		262	55.0
175	30	12,879	-59.7		263	69.9	28	12,671	-57.8		265	52.1
150	29	13,836	-62.9		264	60.8	28	13,639	-59.4		266	46.6
125	28	14,947	-65.1		266	51.1	28	14,775	-60.9		269	37.5
100	27	16,310	-66.5		270	41.0	28	16,157	-62.1		266	31.5
80	22	17,664	-64.6		276	26.4	28	17,537	-62.0		270	26.0
70	22	18,483	-64.1		276	21.0	27	18,363	-61.7		271	21.4
60	19	19,436	-62.3		276	15.3	27	19,313	-61.4		271	16.5
50	19	20,566	-60.4		278	11.5	26	20,447	-60.8		280	15.2
40	18	21,966	-58.9		286	11.7	24	21,843	-59.3		276	12.2
30	17	23,776	-56.6		286	13.8	23	23,647	-58.2		269	13.0
25	16	24,938	-55.1		278	14.8	19	24,795	-56.6		280	12.8
20	13	26,373	-53.8		272	20.2	13	26,229	-55.8		270	17.3
15	7	28,225	-52.2									
10												

Standard pressure surface (mb.)	PEORIA, ILL. (995 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	200	1.9	88	223	1.7
1,000	30	160			319	3.7
950	30	575	2.7	71	260	7.2
900	30	1,014	2.6	65	262	10.7
850	30	1,475	.9	57	262	13.6
800	30	1,962	.1	50	261	14.6
750	30	2,474	- 1.3	46	260	18.7
700	30	3,027	- 3.5	44	263	22.0
650	30	3,605	- 6.3	37	265	25.5
600	30	4,232	- 9.4	34	267	28.6
550	30	4,892	-13.4	30	261	32.4
500	30	5,620	-17.7		260	34.4
450	30	6,392	-23.1		263	37.1
400	30	7,253	-29.3		267	42.4
350	30	8,194	-35.9		266	46.6
300	30	9,248	-43.4		266	54.6
250	30	10,455	-50.5		263	58.7
200	30	11,888	-56.4		266	62.6
175	30	12,732	-58.[illegible]		267	62.0
150	30	13,698	-60.3		273	54.6
125	30	14,830	-61.7		272	44.3
100	30	16,209	-62.1		272	35.2
80	30	17,592	-61.5		274	26.0
70	30	18,424	-61.3		275	21.0
60	30	19,379	-61.0		281	16.7
50	30	20,515	-60.4		274	12.2
40	29	21,913	-58.9		285	13.0
30	28	23,728	-57.2		291	11.7
25	27	24,877	-56.4		286	14.4
20	24	26,299	-55.4		295	15.3
15	16	28,145	-53.5		297	14.8
10	5	30,780	-50.7			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	PITTSBURGH, PA. (978 MB.)						POINT ARGUELLO, CALIF. (1004 MB.)						PORTLAND, ME. (1014 MB.)						RAPID CITY, S. DAK. (904 MB.)						ST. CLOUD, MINN. (979 MB.)					
	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	353	3.5	82	269	3.1	30	113	8.4	80	105	1.9	30	20	2.4	86	310	4.1	30	966	-2.3	71	331	5.8	30	316	[illegible]	[illegible]	279	1.4
1,000	30	171					30	144	9.2	75	44	3.1	30	132	3.4	78	298	3.7	30	[illegible]					30	145				
950	30	587	3.9	75	261	8.0	30	579	12.4	52	17	5.6	30	545	2.3	72	293	8.0	30	561					30	557	[illegible]	78	280	[illegible]
900	30	1,027	2.6	73	270	13.0	30	1,026	11.2	41	348	3.9	30	983	1.1	66	293	9.9	30	998			320	4.7	30	984	[illegible]	65	287	[illegible]
850	30	1,488	.9	71	271	15.9	30	1,502	9.6	36	311	4.7	30	1,443	.4	62	283	9.3	30	1,457	.7	47	301	13.6	30	1,440	[illegible]	[illegible]	282	[illegible]
800	30	1,973	-.9	66	266	17.5	30	2,003	7.5	33	317	6.4	30	1,929	-.9	56	277	9.9	30	1,942	-1.3	45	302	17.5	30	1,922	2.8	47	279	[illegible]
750	30	2,487	-2.1	55	274	23.3	30	2,536	4.8	29	313	9.3	30	2,440	-3.0	56	268	13.0	30	2,453	-3.0	43	300	18.5	30	2,430	-4.9	47	277	[illegible]
700	30	3,035	-4.3	49	276	27.2	30	3,092	2.3		307	10.3	30	2,987	-5.6	52	261	16.5	30	2,999	-5.3	41	292	18.7	30	2,973	-7.2	44	275	[illegible]
650	30	3,614	-6.9	46	278	30.5	30	3,685	-.9		299	13.0	30	3,560	-8.5	46	262	18.5	30	3,572	-8.1	39	292	20.2	30	3,543	-10.1	[illegible]	278	[illegible]
600	30	4,238	-10.1	43	275	32.3	30	4,322	-4.5		298	16.1	30	4,182	-11.5	43	265	20.8	30	4,195	-11.7	39	286	21.0	30	4,162	-13.0	42	279	[illegible]
550	30	4,900	-13.9	44	272	35.9	30	4,997	-8.7		301	19.2	30	4,837	-15.5	38	260	24.1	30	4,852	-16.0	40	280	21.8	30	4,816	-16.4	36	279	[illegible]
500	30	5,623	-18.1	42	274	40.2	30	5,734	-13.7		296	22.0	30	5,559	-20.1	36	263	27.4	30	5,567	-20.9	40	283	23.9	30	5,531	-21.1	34	280	[illegible]
450	30	6,397	-23.4	43	274	39.1	30	6,523	-19.5		294	23.3	30	6,326	-25.2		262	29.0	30	6,336	-25.8	34	278	26.0	30	6,295	-26.1	[illegible]	280	[illegible]
400	30	7,256	-29.4	44	271	39.2	30	7,391	-26.3		288	27.4	30	7,179	-31.1		257	30.3	30	7,181	-32.0		282	27.0	30	7,143	-32.1	36	271	[illegible]
350	30	8,196	-36.3		271	47.2	30	8,342	-33.6		287	31.5	30	8,114	-37.5		258	34.6	30	8,111	-39.0		284	27.0	30	8,073	-38.8		271	[illegible]
300	30	9,249	-43.9		267	53.0	30	9,405	-41.9		284	35.2	30	9,163	-44.3		264	35.9	30	9,151	-46.5		281	29.1	30	9,114	[illegible]		[illegible]	[illegible]
250	30	10,455	-50.9		271	56.9	30	10,614	-51.3		281	38.5	30	10,368	-50.7		269	41.2	30	10,343	-53.4		288	34.0	30	10,308	-53.1		[illegible]	[illegible]
200	29	11,885	-56.7		271	59.8	30	12,038	-58.5		277	40.0	30	11,807	-55.3		264	38.5	30	11,766	-56.9		280	39.2	30	11,733	-56.1		273	[illegible]
175	29	12,728	-58.9		272	60.0	30	12,872	-61.4		276	40.4	30	12,654	-56.8		265	41.4	30	12,610	-57.4		279	40.0	30	12,581	-56.5		271	42.0
150	29	13,691	-60.9		270	51.3	30	13,822	-63.4		274	37.3	30	13,628	-58.2		262	37.1	30	13,583	-58.1		274	38.7	30	13,557	-57.3		269	[illegible]
125	29	14,820	-62.6		271	44.5	30	14,937	-65.3		272	31.1	30	14,773	-59.4		258	28.4	24	14,738	-59.0		276	35.0	30	14,708	-58.6		271	[illegible]
100	29	16,197	-62.7		269	31.7	29	16,294	-66.9		279	22.0	30	16,167	-60.4		261	22.5	29	16,132	-60.6		273	28.0	30	16,108	-59.2		272	[illegible]
80	27	17,568	-62.0		271	25.8	26	17,655	-66.0		282	16.3	30	17,561	-59.6		269	15.2	29	17,520	-60.7		273	23.3	30	17,506	-59.0		273	[illegible]
70	27	18,401	-61.1		277	22.2	25	18,472	-64.3		278	13.0	29	18,399	-60.0		269	12.2	27	18,360	-60.1		275	19.8	29	18,344	-59.0		272	20.0
60	25	19,353	-60.4		283	15.5	25	19,412	-62.5		272	11.7	29	19,361	-59.1		269	11.3	27	19,316	-59.9		276	18.3	28	19,316	-58.9		274	18.1
50	25	20,491	-59.9		282	11.7	25	20,540	-61.2		262	7.4	28	20,506	-59.4		282	9.1	26	20,451	-59.8		275	13.4	25	20,461	-58.8		279	[illegible]
40	25	21,889	-58.5		286	11.9	24	21,938	-58.1		263	6.0	28	21,906	-58.5		291	7.4	26	21,846	-59.0		[illegible]	12.2	27	21,861	-58.2		[illegible]	[illegible]
30	24	23,708	-57.1		285	15.7	24	23,758	-56.0		275	8.9	27	23,712	-57.7		298	10.7	23	23,673	-57.8		296	9.9	26	23,677	-57.9		292	8.7
25	23	24,865	-56.3		282	13.8	24	24,922	-54.6		265	9.5	26	24,864	-56.9		295	11.3	23	24,824	-57.1		300	11.1	23	24,827	-57.2		290	[illegible]
20	22	26,287	-55.5		295	15.9	22	26,370	-52.3		270	12.0	20	26,276	-55.0		288	12.0	19	26,250	-55.8		351	8.9	17	26,270	-55.4		296	[illegible]
15	14	28,102	-54.1				19	28,246	-49.5		268	18.5	11	28,130	-52.4				12	28,161	-55.0									
10	5	30,726	-52.5				12	30,985	-44.2		267	23.7																		

Standard pressure surface (mb.)	ST. PAUL IS., ALASKA (998 MB.)						SALEM, OREG. (1010 MB.)						SALT LAKE CITY, UTAH (874 MB.)						SAN ANTONIO, TEXAS (990 MB.)						SAN DIEGO, CALIF. (1002 MB.)					
SURFACE	30	10	1.2	84	266	3.3	30	61	2.9	85	177	5.4	30	1,288	-0.4	76	169	5.8	30	243	11.4	83	359	5.1	30	124	10.5	76	19	[illegible]
1,000	30	-8			199	5.4	30	145	4.5	78	162	3.1	30	195					30	152					30	138			55	[illegible]
950	30	402	-1.5	78	268	5.4	30	565	5.0	71	193	6.6	30	610					30	581	11.5	74	45	2.3	30	567	12.5	56	51	[illegible]
900	30	832	-4.4	75	274	6.8	30	1,005	4.0	63	213	10.1	30	1,047					30	1,035	11.3	69	213	3.9	30	1,021	11.2	43	330	.6
850	30	1,280	-7.2	73	258	9.7	30	1,469	2.3	58	233	13.2	30	1,511	1.9	59	171	6.8	30	1,512	10.5	64	217	8.4	30	1,497	9.5	38	281	2.1
800	30	1,751	-10.2	69	260	10.9	30	1,957	.2	54	251	15.7	30	1,998	.2	51	188	6.0	30	2,018	9.6	56	222	11.7	30	1,997	7.3	31	292	6.8
750	30	2,241	-12.7	60	273	12.2	30	2,467	-2.1	51	262	18.5	30	2,514	-2.3	52	230	5.8	30	2,547	7.8	48	253	14.0	30	2,520	5.3	26	303	9.3
700	30	2,770	-15.6	54	273	13.6	30	3,018	-5.1	51	261	21.2	30	3,059	-5.3	53	275	8.2	30	3,119	5.2	41	241	14.4	30	3,087	2.7	26	297	10.7
650	30	3,319	-18.7	50	273	15.0	30	3,591	-8.4	48	262	23.7	30	3,636	-8.3	56	286	11.1	30	3,713	1.8	37	250	18.3	30	3,676	-.6	25	299	13.0
600	30	3,919	-22.4	50	266	16.7	30	4,214	-11.8	44	267	25.5	30	4,255	-11.8	53	283	12.8	30	4,363	-2.0		251	22.7	30	4,320	-4.3		298	16.1
550	30	4,543	-26.6	48	265	18.8	30	4,871	-15.7	47	267	26.8	30	4,915	-15.3	47	290	16.3	30	5,039	-6.7		252	27.0	30	4,989	-8.6		297	18.1
500	30	5,235	-31.1	47	265	21.2	30	5,590	-19.9	46	268	30.1	30	5,632	-19.1	43	295	22.3	30	5,788	-11.3		252	31.1	30	5,733	-13.6		[illegible]	23.5
450	30	5,964	-36.3		266	24.9	30	6,355	-25.0	44	272	32.4	30	6,404	-24.6	39	296	22.9	30	6,582	-16.4		259	33.2	30	6,513	-19.0		305	25.5
400	30	6,782	-42.2		255	28.0	30	7,211	-30.9	46	277	36.3	30	7,256	-30.6	39	293	26.6	30	7,468	-22.5		254	42.4	30	7,394	-25.7		298	27.8
350	30	7,673	-48.0		247	30.3	30	8,146	-37.9	43	280	41.6	30	8,192	-37.2		289	25.5	30	8,434	-29.6		256	49.2	30	8,349	-32.8		298	34.6
300	30	8,679	-52.6		236	30.5	30	9,191	-45.2		278	45.3	30	9,239	-44.9		290	28.2	30	9,515	-37.7		257	55.4	30	9,417	-40.8		296	37.3
250	30	9,853	-52.5		237	31.9	30	10,388	-52.8		283	48.6	30	10,439	-51.7		289	32.8	30	10,747	-47.0		260	59.5	30	10,636	-49.3		291	43.5
200	30	11,298	-51.9		248	35.8	30	11,811	-57.6		282	43.3	30	11,872	-55.4		291	37.7	30	12,190	-57.5		257	69.2	30	12,073	-57.5		281	46.8
175	30	12,162	-52.0		250	32.8	29	12,645	-59.1		280	41.0	30	12,720	-57.1		285	35.2	30	13,024	-62.8		254	69.6	30	12,910	-61.1		275	46.0
150	30	13,161	-51.6		247	35.2	29	13,614	-59.2		279	38.3	30	13,690	-59.3		281	36.1	28	13,967	-66.8		256	64.5	30	13,862	-63.8		273	[illegible]
125	29	14,334	-51.6		249	39.1	29	14,753	-60.6		277	33.2	27	14,833	-61.3		279	30.9	27	15,061	-69.9		258	54.8	30	14,974	-66.4		273	[illegible]
100	29	15,782	-51.8		246	32.8	29	16,140	-61.2		277	29.0	26	16,209	-61.5		276	24.5	27	16,381	-72.4		260	42.6	29	16,321	-67.8		272	30.5
80	28	17,234	-52.6		248	33.2	29	17,529	-60.1		275	20.0	25	17,594	-61.2		272	17.9	23	17,703	-71.6		261	28.0	29	17,663	-66.6		272	21.0
70	28	18,087	-53.1		250	35.0	29	18,367	-60.1		268	18.7	23	18,446	-60.6		279	14.8	23	18,505	-68.7		268	22.0	28	18,485	-64.9		269	[illegible]
60	27	19,090	-52.9		244	33.4	27	19,338	-59.3		270	13.8	22	19,405	-60.3		281	9.5	21	19,431	-64.8		274	8.4	27	[illegible]	-63.4		265	10.7
50	26	20,264	-53.3		247	29.1	25	20,483	-59.5		267	9.3	20	20,557	-59.5		282	6.2	18	20,548	-62.0		308	8.9	26	20,546	-61.0		262	[illegible]
40	24	21,692	-54.3		252	24.8	22	21,919	-57.7		262	5.2	18	21,960	-59.0		4	3.5	17	21,931	-59.2		319	6.6	25	21,947	-58.2		260	[illegible]
30	20	23,556	-54.5		265	24.9	19	23,720	-56.9		251	6.2	15	23,764	-56.9		14	5.2	16	23,752	-56.2		302	[illegible]	25	23,766	-55.3		260	[illegible]
25	18	24,765	-53.1				18	24,895	-55.5		230	5.2	14	24,929	-56.2		36	6.0	16	24,915	-54.2		286	14.0	25	24,931	-54.4		268	[illegible]
20	16	26,270	-51.7				12	26,355	-53.9				13	26,361	-55.0		14	6.2	12	26,365	-51.2		[illegible]	14.6	20	26,364	-52.8		278	[illegible]
15	5	28,191	-51.1										5	28,205	-52.6				10	28,251	-49.6				9	28,209	-50.6			
10																														

Standard pressure surface (mb.)	SAN JUAN, P. R. (1012 MB.)						SANTA MONICA, CALIF. (1013 MB.)						SAULT STE. MARIE, MICH. (990 MB.)						SEATTLE, WASH. (1001 MB.)						SHEMYA, ALASKA (1000 MB.)					
SURFACE	30	6	22.7	90	147	0.8	30	38	11.9	69	37	4.9	30	221	0.3	79	13	0.8	30	125	[illegible]	83	150	2.3	30	38	1.7	81	263	8.2
1,000	30	114	23.2	83	97	4.1	30	142	13.4	60	45	4.3	30	138					30	132			[illegible]	2.9	30	37				
950	30	559	20.9	80	66	7.6	30	572	12.5	50	70	4.1	30	548	-.6	77	262	7.0	30	552	[illegible]	[illegible]	204	8.9	30	447	-1.4	79	281	15.9
900	30	1,028	17.9	81	60	7.2	30	1,026	10.9	41	58	3.1	30	979	-2.8	72	267	10.5	30	990	2.7	65	222	9.9	30	877	-4.3	79	276	17.3
850	30	1,515	15.1	78	61	6.6	30	1,501	9.1	37	349	3.9	30	1,431	-4.5	66	268	11.0	30	1,451	.5	66	227	11.5	30	1,325	-7.1	75	275	17.5
800	30	2,027	12.4	71	66	4.5	30	2,001	6.5	33	337	4.9	30	1,908	-5.2	52	264	16.5	30	1,936	-2.0	62	239	12.8	30	1,796	-9.9	68	[illegible]	[illegible]
750	30	2,568	10.2	59	61	2.3	30	2,526	4.6	26	316	8.7	30	2,411	-6.9	52	268	18.3	30	2,449	-4.2	59	253	15.5	30	2,292	-13.2	63	266	20.0
700	30	3,139	7.6	50	348	1.2	30	3,088	1.9	26	304	12.0	30	2,950	-8.9	52	271	20.2	30	2,989	-7.1	44	263	18.5	30	2,813	-16.4	58	269	22.2
650	30	3,741	4.4	46	332	2.1	30	3,679	-1.2		298	15.3	30	3,518	-11.0	50	272	23.3	30	3,561	-10.1	39	267	23.1	30	3,366	-20.0	53	266	22.3
600	30	4,393	.5	45	285	3.7	30	4,316	-4.7		300	18.5	30	4,134	-14.2	48	274	24.1	30	4,177	-13.9	40	268	27.4	30	3,957	-23.8	50	268	24.9
550	30	5,081	-3.7	40	288	5.2	30	4,990	-9.1		298	19.4	30	4,784	-17.8	45	274	27.2	30	4,829	-17.8	[illegible]	269	31.5	30	4,585	-27.8	46	272	27.8
500	30	5,833	-8.0	33	285	8.9	30	5,727	-14.2		291	24.9	30	5,497	-22.1	45	273	30.1	30	5,540	-22.2	41	269	[illegible]	30	5,267	-32.2	39	270	26.2
450	30	6,637	-13.4	33	279	10.3	30	6,509	-19.6		296	24.5	30	6,260	-27.0	42	281	31.5	30	6,303	-27.0	44	270	37.9	30	6,002	[illegible]		276	39.6
400	30	7,531	-19.3	33	268	12.6	30	7,382	-26.2		293	29.0	30	7,105	-32.9	41	285	33.2	30	7,149	[illegible]	48	275	43.3	30	6,811	-42.0		276	45.7
350	30	8,510	-26.3	34	269	14.6	30	8,334	-33.4		292	34.0	30	8,032	-39.1		284	36.7	30	8,076	-39.2		276	[illegible]	30	7,705	-46.9		277	53.8
300	30	9,606	-34.5		256	17.5	30	9,398	-41.5		291	36.9	30	9,074	-46.0		276	41.6	30	9,116	[illegible]		279	[illegible]	30	8,718	-50.6		277	57.5
250	30	10,853	-44.1		258	24.1	30	10,612	-50.1		290	39.6	30	10,269	-52.1		273	46.0	30	10,309	[illegible]		280	[illegible]	30	9,903	[illegible]		274	53.2
200	30	12,312	-55.3		259	32.3	30	12,044	-57.7		285	43.1	30	11,700	-55.5		277	47.0	30	11,733	[illegible]		281	[illegible]	[illegible]	[illegible]	-51.5		271	55.2
175	30	13,153	-61.1		261	34.0	30	12,880	-60.7		285	40.8	30	12,552	-55.2		277	47.4	[illegible]	[illegible]	[illegible]		[illegible]	43.3	29	12,206	-51.7		270	49.0
150	30	14,096	-66.9		263	35.2	30	13,834	-63.1		285	38.3	30	13,533	-56.4		276	40.8	30	13,554	-57.7		279	38.9	29	13,205	-52.0		272	42.4
125	30	15,183	-72.0		267	32.8	30	14,948	-65.7		283	33.6	30	14,688	-57.2		273	35.6	30	14,700	-58.9		280	36.3	29	14,385	-52.4		265	43.9
100	30	16,483	-75.7		269	23.9	29	16,303	-66.9		280	29.1	30	16,096	-58.2		275	28.6	30	16,097	-59.1		279	32.6	29	15,827	-52.5		265	35.0
80	30	17,781	-72.9		276	15.2	28	17,648	-66.0		279	20.8	30	17,501	-58.2		268	23.7	27	17,501	-58.3		275	23.5	29	[illegible]	-53.8		262	36.7
70	30	18,586	-68.7		269	13.8	27	18,467	-64.7		272	16.3	29	18,341	-58.2		271	21.8	25	18,331	-58.2		276	19.8	28	18,129	-53.6		261	35.8
60	30	19,509	-63.8		269	12.0	25	19,413	-62.9		269	9.5	29	19,311	-58.4		277	19.0	22	19,335	[illegible]		279	15.3	27	19,113	-53.7		259	32.1
50	30	20,638	-60.0		263	8.9	24	20,544	-61.5		265	8.2	28	20,458	-58.2		279	14.4	18	20,524	-57.7		[illegible]	8.9	24	20,283	-54.1		258	27.6
40	30	22,044	-56.5		260	3.1	23	21,939	-59.0		276	6.2	27	21,864	-58.5		283	10.7	17	21,953	-56.9		278	5.4	[illegible]	21,717	-54.0		256	22.2
30	29	23,886	-52.5		98	7.4	22	23,759	-55.3		267	8.4	26	23,676	-57.8		282	8.2	14	23,772	-55.1		306	3.5	[illegible]	23,582	-53.5		259	24.3
25	29	25,072	-50.1		119	9.9	22	24,924	-54.1		271	9.3	24	24,823	-57.0		275	5.6	8	24,933	-54.7				[illegible]	24,780	-53.4		259	20.6
20	24	26,546	-46.8		118	7.2	21	26,359	-53.4		275	13.2	19	26,255	-55.9		314	6.0							[illegible]	26,284	-51.8		249	20.4
15	19	28,452	-44.1		94	9.7	15	28,223	-51.6		297	15.0	16	28,091	-55.2		327	11.9							[illegible]	28,281	-47.2			
10	7	31,186	-39.7										7	30,655	-55.3															

See reference note at end of table

RAWINSONDE DATA

Average monthly values

NOVEMBER 1961

Standard pressure surfaces	AMARILLO, TEX. (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SPOKANE, WASH. (933 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	79	7.8	92	62	1.4	30	722	- 2.4	81	146	1.4
1,000	30	163	9.4	80	34	2.1	30	160				
950	30	590	9.5	60	136	3.3	30	572				
900	30	1,039	10.0	53	229	5.4	30	1,005	.4	68	171	4.7
850	30	1,514	9.5	54	255	9.1	30	1,463	- .8	60	232	10.1
800	30	2,016	7.7	46	257	12.6	30	1,945	- 2.4	55	243	14.4
750	30	2,546	5.4	43	259	14.6	30	2,454	- 4.3	54	252	16.7
700	30	3,107	2.8		260	18.7	30	2,997	- 7.1	49	262	19.0
650	30	3,702	- .3	59	262	22.0	30	3,569	-10.3	49	267	22.3
600	30	4,340	- 3.0		260	26.0	30	4,184	13.7	46	268	27.0
500	30	5,018	- 8.9		256	28.8	30	4,837	-17.7	43	270	28.4
400	30	5,757	-12.7		256	31.7	30	5,547	-22.1	40	271	34.4
300	30	6,647	-18.1		258	38.3	30	6,308	-27.2	15	272	38.3
250	30	7,424	-24.2		263	42.0	30	7,153	-33.3	46	274	41.6
200	30	8,385	-31.9		260	46.4	30	8,078	-40.8		278	49.5
150	30	9,461	-38.8		262	57.7	30	9,115	-46.8		279	54.2
100	30	10,689	-47.8		264	59.5	30	10,306	-53.3		283	53.8
200	30	12,130	-57.5		262	68.6	30	11,727	-56.6		282	48.6
175	30	12,964	-62.1		261	64.7	30	12,574	-56.5		283	44.9
150	30	13,908	-65.7		265	57.1	30	13,552	-56.7		282	39.6
125	28	15,012	-67.9		265	51.9	30	14,703	-58.2		281	32.4
100	28	16,347	-69.7		268	39.1	30	16,105	-59.3		276	28.2
80	27	17,651	-68.7		273	24.3	28	17,508	-57.9		278	24.3
70	26	18,504	-66.7		278	17.1	26	18,352	-58.0		278	21.2
60	26	19,426	-63.7		274	12.0	26	19,326	-58.0		270	13.4
50	25	20,450	-61.5		277	10.3	24	20,495	-57.2		274	10.7
40	24	21,643	-58.9		275	11.1	22	21,915	-56.6		272	7.0
30	24	23,760	-56.1		270	12.6	16	23,739	-55.8		243	6.0
25	24	24,925	-54.1		266	15.7	11	24,967	-53.9		89	3.3
20	20	26,372	-51.6		268	20.8						
15												
10												

Standard pressure surfaces	SWAN ISLAND, W. I. (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TAMPA, FLA. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TATOOSH IS., WASH. (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	28	10	25.8	80	64	7.2	30	8	16.3	87	39	5.6	30	31	6.7	80	114	6.0
1,000	28	114	23.1	80	69	9.3	30	156	18.4	80	62	7.2	30	125			135	7.0
950	28	568	22.0	80	84	12.0	30	595	17.2	73	100	5.6	30	539	4.6	70	191	7.6
900	28	1,033	18.9	77	86	10.9	30	1,057	15.2	63	143	2.3	30	983	1.9	69	225	9.5
850	28	1,524	16.1	71	86	8.5	30	1,540	13.3	51	215	.6	30	1,443	- .1	61	230	11.5
800	28	2,038	13.1	70	88	6.4	30	2,050	11.5	41	300	1.0	30	1,926	- 2.3	52	242	13.4
750	28	2,582	10.5	61	77	4.9	30	2,583	9.1	36	294	4.1	30	2,434	- 4.8	48	246	15.2
700	28	3,152	8.2	46	66	3.9	30	3,156	6.2	37	295	5.2	30	2,977	- 7.5	47	255	19.6
650	28	3,755	5.4	31	64	4.5	30	3,755	3.0	37	287	9.1	30	3,546	-10.9	46	261	25.3
600	28	4,411	1.8		69	3.9	30	4,405	- .8	34	285	12.0	30	4,162	-14.4	46	262	27.4
500	28	5,101	- 2.5		60	4.9	30	5,088	- 5.1		291	14.8	30	4,811	-18.0	47	266	31.7
400	28	5,858	- 7.0		55	5.4	30	5,838	- 9.7		290	17.7	30	5,524	-22.2	44	266	35.4
300	28	6,674	-12.1		35	7.0	30	6,639	-15.2		292	20.4	30	6,280	-27.5	44	265	35.9
250	28	7,565	-17.9		11	7.2	30	7,524	-21.5		290	22.3	30	7,129	-33.3	46	267	36.1
200	28	8,549	-24.9		353	8.0	30	8,495	-28.6		291	25.6	30	8,055	-39.6		268	43.1
150	28	9,651	-33.2		343	10.8	30	9,581	-36.8		291	32.3	30	9,092	-46.9		270	50.1
100	28	10,906	-43.0		310	15.2	30	10,819	-46.0		296	42.6	30	10,283	-53.0		267	54.2
200	28	12,373	-54.6		305	18.8	30	12,269	-56.7		298	50.3	30	11,704	-56.7		278	46.6
175	27	13,217	-60.8		307	20.6	30	13,105	-62.0		296	49.0	30	12,550	-57.3		271	45.1
150	27	14,162	-66.8		309	21.8	29	14,050	-66.5		292	42.9	30	13,522	-58.0		271	45.1
125	26	15,249	-72.8		320	19.6	28	15,142	-70.4		290	39.1	30	14,670	-58.5		277	36.3
100	26	16,543	-77.3		322	15.7	28	16,460	-72.6		288	28.8	29	16,076	-59.8		277	30.1
80	26	17,832	-73.9		322	10.1	28	17,773	-70.9		288	15.5	28	17,471	-58.5		275	24.7
70	26	18,627	-70.5		301	8.9	28	18,579	-67.8		287	11.3	27	18,313	-58.4		279	18.7
60	25	19,544	-65.1		276	9.9	28	19,507	-63.7		284	9.3	26	19,288	-58.4		270	15.3
50	25	20,668	-60.7		290	5.8	28	20,633	-61.0		283	9.9	25	20,445	-57.7		268	13.0
40	25	22,074	-55.5		321	3.9	28	22,032	-56.9		288	9.1	24	21,865	-56.8		258	10.7
30	24	23,920	-52.4		93	3.9	27	23,872	-52.8		276	13.0	19	23,771	-55.5		89	3.9
25	22	25,105	-49.5		97	6.0	26	25,051	-50.8		268	14.6	8	24,875	-54.6			
20	22	26,575	-46.9		104	10.3	21	26,522	-47.9		272	20.8						
15	20	28,490	-44.3		87	13.4	13	28,422	-45.4		266	29.7						
10	6	31,256	-40.3															

Standard pressure surfaces	TOPEKA, KANS. (987 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TUCSON, ARIZ. (925 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	269	2.1	87	244	1.7	30	789	7.6	70	136	6.4
1,000	30	160					30	141				
950	30	579	2.8	76	238	5.1	30	564				
900	30	1,013	2.2	67	263	6.8	30	1,017	11.3	48	145	6.0
850	30	1,475	2.1	56	281	9.5	30	1,493	9.8	43	168	4.9
800	30	1,964	1.2	53	272	13.0	30	1,995	7.4	41	212	6.4
750	30	2,480	- .5	47	271	15.5	30	2,519	5.0	38	251	8.5
700	30	3,031	- 2.8	45	272	19.8	30	3,083	1.9	40	257	13.0
650	30	3,610	- 5.5	39	264	23.3	30	3,674	- 1.3	38	258	18.1
600	30	4,239	- 9.9	39	258	26.6	30	4,312	- 4.9	33	258	23.3
500	30	4,904	-13.0	37	258	29.7	30	4,983	- 9.1		263	24.5
400	30	5,628	-18.0		259	33.0	30	5,722	-14.1		261	27.8
300	30	6,403	-23.4		266	36.1	30	6,503	-19.8		265	31.3
250	30	7,259	-29.7		265	42.4	30	7,378	-26.0		260	39.6
200	30	8,199	-35.9		261	51.1	30	8,330	-32.7	36	261	44.7
150	30	9,256	-42.9		262	60.2	30	9,399	-39.6		265	48.8
100	30	10,466	-49.8		262	67.2	30	10,625	-47.3		264	56.3
200	30	11,905	-55.8		265	65.5	30	12,069	-56.0		268	55.0
175	30	12,751	-58.0		265	61.2	30	12,911	-59.8		267	49.4
150	30	13,716	-61.0		267	54.6	30	13,865	-63.1		268	47.4
125	30	11,846	-62.5		268	45.1	29	14,982	-65.2		269	41.8
100	30	16,219	-63.3		270	35.0	29	16,332	-67.2		267	32.4
80	30	17,391	-62.7		270	24.5	28	17,676	-66.6		267	17.7
70	30	18,422	-62.5		270	21.4	28	18,497	-64.8		266	13.8
60	29	19,367	-61.7		278	16.3	27	19,438	-62.1		265	10.1
50	27	20,497	-60.1		279	13.6	27	20,570	-60.6		260	9.7
40	26	21,887	-59.3		279	12.6	26	21,964	-58.5		260	8.5
30	25	23,696	-57.5		275	14.0	25	23,786	-55.8		269	13.2
25	21	24,863	-56.5		277	14.4	21	24,964	-53.4		269	15.2
20	17	26,296	-54.9		259	18.5	17	26,403	-51.9		297	11.9
15	10	28,169	-55.3									
10												

Standard pressure surfaces	WASHINGTON, D. C. (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	WINNEMUCCA, NEV. (871 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	WINSLOW, ARIZ. (852 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	84	5.5	81	336	5.6	30	1,310	- 3.9	75	139	1.7	30	1,492	1.5	77	178	1.4
1,000	30	164	6.5	70	320	5.4	30	201					30	182				
950	30	585	5.7	67	289	11.7	30	609					30	603				
900	30	1,027	3.8	67	290	15.3	30	1,048					30	1,047				
850	30	1,491	2.6	63	289	15.9	30	1,507	1.8	51	170	4.5	30	1,515			141	1.4
800	30	1,980	1.4	50	288	17.9	30	1,995	.8	43	201	5.2	30	2,008	3.8	55	235	2.3
750	30	2,499	.2	47	281	19.0	30	2,510	- 1.7	45	268	7.2	30	2,534	1.5	48	254	7.0
700	30	3,050	- 2.1	41	277	22.7	30	3,059	- 3.8	43	277	10.5	30	3,084	- 1.1	46	254	12.0
650	30	3,637	- 5.0	36	279	26.8	30	3,634	- 6.5	37	282	16.7	30	3,669	- 4.1	43	267	14.2
600	30	4,262	- 8.3	36	279	28.4	30	4,263	- 9.7	38	289	18.3	30	4,301	- 7.5	39	270	17.5
500	30	4,928	-12.3	36	278	31.3	30	4,921	-13.9		298	19.4	30	4,966	-11.6	35	273	21.4
400	30	5,654	-16.8		276	35.9	30	5,647	-18.5		294	24.3	30	5,697	-16.5		274	25.1
300	30	6,432	-22.3		275	39.1	30	6,415	-24.1		296	27.8	30	6,475	-22.1		275	29.0
250	30	7,292	-28.4		280	41.6	30	7,274	-30.4	37	292	28.6	30	7,338	-28.5		270	33.4
200	30	8,236	-35.3		281	46.6	30	8,210	-37.3		298	28.0	30	8,283	-34.7		272	39.8
150	30	9,294	-43.0		281	47.2	30	9,256	-45.4		297	31.1	30	9,343	-41.3		273	46.2
100	30	10,503	-50.3		279	46.2	30	10,451	-53.1		298	32.3	30	10,562	-48.4		272	50.5
200	30	11,940	-55.7		281	54.8	30	11,871	-57.8		283	34.2	30	12,007	-55.5		276	49.5
175	30	12,786	-58.2		281	54.0	30	12,710	-59.5		281	36.1	30	12,852	-58.8		268	49.0
150	30	13,751	-61.0		278	45.1	30	13,671	-61.3		282	31.1	29	13,808	-61.7		267	50.5
125	30	14,878	-63.1		274	40.4	29	14,805	-62.3		277	30.3	28	14,936	-64.3		269	44.1
100	30	16,251	-63.7		279	30.3	29	16,181	-63.3		274	21.4	28	16,294	-66.3		259	37.5
80	30	17,622	-62.9		277	22.9	29	17,556	-62.0		272	15.7	26	17,650	-64.7		266	23.7
70	30	18,452	-62.0		279	19.6	29	18,384	-61.8		264	12.8	26	18,474	-63.9		264	20.0
60	28	19,397	-60.6		281	15.9	27	19,350	-61.1		268	10.5	26	19,414	-62.7		264	15.2
50	28	20,533	-59.8		287	11.5	26	20,489	-60.3		264	12.4	25	20,546	-60.8		263	11.9
40	28	21,931	-58.2		286	11.5	23	21,882	-58.9		263	11.1	24	21,945	-58.8		267	10.3
30	26	23,748	-56.7		289	12.2	17	23,702	-56.7		257	8.7	17	23,765	-56.5		272	10.7
25	25	24,902	-55.8		293	13.4	13	24,857	-55.6				12	24,919	-55.4		281	11.7
20	22	26,332	-54.2		296	16.1	8	26,204	-54.7				7	26,350	-53.1			
15	18	28,189	-52.6		285	16.3												
10	6	30,757	-50.3															

Standard pressure surfaces	YAKUTAT, ALASKA (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	12	- 1.6	89	93	5.1
1,000	30	39			106	6.4
950	30	456	- .8	74	119	10.7
900	30	881	- 2.8	72	140	9.7
850	30	1,332	- 5.5	71	155	10.1
800	30	1,805	- 8.5	71	168	9.7
750	30	2,304	-11.7	67	182	9.9
700	30	2,828	-14.8	62	198	9.1
650	30	3,385	-18.0	58	210	8.7
600	30	3,979	-21.9	55	218	9.5
500	30	4,612	-25.9	53	233	11.9
400	30	5,299	-30.1	52	237	13.6
300	30	6,039	-35.6		242	17.9
250	30	6,850	-41.4		246	21.8
200	30	7,744	-47.4		243	26.2
150	30	8,752	-52.0		247	26.0
100	30	9,927	-53.8		254	30.9
200	29	11,368	-53.4		259	33.4
175	29	12,129	-52.9		263	32.4
150	29	13,222	-53.3		264	30.7
125	28	14,407	-52.8		258	30.7
100	28	15,847	-52.6		259	32.4
80	28	17,286	-53.3		263	26.4
70	28	18,147	-53.9		263	26.0
60	28	19,132	-54.2		259	26.2
50	28	20,300	-55.1		265	25.8
40	22	21,778	-54.0		262	23.1
30	22	23,639	-51.6		264	23.9
25	20	24,788	-51.6		271	26.4
20	11	26,274	-55.7		295	28.8
15	11	28,057	-58.3			
10						

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by rawinsondes; dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots. The resultant wind speed is biased toward a lower value as the number of observations on which the resultant is based lessens. The amount of bias increases with the number of observations that are terminated due to low angle limitations.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance								
	A M.				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Nov.									
1-----	----	----	----	----	----	1.36	1.24	1.21	1.14
2-----	----	----	1.22	----	----	1.32	1.22	1.09	.99
3-----	1.06	1.15	1.27	1.37	----	1.41	1.25	1.13	.96
4-----	----	----	----	(1.39)	----	----	----	----	----
5-----	----	(1.06)	(1.20)	----	(1.39)	----	----	----	----
10----	----	(1.07)	1.21	1.33	----	----	----	----	----
11----	1.07	1.13	1.24	1.37	1.42	1.37	1.22	1.11	1.01
15----	----	----	----	----	----	----	1.27	1.18	1.09
16----	1.05	1.13	1.25	1.35	----	----	----	.96	.85
17----	----	----	----	----	----	1.33	1.18	1.02	----
18----	.96	1.06	1.20	1.37	----	1.38	----	----	----
19----	----	----	1.28	----	----	1.41	1.24	1.08	1.00
21----	----	----	----	1.33	----	----	----	----	----
22----	1.12	1.20	1.29	1.42	1.45	(1.39)	----	----	----
23----	1.07	1.16	1.26	1.38	1.42	1.38	1.25	1.16	1.07
24----	1.07	1.17	1.27	1.39	----	----	----	----	----
27----	1.11	----	----	----	----	----	----	----	----
28----	1.05	1.13	1.25	1.39	1.44	1.33	1.23	1.08	1.01
Aver-ages	1.06	1.13	1.25	1.37	1.43	1.37	1.23	1.10	1.01

HILO, HAWAII

	Air mass								
Nov.									
5-----	0.83	0.92	1.05	1.22	1.36	1.16	----	----	----
8-----	----	.92	1.07	----	----	----	----	----	----
9-----	----	.92	1.06	1.21	1.36	1.18	1.03	0.87	0.68
12----	.67	.82	.95	1.15	1.36	----	----	----	----
28----	----	----	----	----	----	----	1.03	.87	
Aver-ages	0.75	0.90	1.03	1.16	1.36	1.17	1.03	0.87	0.68

GUAM, M. I.

	Air mass								
	4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92
Nov.									
21----	----	----	M 1.13	M 1.21	----	----	----	----	----
28----	----	----	†	----	----	----	----	----	----

MAUNA LOA OBS., HAWAII

Date	Sun's zenith distance								
	A M				*	P M			
	78.7°	75.7°	70.7°	60.0°		60.0°	70.7°	75.7°	78.7°
	Air mass								
	3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Nov.									
4-----	1.22	1.29	1.39	1.50	1.61	1.50	1.37	1.28	1.20
5-----	1.22	1.30	1.39	1.50	1.59	----	----	----	----
7-----	1.29	1.37	1.46	1.56	----	----	----	----	----
8-----	1.25	1.33	1.43	1.54	----	----	----	----	----
9-----	1.24	1.32	1.41	1.52	1.60	----	----	----	----
10----	1.22	1.30	1.39	1.51	----	----	----	----	----
11----	1.22	1.30	1.39	1.50	----	----	----	----	----
12----	1.25	1.34	1.43	1.54	----	----	----	----	----
17----	1.26	1.33	1.43	1.54	1.65	1.54	1.43	1.34	1.26
18----	1.27	1.35	1.44	1.55	1.65	1.55	1.43	1.34	1.26
19----	1.30	1.37	1.46	1.57	1.67	1.57	1.46	----	----
20----	----	----	----	1.51	----	----	----	----	----
24----	1.26	1.34	1.42	1.53	1.61	1.50	1.38	1.30	----
22----	----	----	1.37	1.50	----	----	----	----	----
25----	1.33	1.42	1.50	1.61	1.68	1.59	1.49	----	----
26----	1.28	1.36	1.45	1.57	1.63	1.51	1.41	1.32	1.26
27----	1.30	1.38	1.48	1.57	1.64	1.52	1.42	1.33	1.26
28----	1.31	1.39	1.47	1.58	1.67	1.58	1.48	1.38	1.31
29----	1.34	1.41	1.50	1.60	1.64	1.52	1.39	1.29	1.20
Aver-ages	1.27	1.35	1.43	1.54	1.64	1.54	1.44	1.34	1.26

TUCSON, ARIZ.

	Air mass								
	4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Nov.									
3-----	0.89	----	----	----	----	1.31	1.08	0.94	0.85
5-----	.84	0.97	1.09	----	----	----	----	----	----
10----	.82	.95	----	----	----	----	----	----	----
11----	.90	1.01	1.14	----	----	----	----	1.02	----
12----	.87	.97	1.01	----	----	----	----	----	.87
13----	----	.98	1.14	----	----	----	----	----	----
15----	----	1.12	1.22	----	----	----	----	----	1.00
16----	----	----	1.23	----	----	----	----	----	----
19----	.95	1.07	1.21	----	----	----	----	1.05	.94
22----	.92	1.05	----	----	----	----	----	1.07	.95
23----	1.05	1.14	1.25	1.40	----	1.39	1.25	1.14	1.05
24----	----	----	1.28	----	----	----	----	----	----
26----	----	----	----	----	----	----	----	1.07	.90
28----	----	----	----	----	----	----	----	----	.84
Aver-ages	0.91	1.03	1.17	1.40	----	1.35	1.17	1.05	0.94

( ) Clouds present
M Moderate haze - indeterminable
† Tree shadow
* Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed here appears in the February 1957 issue, Vol. 8, No. 2, [illegible] of this publication.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation, direct and diffused received on a horizontal surface. Calculation in langleys.

	Albuquerque, N. Mex.	Ames, Iowa	Annette, Alaska	Apalachicola, Fla.	Athens, Ga.	Atlanta, Ga.	Barrow, Alaska	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill Obs., Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Canton Island Pacific Area	Caribou, Me.	Charleston, S. C.	Columbia, Mo.	Corvallis, Oreg.	Davis, Calif.	Dodge City, Kans.	Eastsound, Wash.	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Flamingo, Fla.	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grand Junction, Colo.	Great Falls, Mont.	Greenville, N. C.	Griffin, Ga.	Cape Henlopen, N. J.	Hale Ranch	Indianapolis, Ind.	Iowa City, Iowa	Jackson, Miss.	Jacksonville, Fla.	Jacksonville, Tex.
1961																																									
Nov. 5-----	142	111	33	289	152	276	8	60	211	260	---	243	134	619	203	353	326	234	360	366	198	325	377	27	370	287	283	144	270	171	236	272	325	93	488	231	122	98	41	156
Nov. 6-----	122	260	139	353	205	138	34	44	160	62	---	56	62	---	120	--	318	239	333	372	160	64	358	36	364	288	277	190	77	143	219	215	236	287	--	242	85	37	41	106
Nov. 7-----	419	297	11	115	189	333	2	83	---	--	---	75	316	700	18	---	343	226	304	357	189	77	361	23	373	349	288	303	248	106	230	173	420	69	357	127	111	107	273	156
Nov. 8-----	206	291	57	446	182	380	2	94	239	254	---	261	---	691	136	326	---	161	298	360	160	34	357	40	341	367	292	431	245	147	217	255	426	235	398	232	107	166	79	7
Nov. 9-----	198	279	38	453	14	378	3	128	248	210	---	220	335	(663)	150	393	309	142	292	317	234	266	346	19	345	272	283	435	225	98	210	176	454	417	456	308	127	44	254	66
Nov. 10-----	363	262	61	446	86	307	3	111	241	278	---	217	191	707	105	369	290	173	210	284	268	401	319	18	319	187	264	447	181	95	99	170	371	188	---	287	156	42	201	169
Nov. 11-----	107	216	53	325	190	191	---	81	137	235	---	236	257	588	200	219	113	185	326	353	248	425	311	40	106	329	245	216	131	317	145	315	324	191	363	142	228	220	281	246
Average-------	283	245	59	347	145	286	8	86	206	208	---	184	216	(661)	133	332	253	194	303	344	208	227	348	29	315	297	276	309	206	191	194	301	364	312	418	254	282	4	284	75
Nov. 12-----	256	172	9	359	233	287	---	39	44	221	---	213	211	587	74	173	98	94	324	257	49	411	416	15	171	167	261	266	81	293	190	66	300	260	427	81	141	24	72	177
Nov. 13-----	250	101	84	380	156	178	3	82	---	56	---	61	116	537	28	221	---	92	326	259	87	42	288	19	319	60	280	406	220	401	155	175	254	254	136	56	24	51	201	177
Nov. 14-----	79	154	17	97	226	75	4	27	179	16	---	25	61	512	13	62	66	185	304	169	204	213	324	14	328	62	282	226	38	406	16	48	81	148	266	43	102	230	285	360
Nov. 15-----	---	98	32	230	234	68	1	14	63	136	---	142	145	515	159	196	38	197	288	21	31	429	143	35	77	237	269	364	155	353	--	173	94	134	142	48	--	124	60	356
Nov. 16-----	385	144	8	358	242	131	†	41	82	151	---	150	282	575	223	206	45	201	320	364	103	417	196	28	203	535	273	343	232	173	222	41	130	318	200	29	-	363	197	335
Nov. 17-----	369	269	78	408	98	351	†	46	228	134	---	142	337	592	73	360	284	145	318	148	52	295	320	12	---	175	273	403	232	267	209	319	412	327	263	229	320	223	121	357
Nov. 18-----	383	150	49	389	152	117	†	26	235	251	---	232	361	594	55	312	172	120	257	150	182	393	272	42	315	164	205	393	200	359	170	249	146	177	355	211	111	296	297	325
Average-------	287	155	44	317	192	172	1	39	139	138	---	138	216	559	89	218	117	148	305	196	101	314	273	24	236	171	263	343	165	322	160	157	202	248	272	104	140	219	192	355
Nov. 19-----	377	133	66	326	124	197	---	37	---	251	---	265	86	592	178	79	113	51	92	147	64	355	183	31	300	121	158	282	171	363	195	52	295	87	377	34	--	285	183	330
Nov. 20-----	246	36	64	206	89	272	---	48	153	14	---	16	108	587	---	110	82	76	258	236	190	360	101	18	210	(192)	61	96	122	84	92	304	264	52	298	97	---	233	207	174
Nov. 21-----	286	20	20	390	8	---	---	82	99	76	---	95	209	649	40	351	110	21	304	57	85	225	349	6	186	53	252	403	217	121	158	346	389	353	226	202	---	178	96	333
Nov. 22-----	383	59	39	224	117	---	---	50	204	39	---	52	303	683	83	330	43	22	104	321	28	405	168	20	237	(89)	256	360	78	308	154	236	204	387	255	12	--	148	214	337
Nov. 23-----	369	255	33	246	55	---	---	19	197	48	---	24	391	647	57	105	251	13	217	309	31	394	299	35	298	364	245	73	156	---	71	43	101	322	177	36	---	135	259	337
Nov. 24-----	369	233	68	401	90	---	---	73	---	23	---	23	---	621	28	357	291	50	119	290	170	390	198	29	210	361	191	394	147	---	50	337	394	328	411	267	---	225	239	240
Nov. 25-----	243	135	21	404	199	---	---	56	191	232	---	243	364	666	58	358	224	27	81	247	199	319	87	42	133	338	41	389	56	117	76	323	386	364	256	229	---	172	157	96
Average-------	325	124	41	314	97	---	---	52	169	98	---	103	243	635	74	241	159	37	164	230	110	350	198	25	224	(217)	172	285	135	198	114	234	291	270	286	130	---	197	194	264
Nov. 26-----	265	51	69	339	39	---	---	32	138	196	---	206	379	601	170	340	92	74	175	226	118	323	296	43	233	343	244	341	81	239	150	223	298	368	326	86	---	138	143	321
Nov. 27-----	322	266	72	270	40	---	---	15	93	192	---	195	374	689	70	232	75	45	282	134	201	(311)	292	42	190	59	254	326	167	184	161	115	157	304	348	175	---	121	204	285
Nov. 28-----	351	308	70	343	27	---	---	24	172	155	---	184	222	687	61	145	294	68	155	66	151	272	294	30	253	97	140	376	159	190	158	233	365	354	416	106	---	228	249	320
Nov. 29-----	314	74	37	293	127	322	---	29	73	111	---	99	98	690	58	338	297	124	57	99	185	335	196	34	225	259	97	315	96	326	115	347	370	370	581	252	---	167	174	126
Nov. 30-----	206	108	109	398	79	338	---	23	52	218	43	223	---	674	159	345	191	49	134	244	95	(251)	190	8	---	191	122	379	153	252	154	315	375	350	174	219	---	229	186	290
Dec. 1-----	329	119	49	332	95	261	---	19	181	215	167	219	---	695	50	287	153	115	36	250	171	369	208	6	246	329	97	346	136	232	159	198	349	331	264	140	---	235	215	190
Dec. 2-----	327	83	53	361	46	185	---	20	149	99	158	84	334	(629)	46	294	212	97	120	263	75	363	50	---	217	218	155	397	85	211	109	208	227	282	253	180	---	211	196	62
Average-------	302	144	66	334	65	276	---	23	123	169	---	173	281	(667)	88	283	188	82	137	183	142	(318)	218	27	227	214	158	354	125	233	144	248	307	337	309	165	---	190	195	228

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

† Less than 0.5

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

NOVEMBER 1961

1961	Lemont, Ill.	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif.	Los Angeles, Calif. (Urban)	Madison, Wis.	Manhattan, Kans.	Matanuska, Alaska	Mauna Loa Obs., Hawaii	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	North Omaha, Nebr.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Page, Ariz.	Phoenix, Ariz.	Portland, Me.	Prosser, Wash.	Pullman, Wash.	Rapid City, S. Dak.	Riverside, Calif.	St. Cloud, Minn.	Salt Lake City, Utah	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Seattle, Wash.	Seattle-Tacoma, Wash.	Shreveport, La.	Spokane, Wash.	State College, Pa.	Swan Island, W. I.	Tampa, Fla.	Tucson, Ariz.	Washington, D. C. (Obs. & Test Dev Ctr)
Nov. 5	139	51	366	381	388	259	329	76	483	292	327	75	25	237	145	115	204	391	382	182	182	246	292	358	50	---	96	376	97	176	176	186	94	206	48	313	342	420	267
Nov. 6	112	126	361	374	377	78	341	24	336	281	369	135	248	94	298	55	372	386	366	33	264	234	245	370	236	---	202	376	147	113	226	213	28	215	60	427	405	408	225
Nov. 7	251	387	386	341	334	281	301	49	480	247	170	218	342	104	280	318	370	359	354	51	246	221	278	358	492	340	403	382	32	166	206	176	157	159	252	421	---	320	321
Nov. 8	239	302	382	346	331	299	318	82	430	229	360	186	370	264	287	339	373	96	227	191	244	229	279	344	235	332	400	362	103	228	181	240	376	208	166	428	404	338	256
Nov. 9	243	398	361	340	335	289	104	68	515	211	452	378	340	188	267	347	286	287	346	178	164	218	265	333	263	310	299	352	90	185	26	39	362	171	181	414	470	312	---
Nov. 10	241	351	301	278	295	286	272	61	403	131	386	390	276	227	238	300	211	340	350	277	86	26	261	308	260	307	80	273	83	249	82	77	250	34	320	285	436	407	342
Nov. 11	194	(114)	41	246	241	257	184	94	414	233	354	401	105	243	245	244	342	323	350	243	207	183	192	168	226	207	201	342	196	252	62	99	194	205	290	419	341	409	---
Average	206	(247)	314	329	329	250	264	65	440	232	345	259	244	194	251	241	308	312	339	165	199	194	259	320	209	299	240	352	107	196	137	143	264	171	188	387	400	374	282
Nov. 12	45	---	105	330	342	32	270	9	505	259	319	384	268	238	217	250	331	338	352	248	245	179	317	342	182	298	169	345	41	183	172	223	73	246	73	362	190	399	107
Nov. 13	1	(31)	44	339	365	32	114	17	305	251	430	38	60	64	178	221	74	336	375	23	191	159	(264)	357	96	325	139	353	33	74	69	76	56	194	147	348	389	400	138
Nov. 14	105	94	78	348	354	185	288	10	285	225	411	64	88	31	268	78	132	360	339	25	200	95	(250)	339	250	293	78	343	194	25	181	163	60	42	64	352	296	356	54
Nov. 15	12	194	43	310	312	211	5	54	222	243	341	398	78	182	38	241	52	338	353	19	270	237	87	323	118	73	399	267	109	213	191	207	59	210	95	399	394	409	152
Nov. 16	30	315	101	269	266	34	235	22	(445)	260	357	291	313	125	196	50	328	316	353	210	237	238	201	256	139	147	392	318	15	162	198	242	143	189	21	411	407	407	19
Nov. 17	148	105	309	321	323	151	120	18	518	222	350	351	48	172	259	81	316	273	340	155	243	246	287	319	202	196	212	330	167	163	120	146	219	199	96	434	208	381	---
Nov. 18	164	307	95	289	275	248	58	43	555	175	381	356	216	255	--	182	85	328	236	214	230	65	235	256	243	300	236	302	182	249	69	(95)	65	74	181	408	409	351	297
Average	72	(175)	111	315	320	130	156	25	(409)	254	370	269	153	153	193	141	193	327	335	128	231	174	(217)	313	176	233	222	323	106	153	143	(160)	93	169	95	388	328	386	128
Nov. 19	56	31	215	275	286	64	86	20	557	62	370	134	58	265	121	24	70	335	343	261	199	199	202	296	212	264	244	247	226	232	101	95	88	114	19	395	370	399	143
Nov. 20	164	64	304	97	47	193	60	20	517	146	331	88	98	23	88	81	220	---	223	49	212	200	124	45	104	71	224	117	132	20	178	126	303	70	69	319	173	338	142
Nov. 21	78	291	239	319	351	47	1	22	(541)	57	338	127	289	184	7	300	36	---	164	17	36	32	149	316	15	267	29	314	46	176	15	20	199	27	246	385	419	177	243
Nov. 22	†	144	7	305	310	33	111	68	416	57	339	319	127	106	47	154	136	330	335	87	134	67	156	320	49	130	323	332	21	201	86	(116)	57	171	212	421	353	399	236
Nov. 23	15	25	364	290	299	106	267	38	(207)	100	335	364	18	36	---	39	334	312	332	47	33	62	199	300	94	125	374	332	20	112	45	(53)	328	55	73	418	166	389	48
Nov. 24	196	269	363	106	109	174	251	8	499	20	445	362	289	29	---	296	325	239	240	46	76	52	171	11	159	215	357	204	119	26	92	(123)	323	69	19	418	391	299	180
Nov. 25	113	313	366	46	40	128	242	39	547	71	281	304	262	249	---	283	308	55	82	172	119	14	173	25	157	84	301	106	174	224	153	120	305	82	256	297	406	250	259
Average	89	163	265	210	206	106	146	31	(173)	73	348	247	163	127	66	168	204	251	246	101	116	89	168	202	113	165	265	240	106	142	87	(93)	226	84	132	350	326	321	174
Nov. 26	65	103	62	296	165	92	293	---	527	175	328	345	167	208	---	144	293	289	303	162	97	--	68	309	52	143	231	237	25	201	79	74	198	48	204	123	341	255	199
Nov. 27	33	15	245	311	311	246	42	---	526	178	374	69	29	201	---	85	55	292	237	190	149	145	211	270	235	237	328	327	172	114	22	35	75	42	27	290	396	236	19
Nov. 28	171	336	316	295	309	247	203	47	564	162	318	132	276	228	--	232	71	303	---	72	71	114	215	305	183	258	61	322	211	171	22	27	55	81	256	425	357	311	280
Nov. 29	185	--	332	117	135	218	4	21	514	122	392	116	290	194	--	275	308	200	148	176	67	41	36	89	29	126	55	189	127	203	49	63	305	67	260	377	366	242	268
Nov. 30	47	303	337	157	139	65	7	29	--	---	342	232	284	226	21	276	55	231	232	164	78	93	201	85	18	107	227	112	55	196	45	55	286	94	80	409	336	180	255
Dec. 1	44	287	175	194	213	40	117	12	178	48	398	341	232	224	100	192	301	239	302	220	182	59	212	245	65	222	130	131	40	195	103	102	105	122	221	304	374	356	233
Dec. 2	126	112	77	198	153	130	85	9	505	66	330	294	59	87	88	36	101	163	312	141	145	59	208	113	39	92	188	219	33	86	54	45	106	54	73	213	356	285	98
Average	103	189	220	225	217	148	100	23	514	123	364	218	191	195	--	177	169	245	256	161	111	90	164	202	86	169	177	220	95	167	53	57	161	74	160	306	36.	271	197

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

† Less than 0.5

TOTAL OZONE DATA

Total amount of ozone in the atmosphere, expressed in terms of integrated depth, in units of 10^{-3} centimeter. These data are given as daily averages obtained from measurements with a Dobson Ozone Spectrophotometer using the sun or zenith cloud (see explanation below) as a light source.

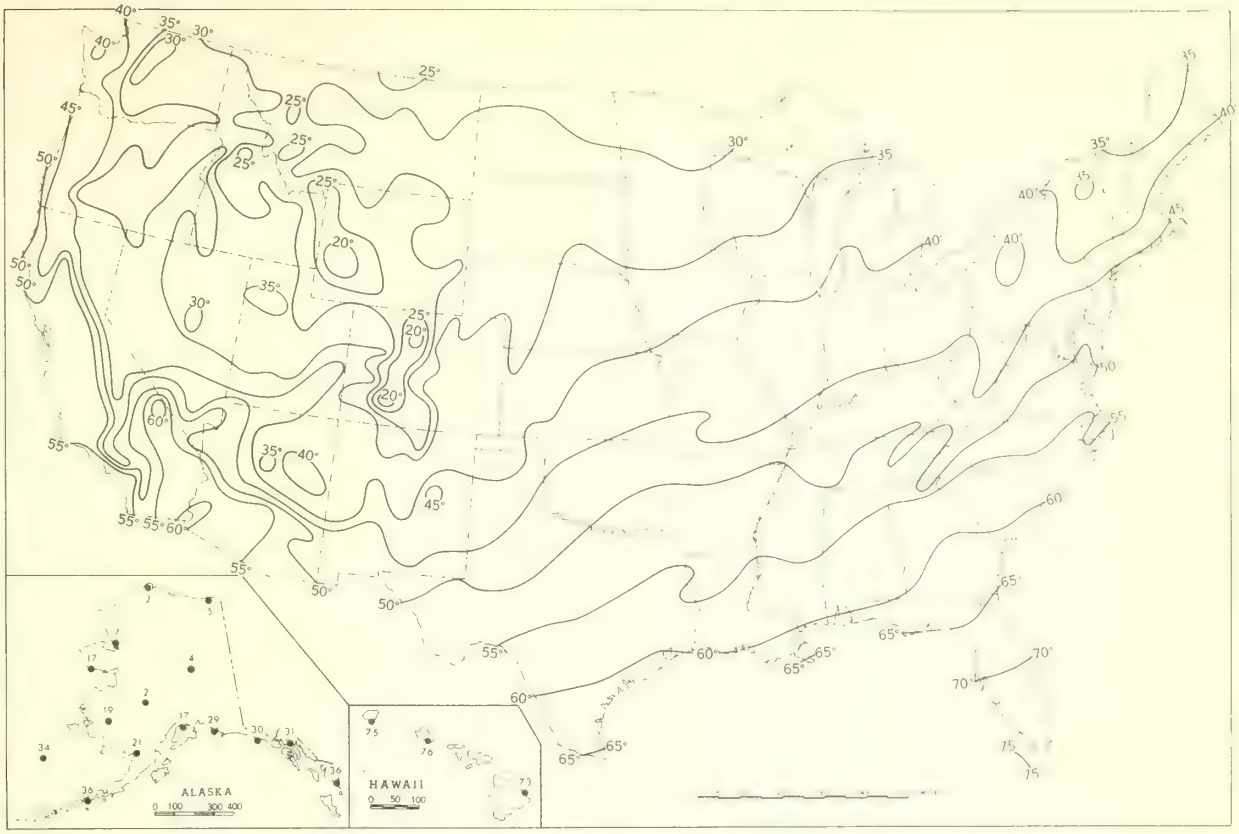
NOVEMBER 1961

Station	Day of month																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Bismarck, N. Dak.	279	---	313	---	320	---	330	295	263	258	275	---	304	---	---	309	301	290	292	---	---	319	---	---	---	---	---	279	---	---	
Caribou, Maine	---	---	---	---	---	---	---	---	---	---	314	---	---	---	276	271	---	---	---	302	---	---	---	---	---	288	---	---	---	---	
Green Bay, Wis.	272	---	---	---	---	---	290	305	269	264	250	---	---	278	276	---	---	276	---	247	---	---	---	281	261	---	301	293	263	---	
Mauna Loa, Hawaii	---	---	280	274	274	279	289	277	276	270	271	272	---	---	---	---	269	262	267	269	276	276	---	---	281	289	272	269	259	---	
Midland, Texas	---	239	230	225	---	---	---	---	208	234	202	212	---	---	223	202	203	211	---	---	---	239	211	190	171	181	---	---	---	---	
Nashville, Tenn.	---	273	---	---	---	---	269	278	291	269	---	277	---	---	---	254	---	255	---	---	269	---	---	286	252	---	---	295	314	299	

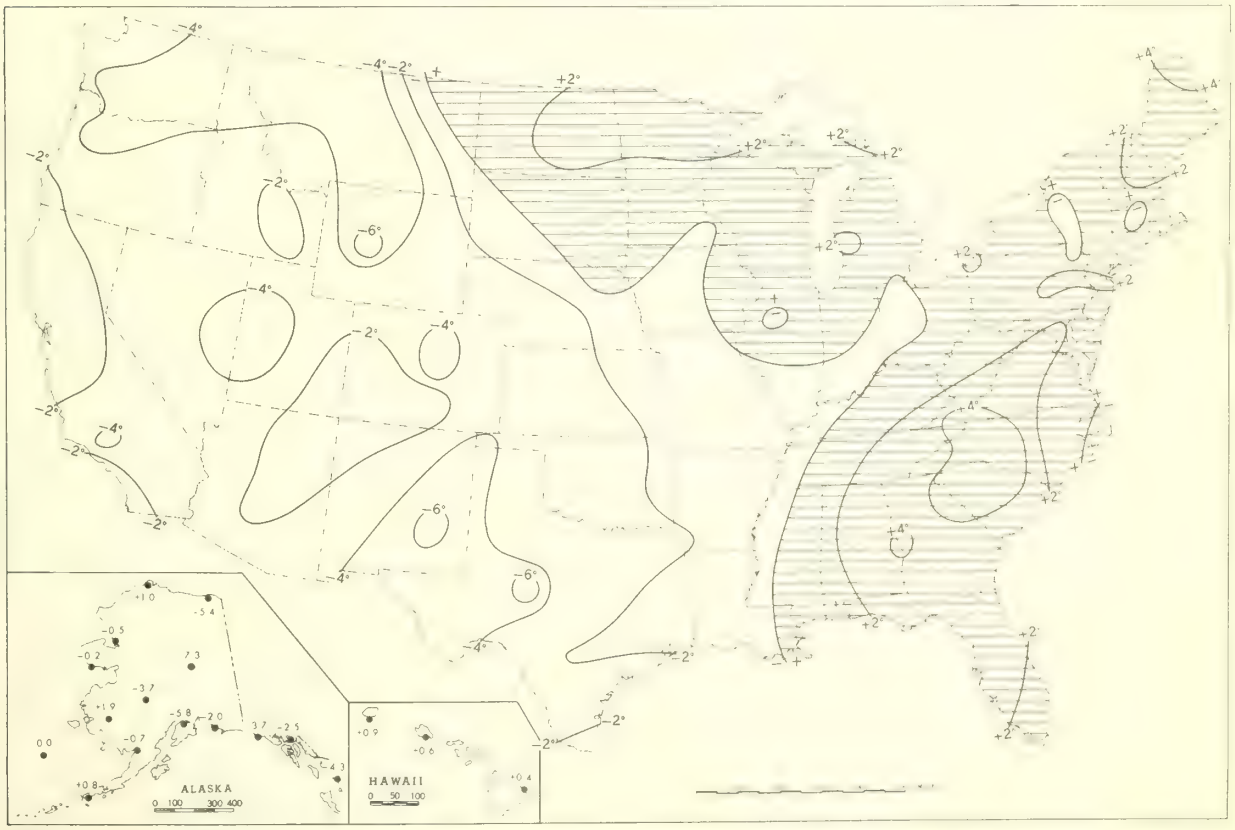
The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from the ground to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column of air is expressed in terms of thickness it would occupy if it were compressed to standard pressure and temperature.

The standard method of observation is that using A (3055 Å and 3254 Å) and D (3176 Å and 3398 Å) wave length pairs. On cloudy days when no observations can be obtained directly upon the sun, observations are taken by using light from the zenith cloud. These observations are not quite as reliable as the sunlight observations; therefore, average values based upon zenith cloud observations are denoted with an asterisk. A detailed description of the spectrophotometer and observational procedures may be found in the 'Observer's Handbook of the Ozone Spectrophotometer,' Annals of the International Geophysical Year, Volume V, Pergamon Press, 1957.

Chart I. A. Average Temperature (°F.) at Surface, November 1961.



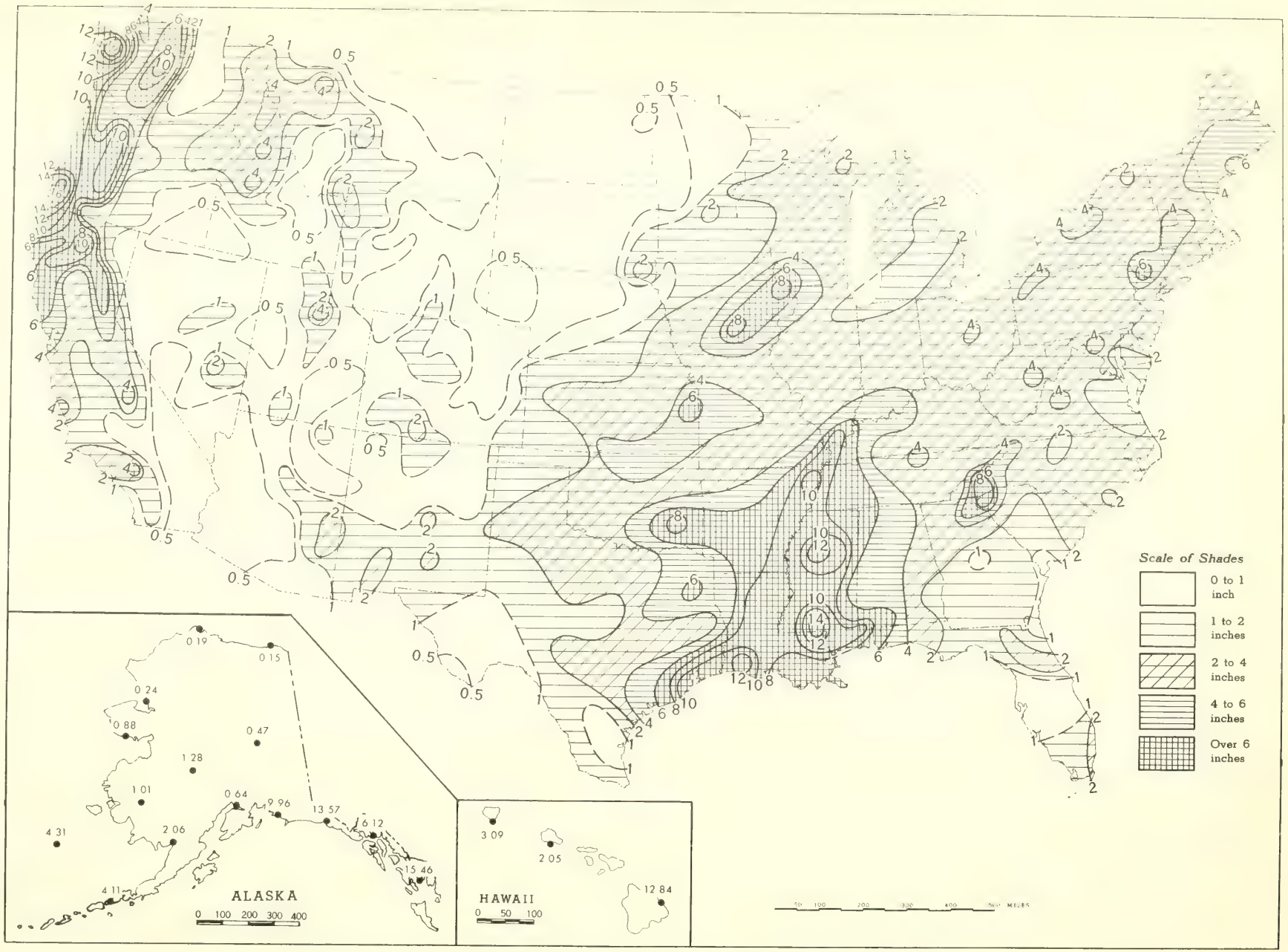
B. Departure of Average Temperature from Normal (°F.), November 1961.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

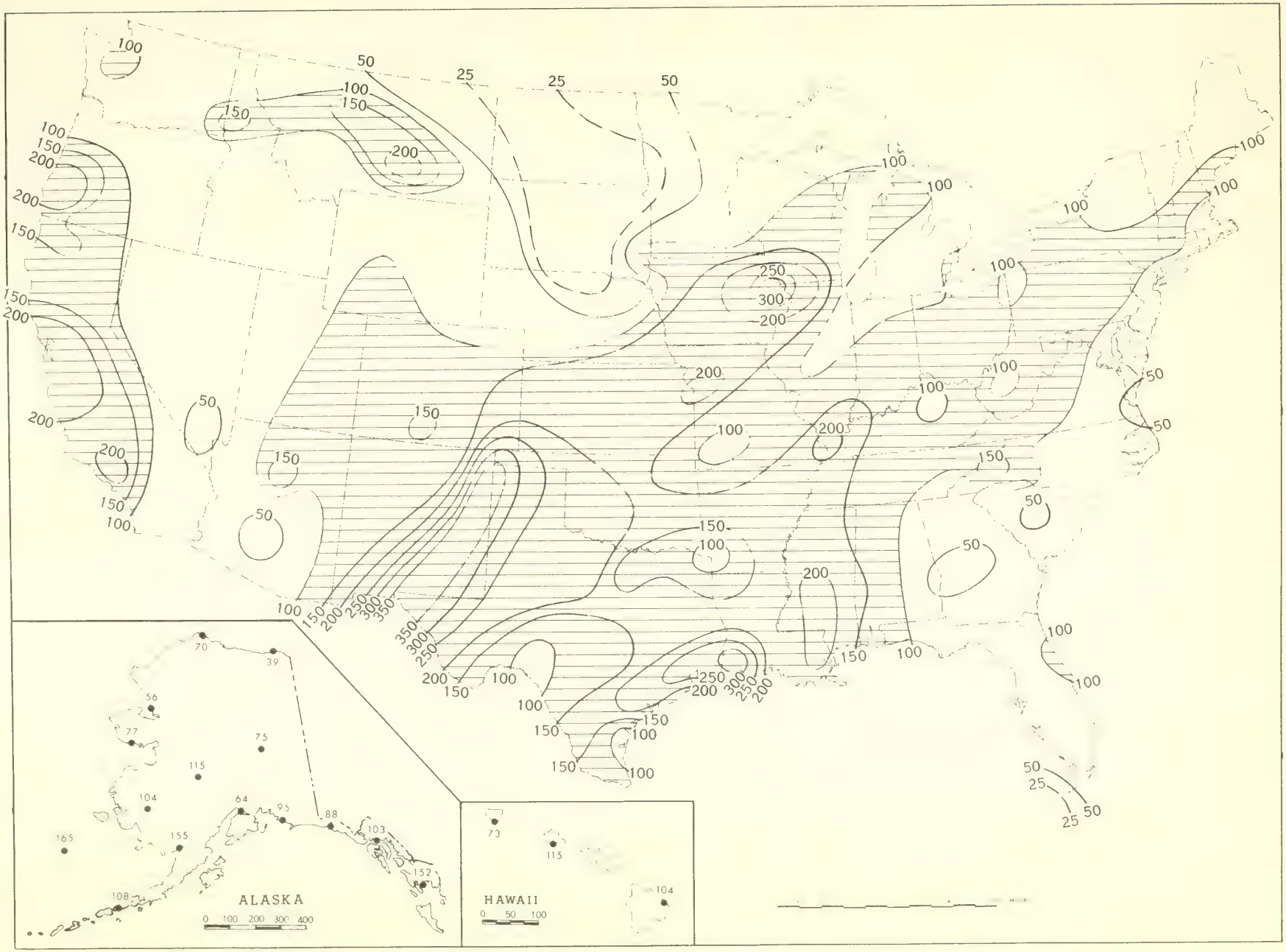
B. Departures from normal are based on the 30-yr. normals (1921-50) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), November 1961



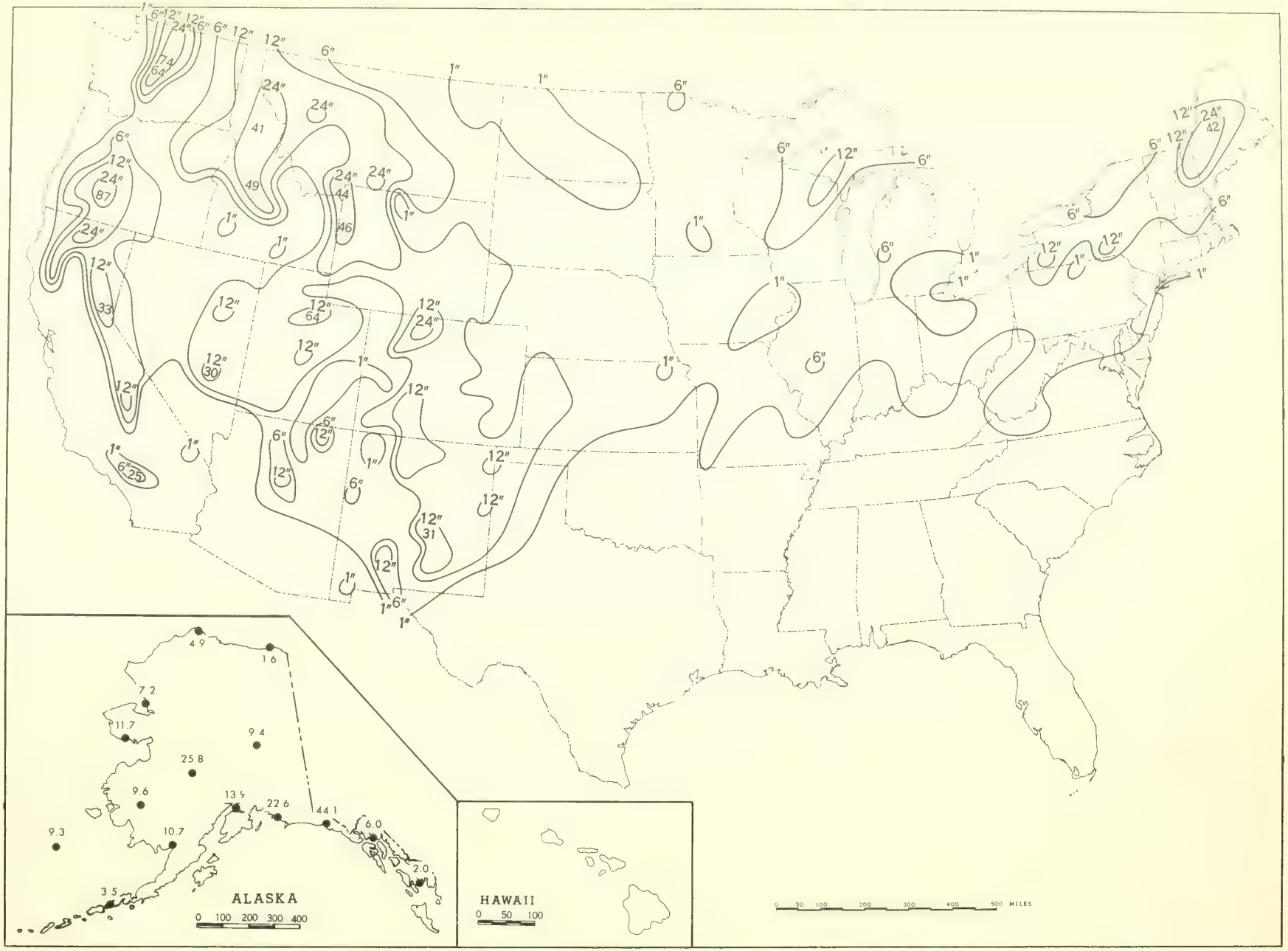
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, November 1961.



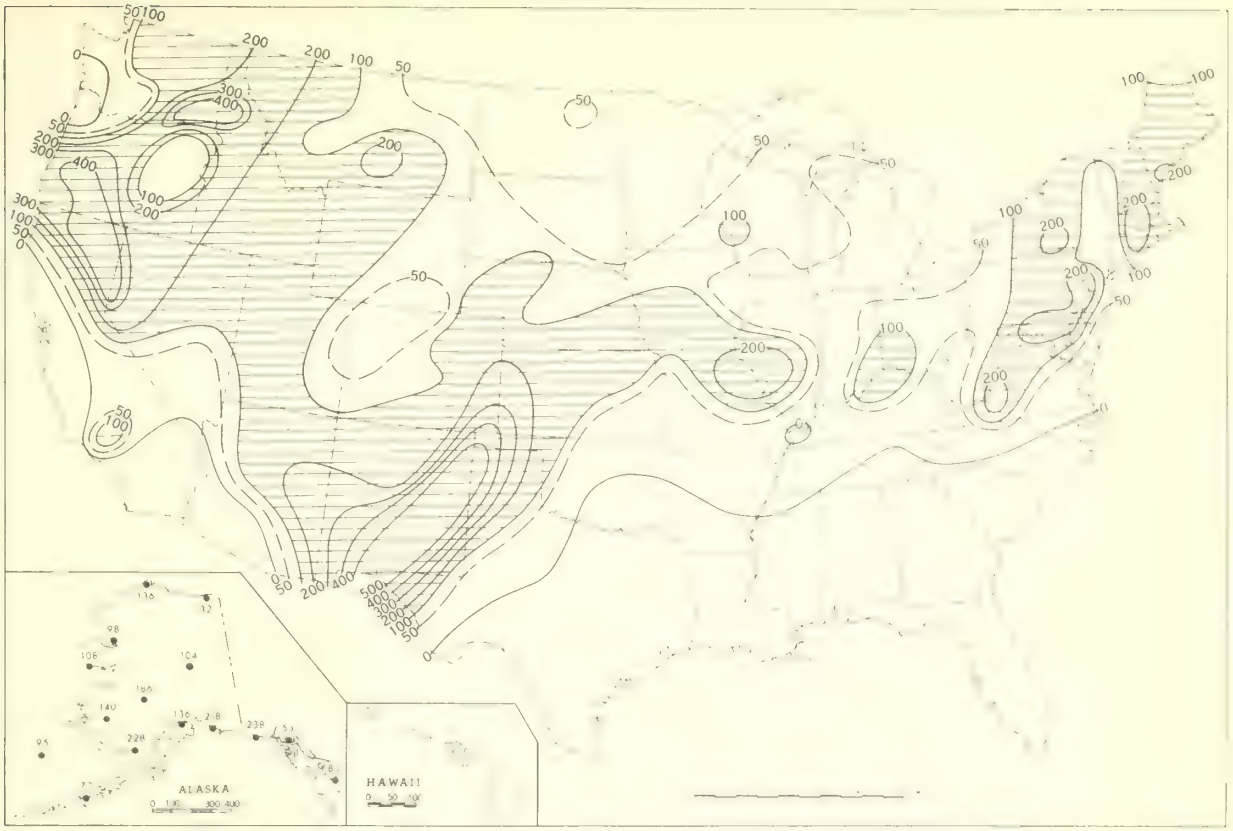
Normal monthly precipitation amounts are computed from the records for 1921-50 for first-order Weather Bureau stations.

Chart IV. Total Snowfall (Inches), November 1961.

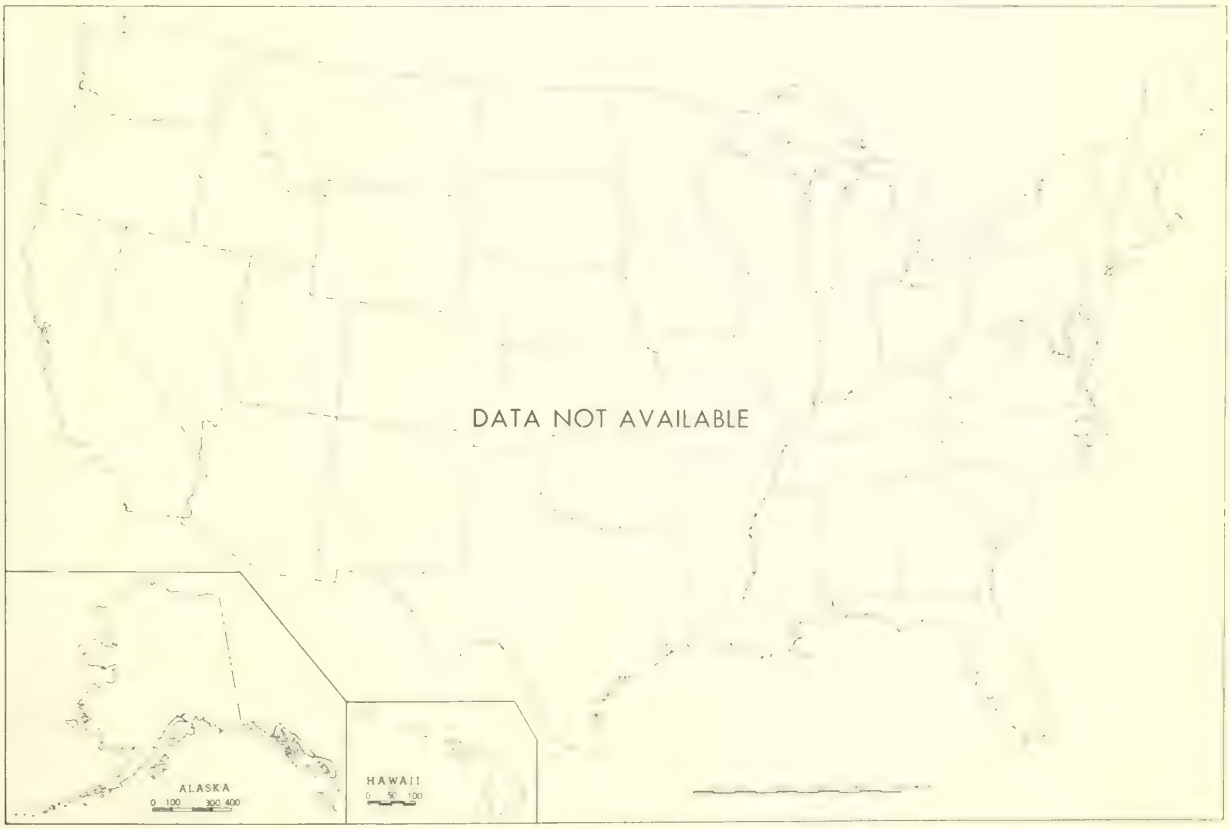


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, November 1961.

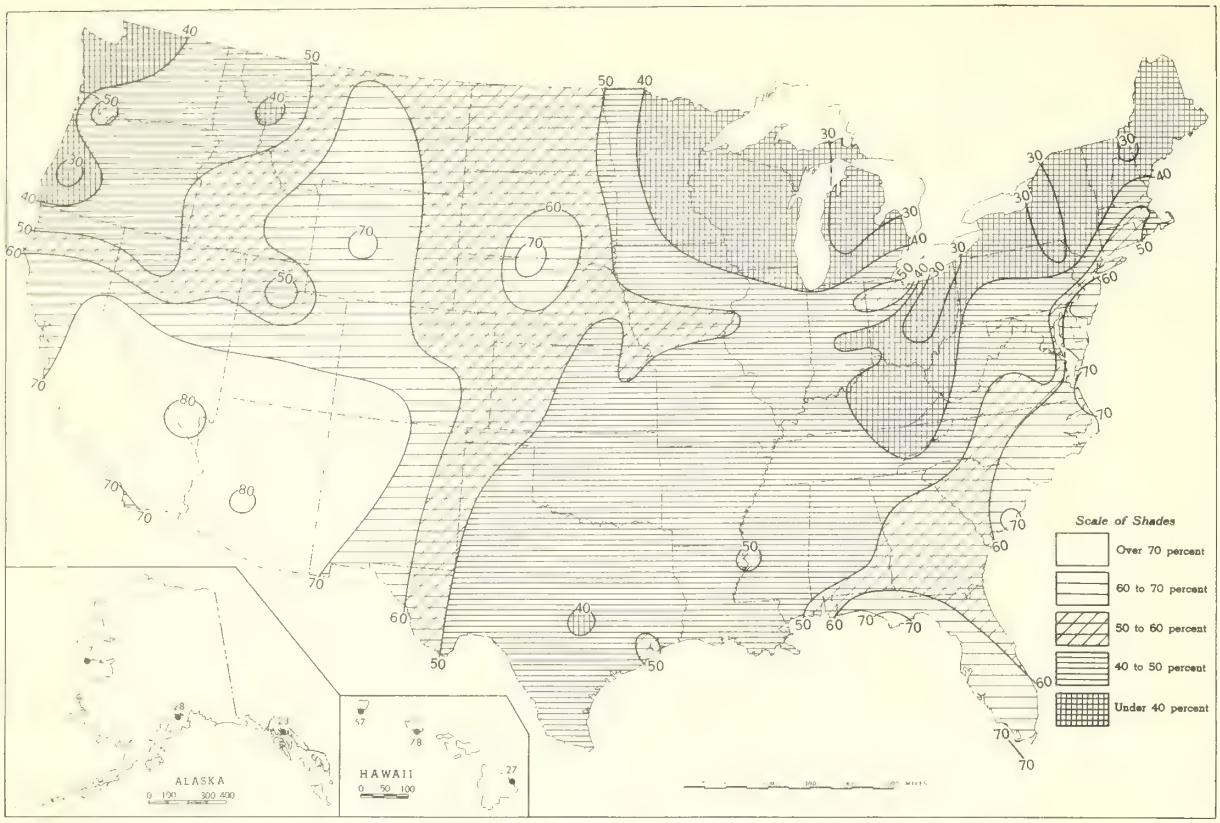


B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., December 4, 1961.

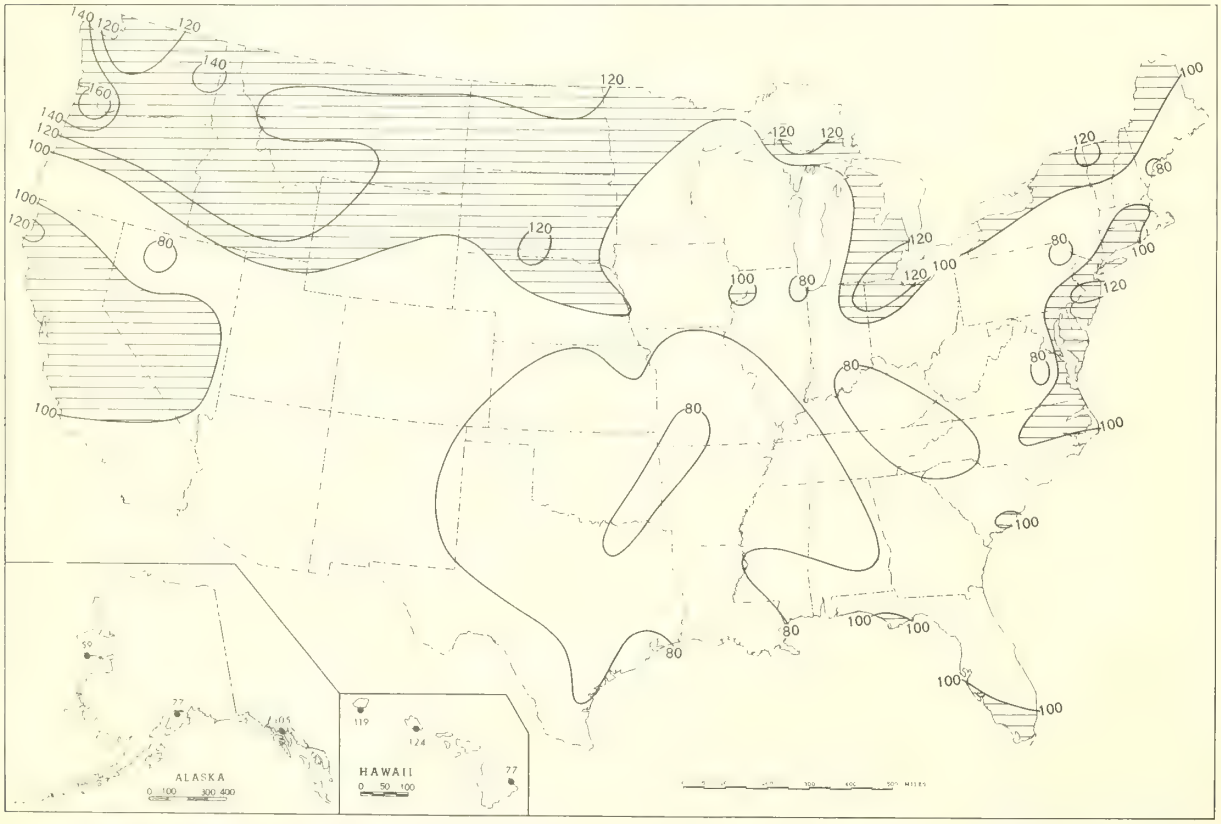


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, November 1961.

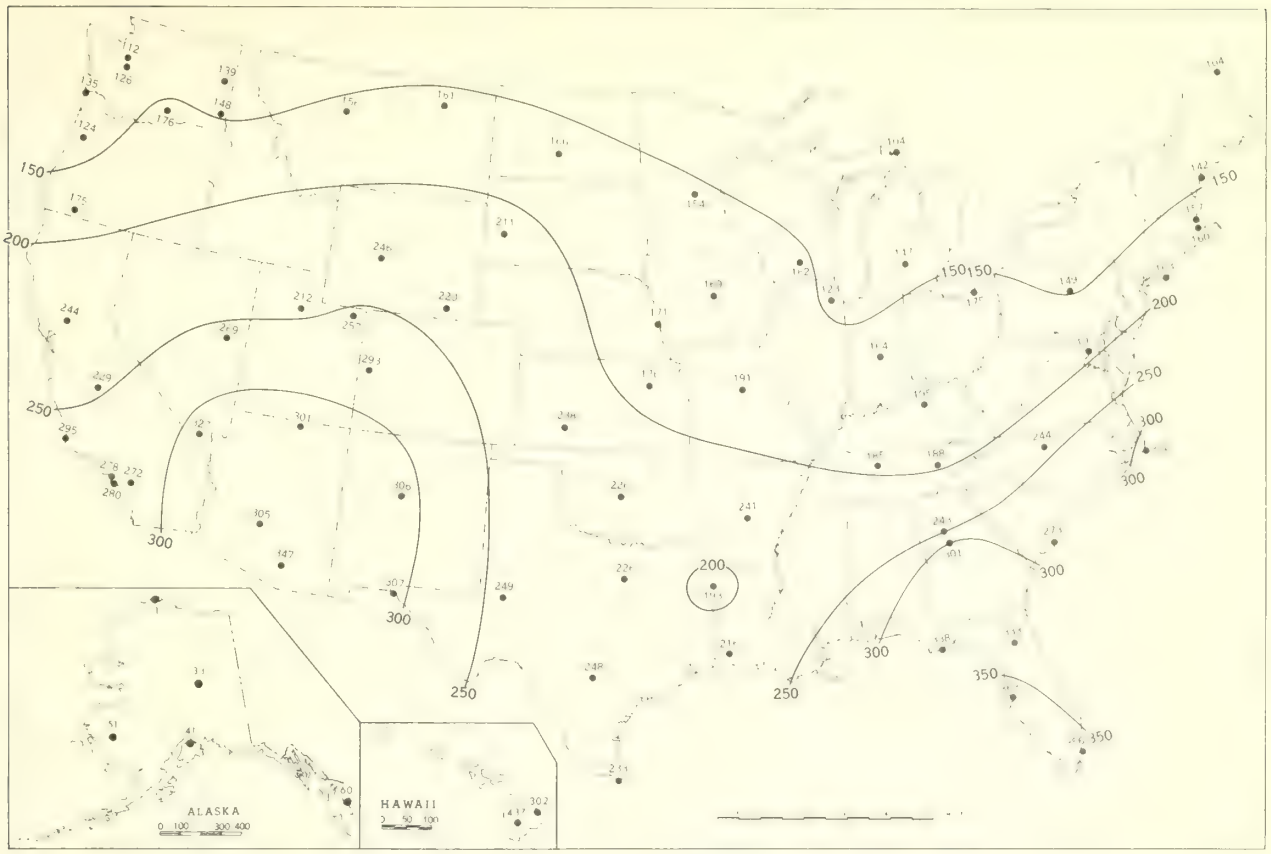


B. Percentage of Mean Monthly Sunshine, November 1961.

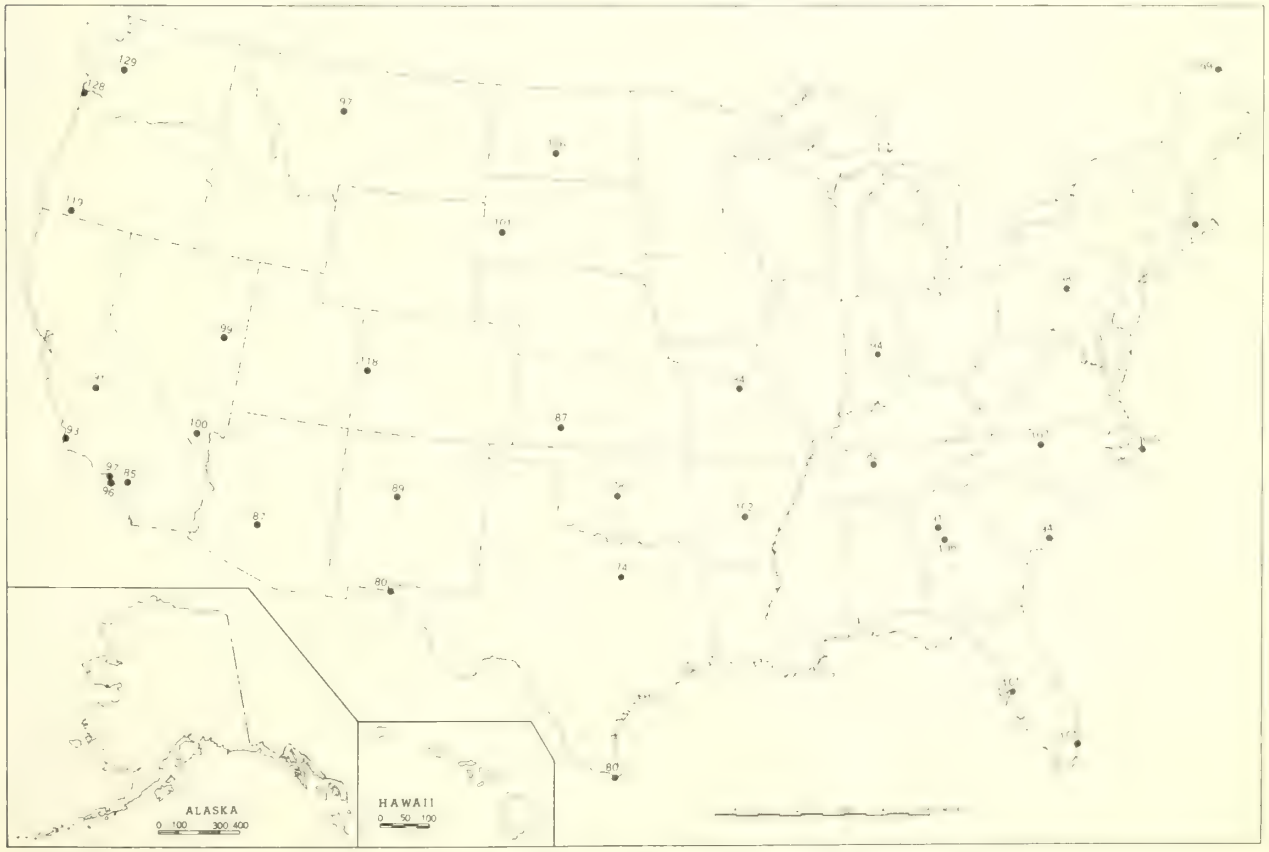


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, November 1961.



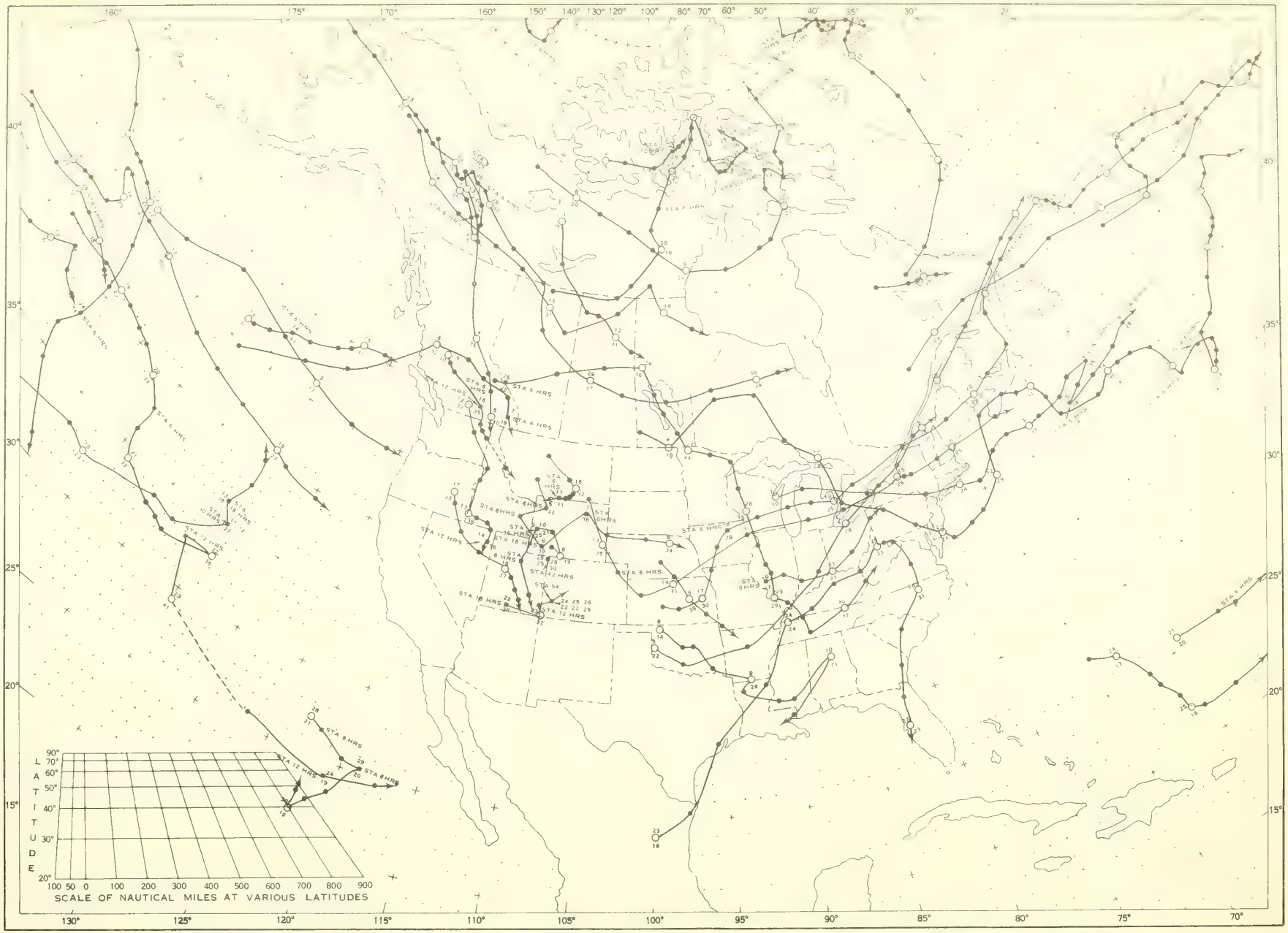
B. Percentage of Mean Daily Solar Radiation, November 1961.



A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956.

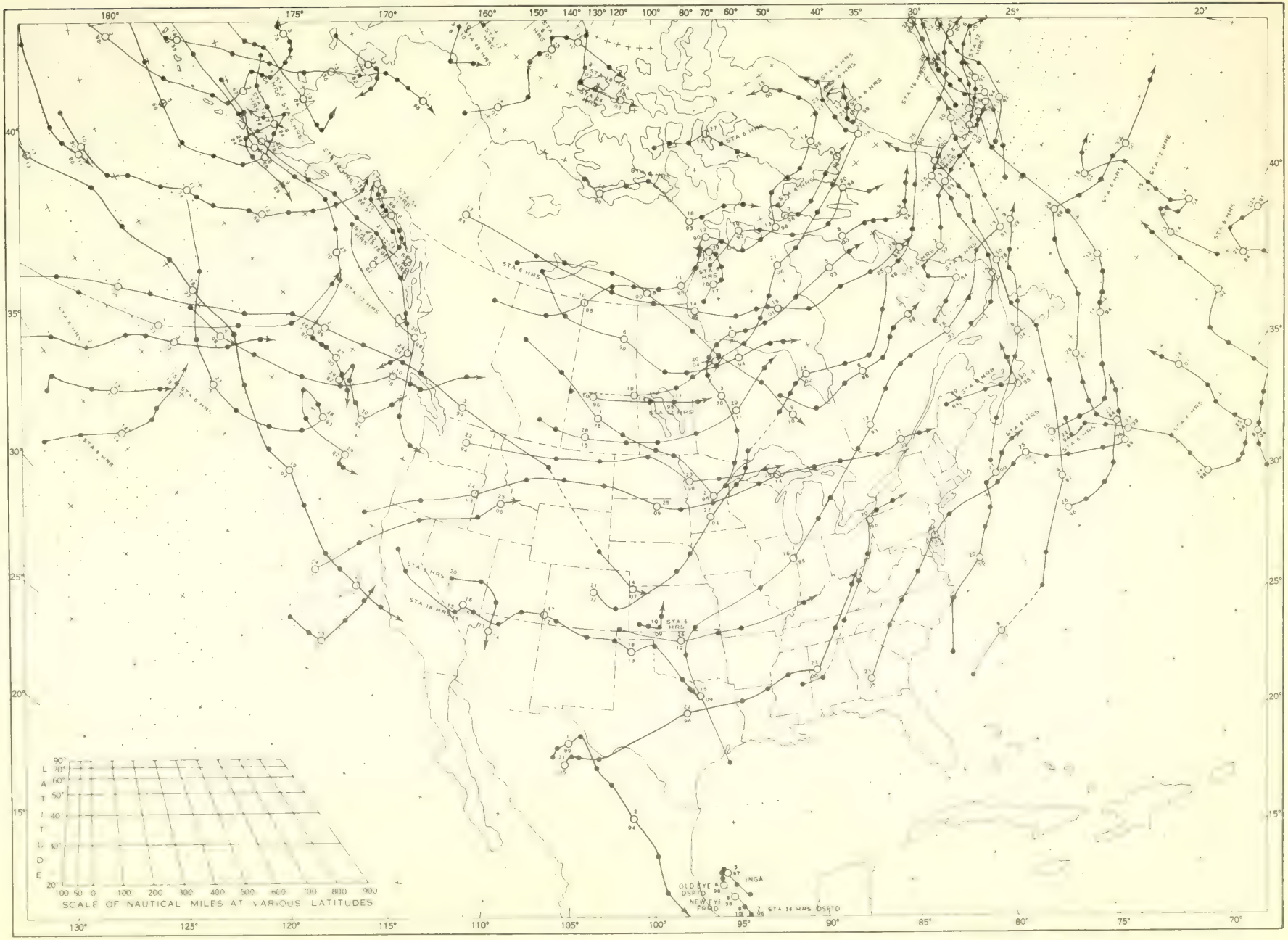
B. Percentage of the mean based on the period 1953-57, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII Tracks of Centers of Anticyclones at Sea Level, November 1961



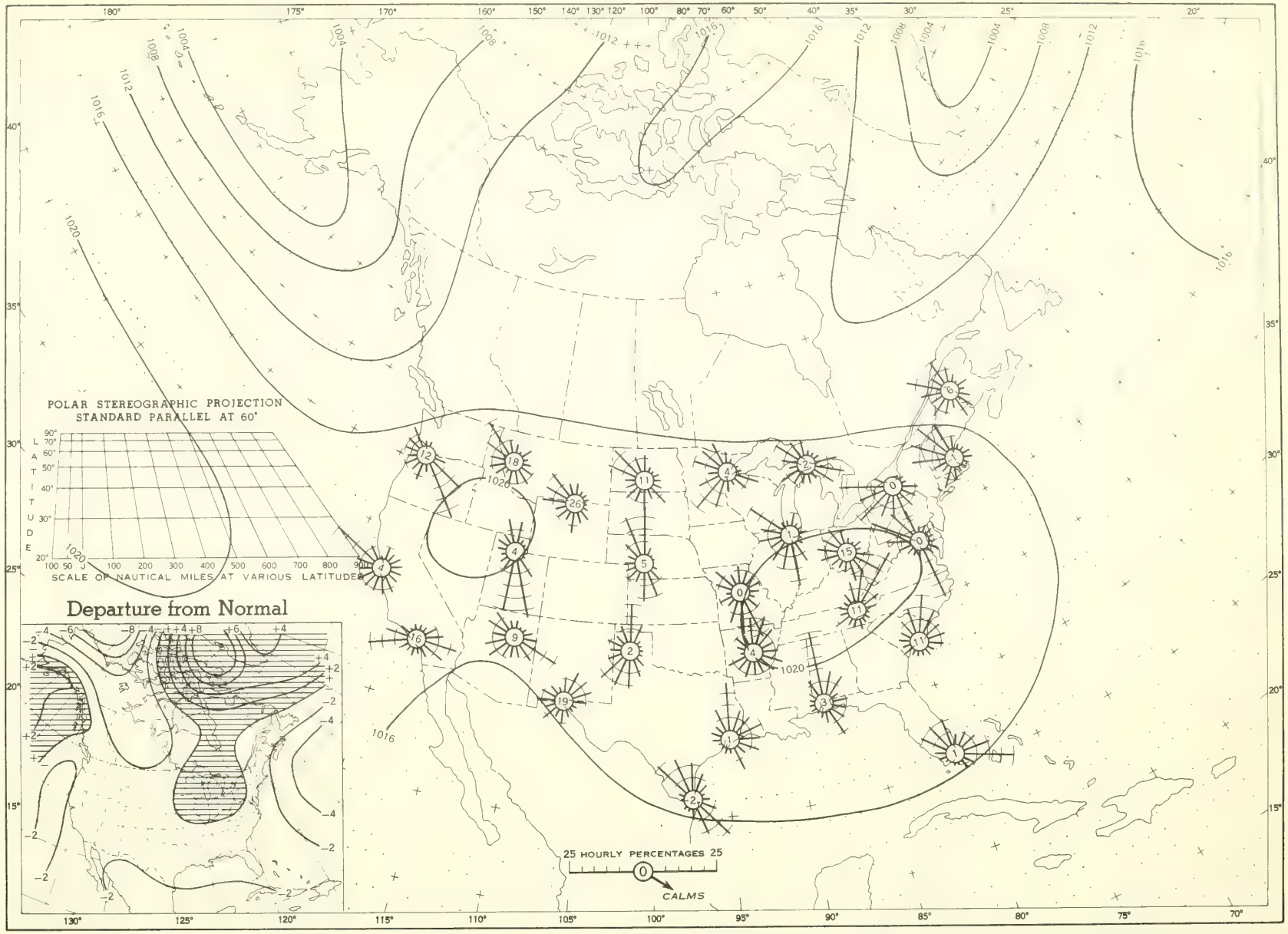
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, November 1961.



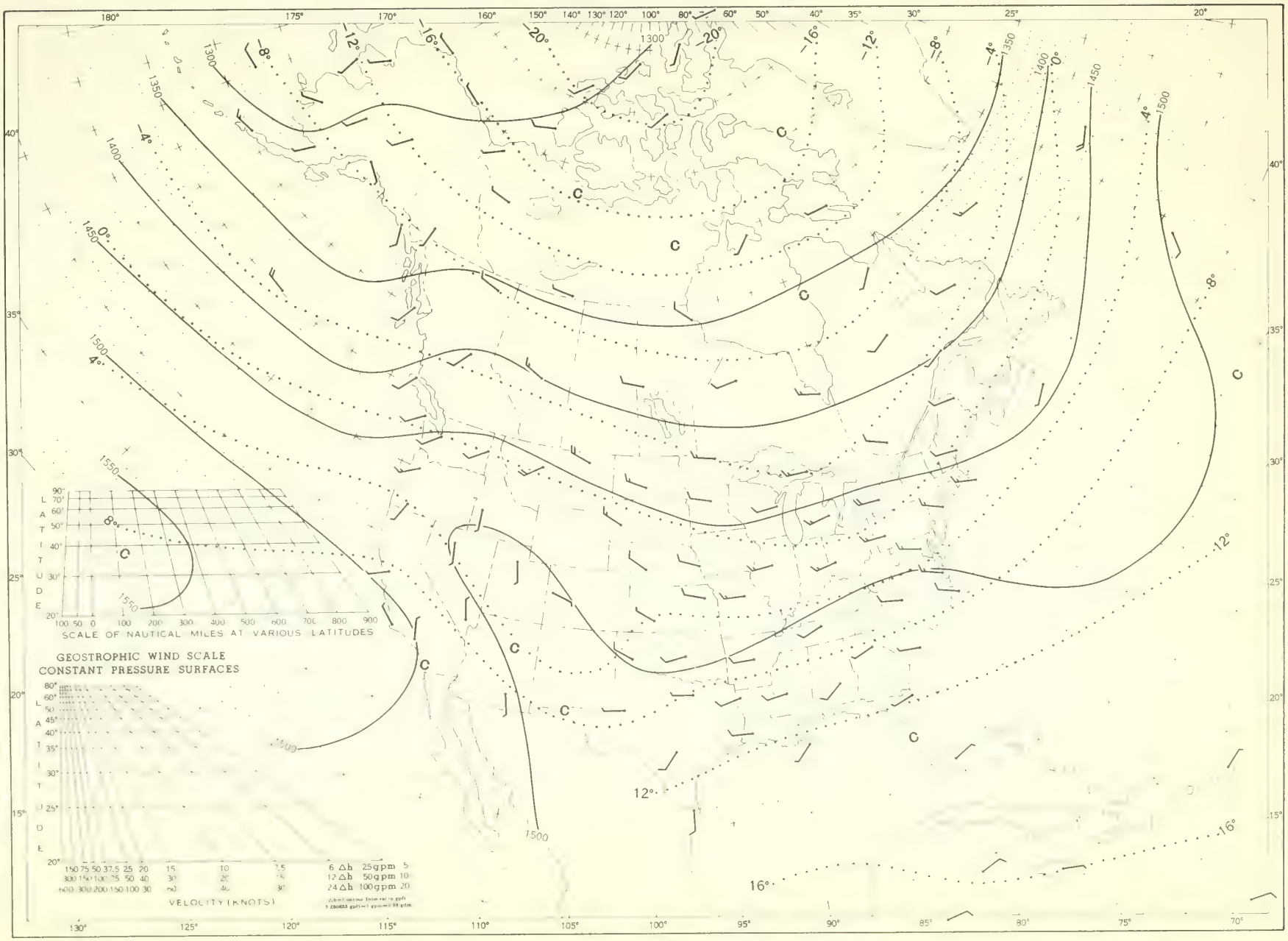
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, November 1961. Inset: Departure of Average Pressure (mb.) from Normal, November 1961.



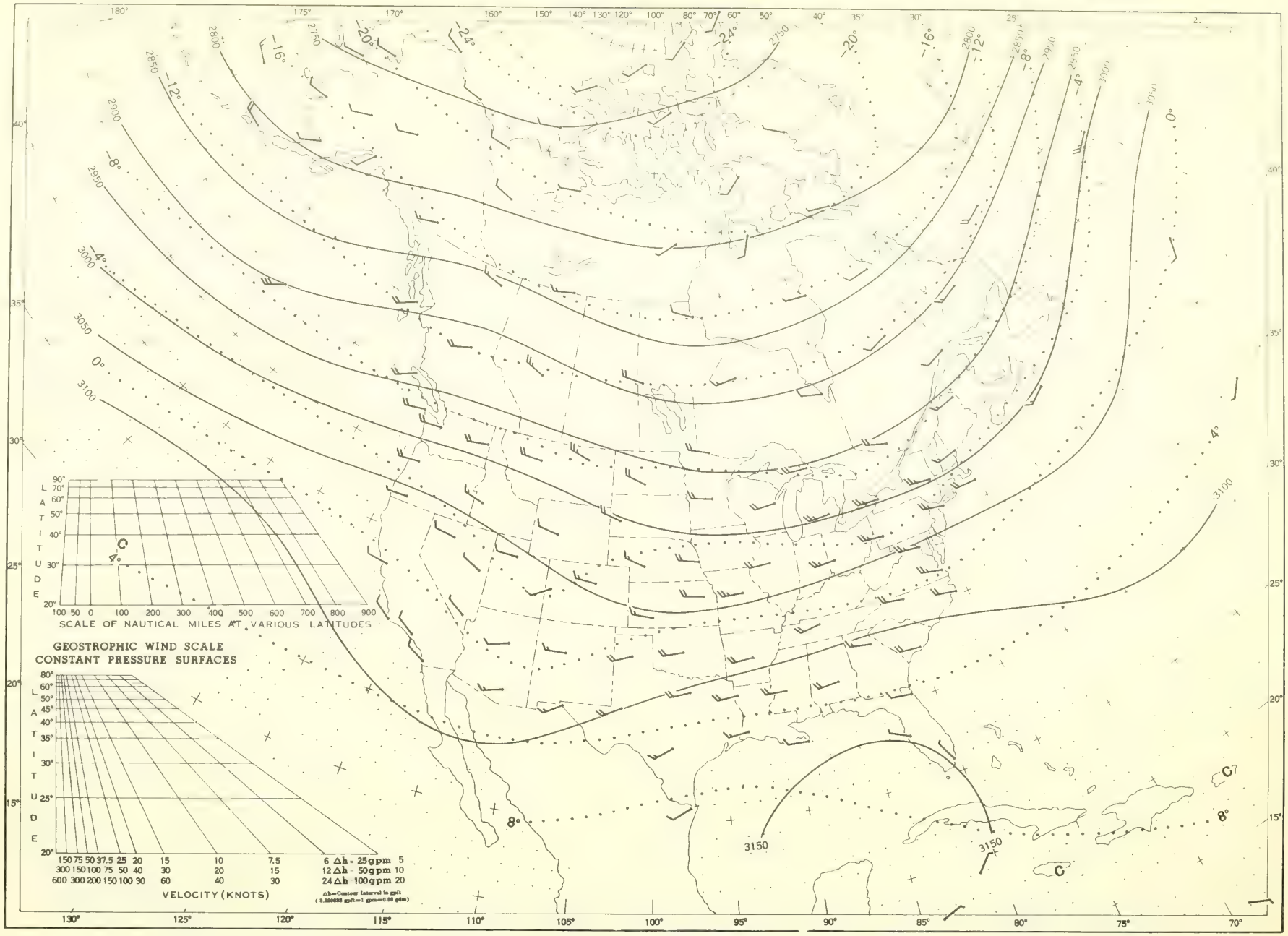
Average sea level pressures are obtained from the averages of the 7:00 a.m. and 7:00 p.m. E.S.T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, November 1961. Average Height and Temperature, and Resultant Winds.



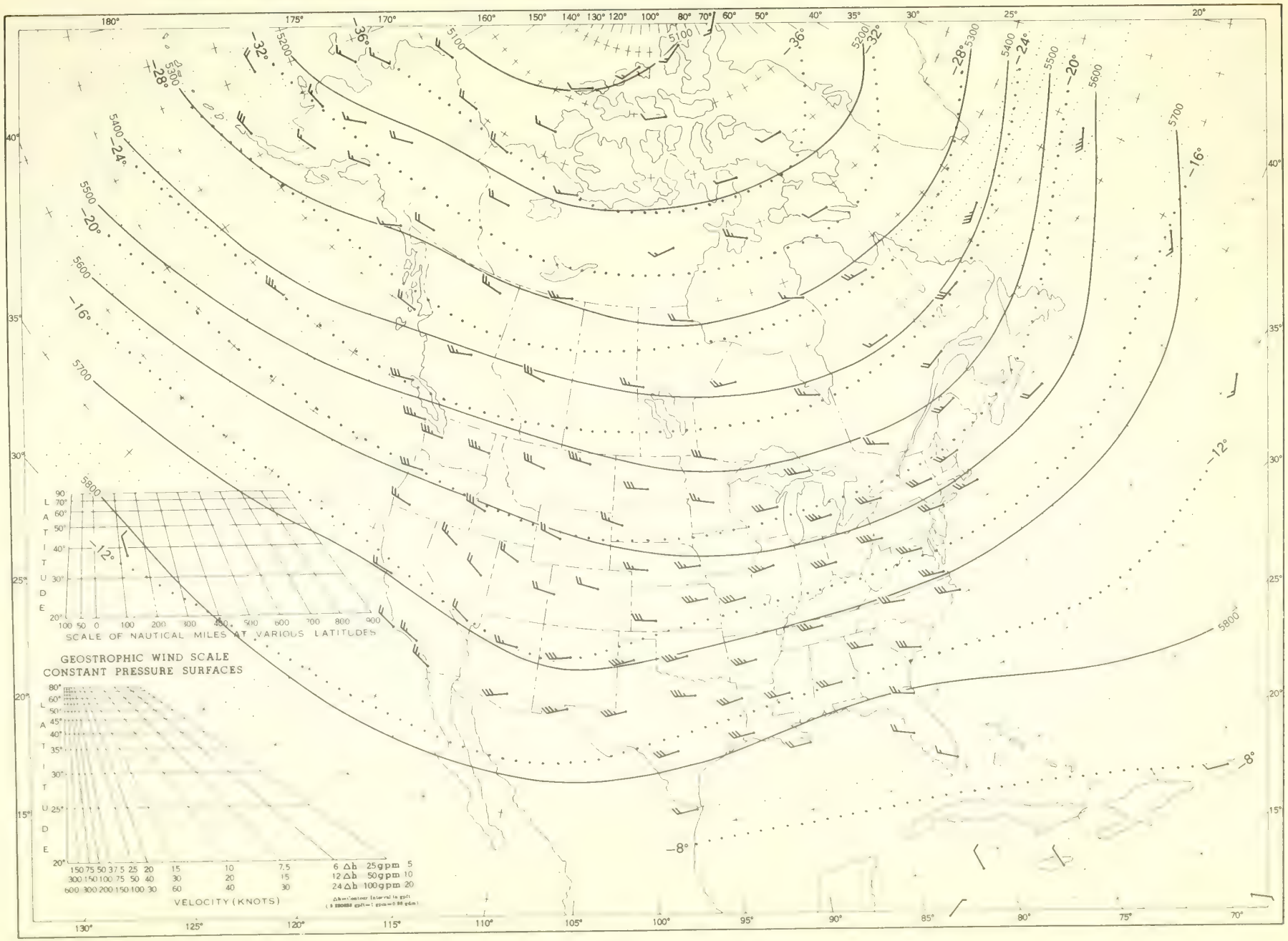
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, November 1961. Average Height and Temperature, and Resultant Winds.



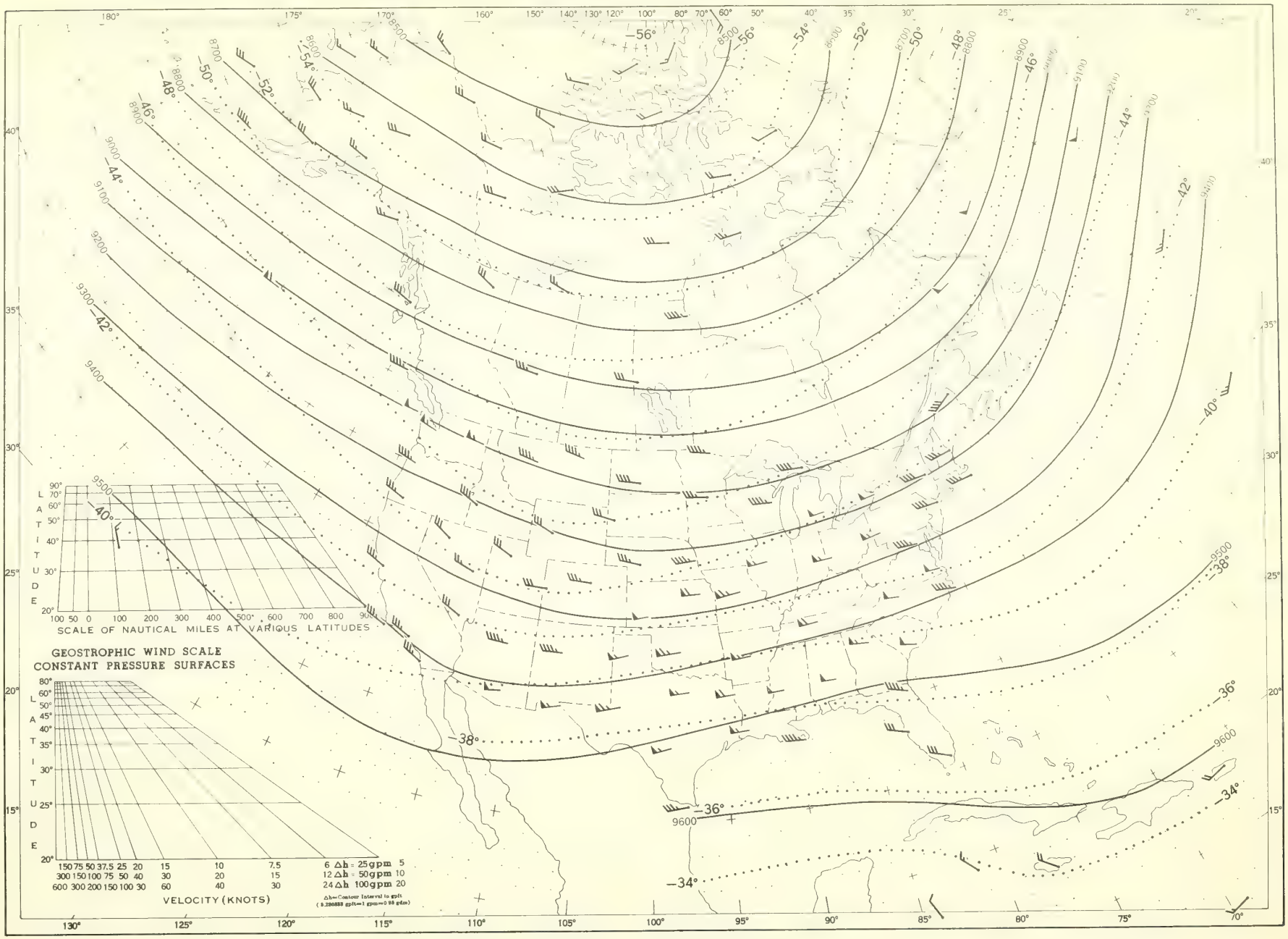
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, November 1961. Average Height and Temperature, and Resultant Winds.



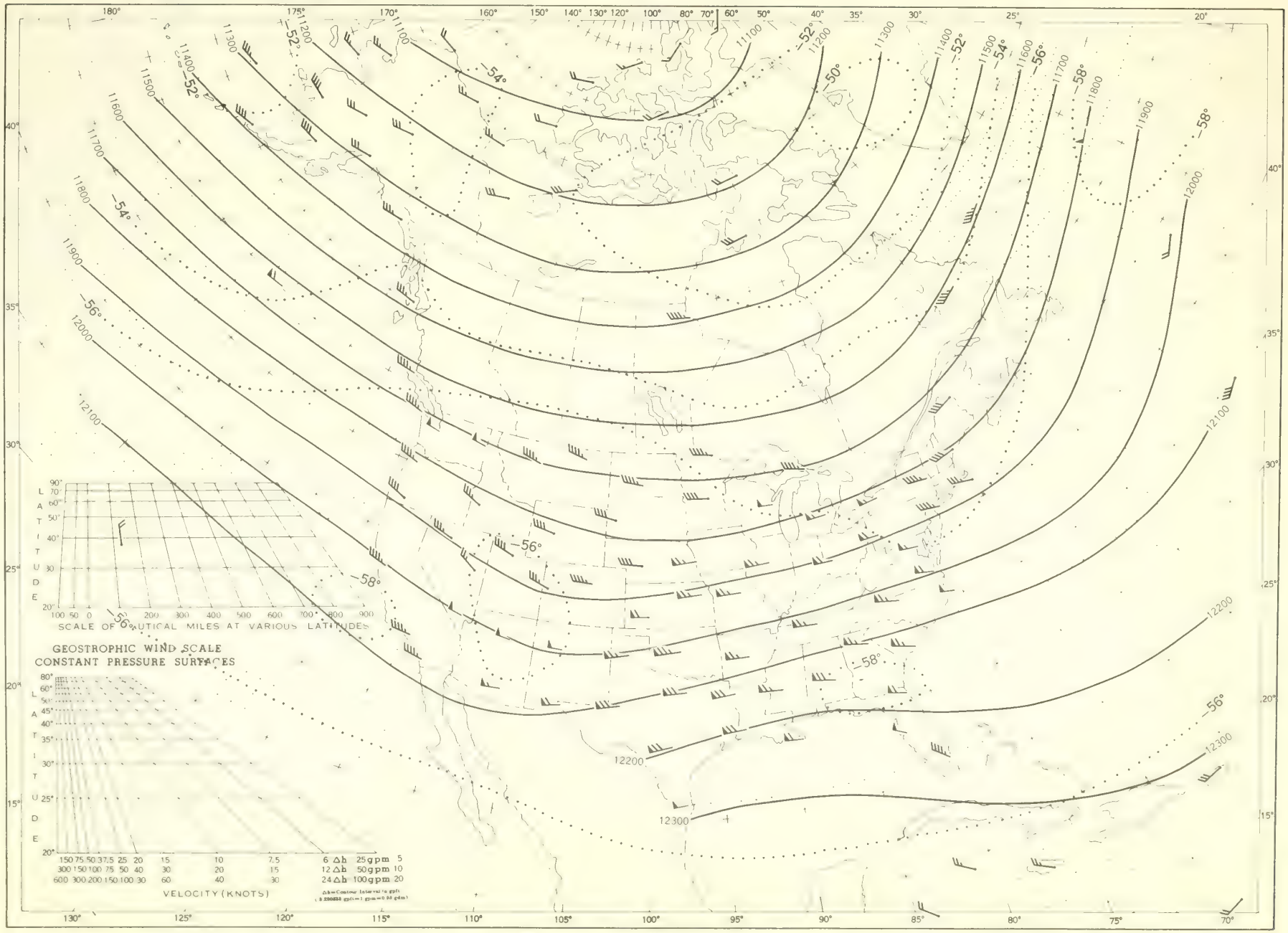
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, November 1961. Average Height and Temperature, and Resultant Winds.



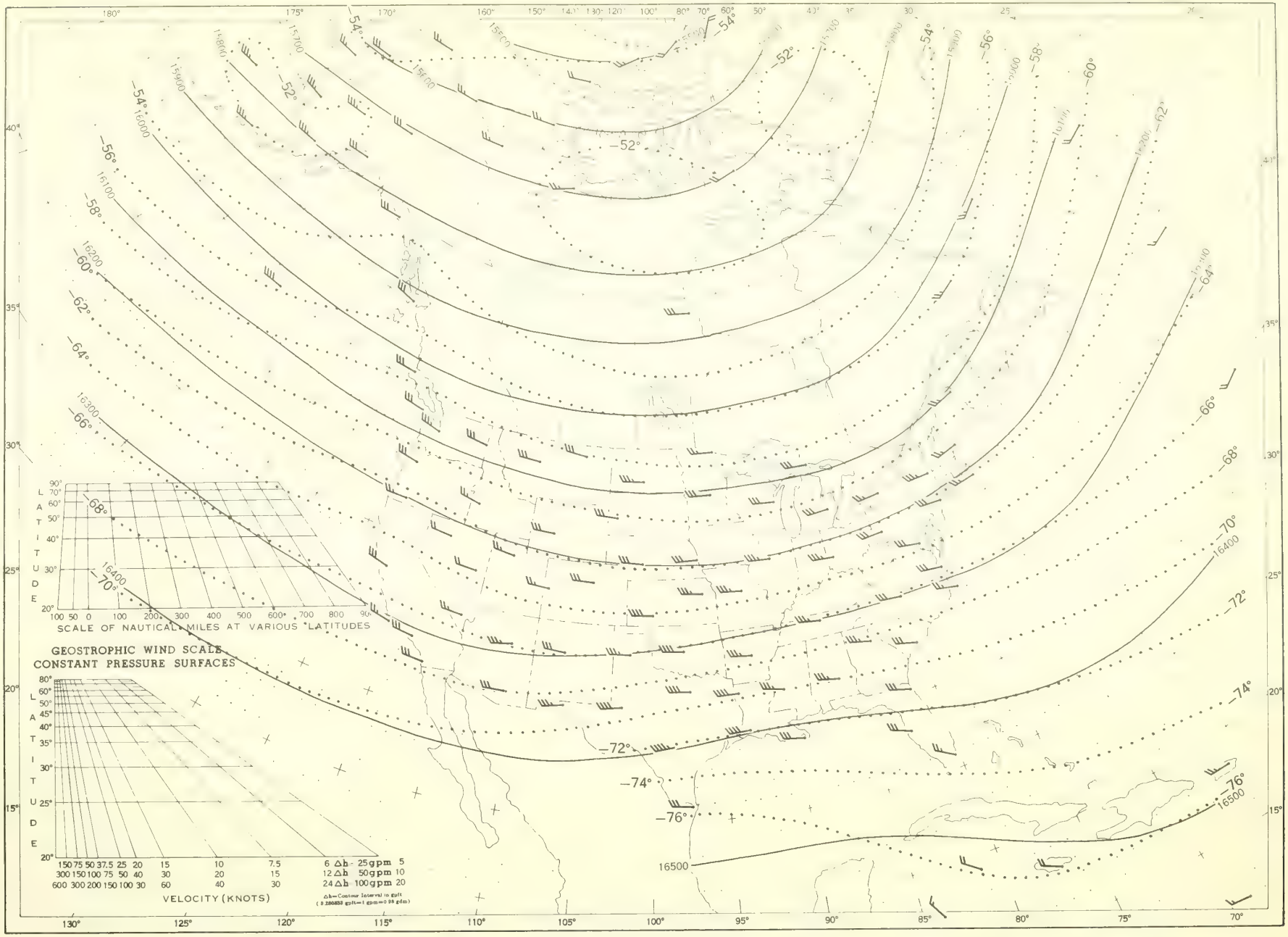
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, November 1961. Average Height and Temperature, and Resultant Winds.



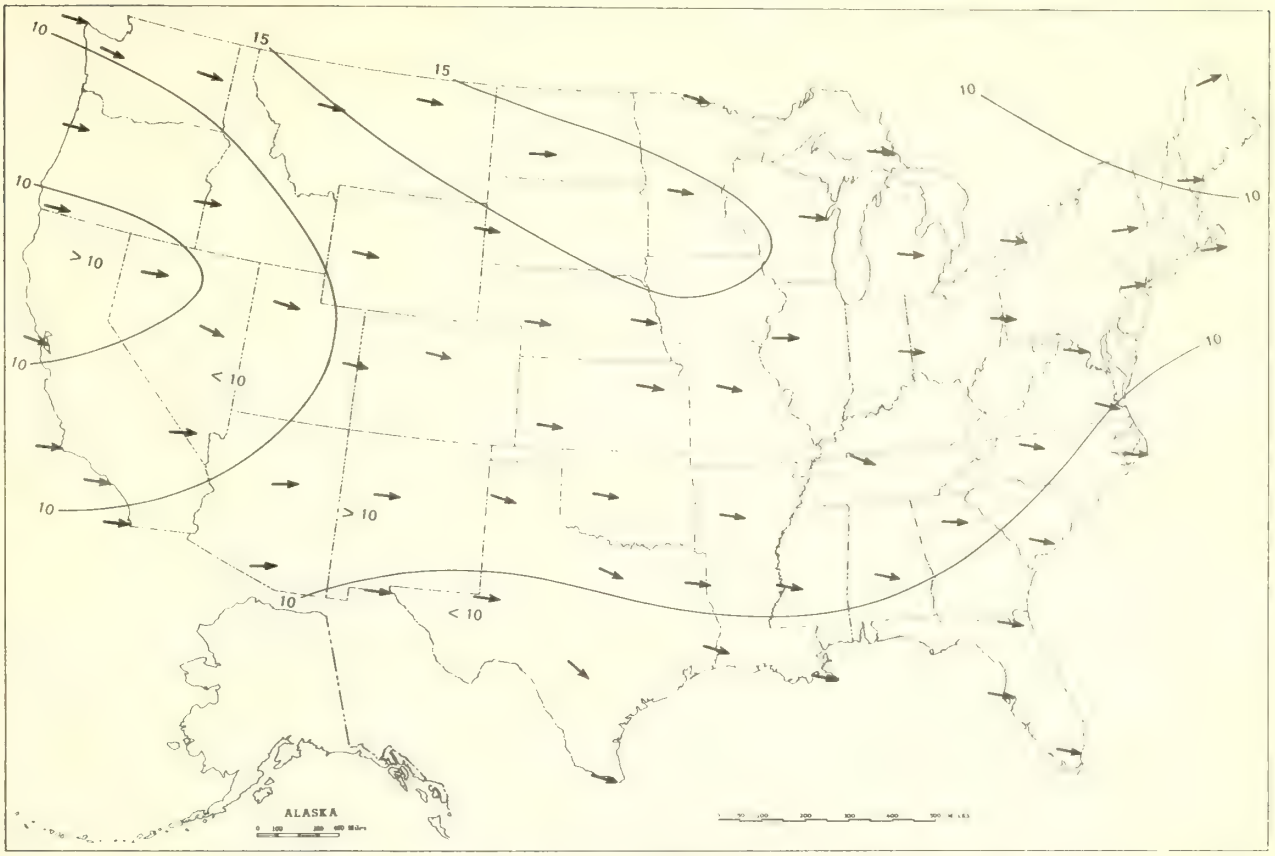
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, November 1961. Average Height and Temperature, and Resultant Winds.



See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, November 1961. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, November 1961. Resultant Winds.

Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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Volume 12 No. 12

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NOTE: Delayed data and corrections will be carried in the June and December issues of this publication.

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 12 No. 12 DECEMBER 1961

GENERAL SUMMARY OF WEATHER CONDITIONS

December 1961 was abnormally cold in most of the Nation, with below-normal temperatures prevailing the first 2 weeks of the month in the western two-thirds and during the last week in the East. Freezing and frost damaged tender crops in the Florida Everglades on the 26th and 30th. The weather was extremely cold in the midcontinent area about midmonth. Unusually heavy precipitation was mostly limited to an area extending from the lower Appalachians to the central Gulf region where considerable flooding occurred during the last 3 weeks of the month. In northern areas precipitation was mostly in the form of snow.

TEMPERATURE.--The first week was mild in the eastern half of the country. Escanaba, Mich., recorded 57° on December 4, the highest temperature ever recorded there during December since the beginning of records in 1871. Sault Ste. Marie, Mich., had a December high of 59° on the same date.

Extremely cold weather overspread the western half of the Nation during the latter part of the first decade, and a cold wave in the North Central Interior brought the first general subzero minima to that region. In Montana where lows were -20° or lower, this severe cold spell was the worst in nearly 2 years. Freezing occurred on the coasts of Washington and Oregon and frost in the southern valleys of Arizona. Lakes and streams froze over in Minnesota.

For the week ending the 17th, abnormally cold weather covered the western two-thirds of the Nation. Subzero temperatures extended southward to the Texas Panhandle, western Oklahoma, and northern Missouri. In Kansas a low of -26° at Kirwin on the 13th was the lowest ever recorded in that State during December. Lows of -48° were recorded at Bondurant, Wyo., on the 11th and Taylor Park, Colo., on the 12th. Subzero weather reached northern portions of New York and New England late in the week.

The week ending the 24th was somewhat warmer than the preceding week in all areas, but the last week of the month was extremely cold. Subzero minima extended southward to St. Louis, Mo., and the Ohio Valley on the 28th and at scattered points in the Northeast on the 29th and 30th. Frost and freeze extended to the Florida Everglades on the 26th and to interior sections along the southeastern coast of Florida on the 30th, damaging tender vegetables in southern portions of the State.

Unusually low temperatures during the month included -11° at Winslow, Ariz., on the 12th, the lowest there since 1932; -16° at Denver, Colo., on the 10th, the lowest there since February 1951; -12° at Topeka, Kans., on the 13th, the lowest recorded there in December; and -28° on the 12th at Pueblo, Colo., the lowest ever recorded there in December. For the month as a whole, this was the coldest December since 1927 at Concordia, Kans.; since 1924 at Topeka, Kans.; since 1932 at Cheyenne, Wyo.; since 1955 at Huron, S. Dak.; and the coldest on record at Las Vegas, Nev.

PRECIPITATION.--Most of the heavy precipitation in the Southeast fell during the first half of the month. Heavy rains were frequent from December 9 to 17 in the lower Appalachian region and central and east Gulf regions. This was the wettest December on record at Birmingham, Ala. (13.98 inches); Vicksburg, Miss. (13.91); Chattanooga, Tenn. (13.68); and Montgomery, Ala. (11.35). Some other heavy totals for the month were 21.24 inches at Flat Top, Ga.; 20.16 at Poplarville, Experiment Station, Miss.; 19.62 at Rosman, N. C.; and 15.55 at Ocoee Powerhouse, Tenn.

Precipitation was below normal in the Great Lakes area and portions of the Great Plains and Great Basin of the Far West. However, only portions of the Florida Peninsula and some sections of the Great Plains including southern Texas received less than 50 percent of their normal December precipitation.

SNOWFALL.--Snowfall was heavier than usual for December in most northern areas. Monthly totals were particularly heavy in the upper Mississippi and Lower Missouri Valleys, and the upper Great Lakes region. Monthly falls for Des Moines, Iowa (23.9 inches); Omaha, Nebr. (19.6); and Kansas City, Mo. (16.6) were the greatest on record for December; and 21.3 inches at Escanaba, Mich., was the most there in December since 1929. A fall of 11 inches in 24-hours in Des Moines, Iowa on the 11th and 12th was the second heaviest 24-hour fall of record there during December. Substantial snow fell in north-central interior regions three or four times during the month.

Snowfall was also heavier than usual for December in much of the Northeast. Harrisburg, Pa., measured 18.8 inches for the month, the third greatest amount on record for December. In the Pacific Northwest heavy totals, although not record-breaking, ranged up to 26 inches at Spokane, Wash. At the end of December the mountain snowpack in the Far West was generally above average, and considerably greater than at this time last year. The Sierra Nevada Mountain Range was the main exception where depths were even lower than they were a year ago.

DESTRUCTIVE STORMS.--Snowstorms, glaze, and floods probably accounted for most of the storm losses during December 1961. Damage from glaze was reported in central Massachusetts on the 18th to 20th. A severe windstorm caused heavy damage in Rapid City, S. Dak., on the 22d.

CONDENSED CLIMATOLOGICAL SUMMARY

DECEMBER 1961

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
Alabama	2 Stations	81	11	Russellville 2	8	30	Prattville	20.65	2 Stations	5.04
Arizona	do	82	3+	Many Farms	-32	12	Mt Lemmon Inn	10.01	Wahweap	.18
Arkansas	6 Stations	77	4+	Eureka Springs	0	13	Portland	12.80	Gravette	2.19
California	Indo Us Date Garden	85	24	Bridgeport	-13	9	Pit River PH 5	10.77	2 Stations	.16
Colorado	Eversoll Ranch	71	25+	Taylor Park	-48	12	Wolf Creek Pass 1E	4.16	Two Buttes 1NW	.04
Connecticut	Norwich Public Util Pl	58	6	Putnam	-12	31	Groton	4.27	Cream Hill	1.81
Delaware	Selbyville	65	5	Newark University Farm	9	31	Bridgeville 1NW	4.68	Newark University Farm	2.88
Florida	4 Stations	90	18+	Live Oak 2ESE	14	30	Le Funiak Springs	10.97	2 Stations	T
Georgia	Folkston 9SW	84	10	Blairsville Esp Station	4	30	Flat Top	21.24	Folkston 9SW	.75
Idaho	3 Stations	59	24+	Obsidian 3SSE	-41	11	Burke 2ENE	8.69	May RS	.22
Illinois	East St Louis Parks Col	72	3	Aledo	-15	28	Albion	5.86	Jacksonville	.74
Indiana	Jeffersonville	70	3	2 Stations	-9	31			West Lafayette FAA AP	1.12
Iowa	Sigourney	66	3	do	-26	13	Chariton	2.92	Sioux City 8N	.66
Kansas	2 Stations	72	4+	Kirwin	-26	13	Pittsburg	2.10	Johnson 11ESE	.04
Kentucky	Hickman 1E	72	5	2 Stations	-3	29	Gamaliel	7.56	Flemingsburg 2	2.74
Louisiana	Slidell	86	5	do	15	29	Bogalusa	18.93	Catfish Point	3.25
Maine	Portland WBAP	53	3	Clayton Lake	-13	17	Bar Harbor	6.54	St. Francis	1.79
Maryland	Princess Anne	66	5	Unionville	-4	31	Crisfield Hammock Pt	6.13	Hancock Fruit Lab	2.50
Massachusetts	Sandwich	59	5	West Cummington	-13	31	2 Stations	4.92	Adams	2.42
Michigan	Rogers City	62	4	Stephenson 5W	-19	28	Kincheloe AF Base	4.31	Gull Lake Exp Farm	.76
Minnesota	Winona	60	4	Bigfork	-34	15	Austin 4S	1.83	Tyler	.25
Mississippi	Picayune 4S	82	5	Houston 2NE	11	29	Poplarville Exp Station	20.16	Pearlington 2NNE	6.68
Missouri	Berryman 6NW	76	3	Maryville 2E	-22	14	Kennett Radio KBOA	6.40	Monroe City	.67
Montana	Canyon Ferry PH	59	3	2 Stations	-43	11+	Troy 18N	6.56	3 Stations	.00
Nebraska	5 Stations	67	3+	Wakefield	-25	13	Fremont	1.71	Box Butte Exp Farm	T
Nevada	Overton	73	1	Charleston	-33	11	Vya	2.10	Currie Highway Sta	.10
New Hampshire	4 Stations	55	5	Grafton	-17	31+	2 Stations	4.05	Lakeport	2.02
New Jersey	9 Stations	60	6+	Layton 3NW	-9	31	Orange	5.02	High Point Park	2.10
New Mexico	Artesia	79	2	Dulce	-47	12	McCauley Ranch	5.47	2 Stations	.00
New York	Cairo	61	5	Old Forge	-24	16	Piseco	5.24	Hammondsport 1S	.56
North Carolina	New Bern FAA Airport	80	12	2 Stations	2	30+	Rosman	19.62	Whiteville	.63
North Dakota	3 Stations	58	2+	do	-36	20+	Bisbee	1.21	3 Stations	T
Ohio	8 Stations	68	5+	do	-9	29	Ironton	3.99	Montpelier	.85
Oklahoma	2 Stations	78	3+	Kenton	-12	12	Bear Mountain Tower	5.39	Goodwell	.03
Oregon	Brookings	63	6	Seneca	-29	11	Valsetz	21.29	Andrews 23ESE	.41
Pennsylvania	2 Stations	65	5+	Pleasant Mount 1W	-14	31+	DeVault 1W	4.81	Lawrenceville 2S	.77
Puerto Rico	Guayama	92	9	Cayey 1NW	53	27	Dorado 4W	16.35	Coamo Dam	.55
Rhode Island	4 Stations	55	5	2 Stations	6	30+	Newport	4.42	Greenville	3.09
South Carolina	Waterboro	82	12	Caesars Head	7	29	Sassafras Mountain	14.43	Loris	.99
South Dakota	Wood	69	3	Deerfield 5NW	-29	10	Lead	1.92	4 Stations	.05
Tennessee	2 Stations	76	4+	Crossville Exp Station	-4	29	Ocoee Powerhouse 2	15.55	Westbourne	5.41
Texas	Carrizo Springs	89	5	Dalhart FAA Airport	-12	12	Neuville	10.17	Several Stations	.00
Utah	2 Stations	67	3+	Woodruff	-32	11	Alta	7.91	Manila	.05
Vermont	Bennington 2NW	52	5	West Burke	-17	16	Searsburg Station	4.31	Enosburg Falls	1.62
Virginia	Cape Henry WB City	72	18	Wise 1SE	-5	29	Olinger	7.87	Amissville	2.56
Washington	2 Stations	62	29+	Chewelah 2S	-17	10	Aberdeen 20NNE	25.92	Sunnyside	.60
West Virginia	Huntington WB Airport	71	4	Kumbrabow State Forest	-8	29	Pickens 1	7.17	Wellsburg 3NE	1.68
Wisconsin	2 Stations	65	4	Grantsburg 1E	-30	15	Wausaukee	2.35	Fond du Lac	.59
Wyoming	Chugwater	63	2	Bondurant 3NW	-48	11	Moran 5WNW	4.09	2 Stations	.00

+ And also on an earlier date or dates.

NOTE: Dates in the above Condensed Climatological Summary apply to the period 24 hours prior to time of observation. In some cases the actual occurrence is on the calendar date preceding that shown. (See individual Climatological Data for times of observations).

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
ALABAMA																																
BIRMINGHAM	610	994.2	1020.2	56	38	46.9	1.2	75	4+	20	30+	0	11	37	72	13.98	8.73	5.29	16	3	T	0	8.9	NNW	38	SW	12	9	4	18	6.6	38
HUNTSVILLE	605	995.9	1019.9	52	36	43.9		75	3	14	29	0	14	35	74	12.17		3.43	16	3	0.7	T	8.3	ESE	35*	ESE	9	5	7	19	7.3	
MOBILE	211	1017.6	1020.0	64	46	54.9	1.4	79	6	26	29	0	6	47	77	10.92	5.51	3.63	12	5	0.0	0	11.4	S	34*	N	31	11	5	15	5.8	
MONTGOMERY	195	1011.8	1020.3	60	41	50.4	1.0	80	11	21	30	0	8	43	78	11.35	6.81	3.21	15	5	0.0	0	8.0	NW	25	SW	11+	10	4	17	6.0	45
ALASKA																																
ANCHORAGE	90	1002.4	1007.5	11	- 3	4.2	- 9.6	42	10	-30	28+	B 0	31	- 6	64	0.95	0.11	0.31	11	0	11.0	7	4.7	N	17*	NNW	21	13	1	17	5.7	41
ANNETTE	110	1004.7	1008.6	38	31	34.5	- 1.6	49	31	14	21	0	20	32	88	14.82	5.71	2.14	27	0	39.4	12	11.5	ESE	35*	SSE	31	0	3	28	9.5	
BARROW	22	1022.4	1022.9	-10	-22	-16.1	- 5.7	12	11	-40	24	0	31	-26	59	0.11	-0.09	0.06	5	0	3.6	14	8.6	W	35*	ENE	31	Z	Z	Z		
BARTER ISLAND	39	1020.7	1022.4	-13	-26	-19.2	- 8.3	24	12	-51	24	0	31	-26	68	0.17	-0.29	0.08	7	0	2.3	6	18.6	W	72*	W	12	Z	Z	Z		
BETHEL	125	1011.9	1013.1	0	-10	- 5.1	-12.3	40	9	-34	28+	0	31	-15	64	1.09	0.24	0.60	10	0	3.7	7	18.3	NNE	40*	NNE	30+	16	3	12	4.5	
COLD BAY	94	1003.1	1007.0	31	22	26.3	- 3.5	47	9	4	19	0	26	22	80	2.79	0.31	1.01	13	0	4.9	2	16.5	N	48*	NNE	26	4	2	25	8.6	
CORDOVA	40	1000.7	1002.4	26	10	17.7	- 8.9	45	31	-12	28	0	28	13	80	4.86	-2.10	1.22	16	0	18.9	13	4.1	E	23*	ESE	31	5	4	22	7.7	
FAIRBANKS	436	1000.0	1018.6	-16	-31	-23.9	-14.8	25	10+	-62	29+	0	31	-27	70	0.59	0.09	0.37	6	0	6.3	18	3.5	N	15*	NNW	14+	11	7	13	5.7	
JUNEAU	17	1006.4	1007.3	28	21	24.6	- 3.0	47	31	- 3	21	0	24	19	78	4.04	-0.13	0.86	28	0	26.4	9	11.4	ESE	39*	ESE	31	1	0	30	9.6	3
KING SALMON	44	1006.4	1008.3	12	1	6.5	- 7.7	48	9	-27	28+	0	27	- 4	63	1.65	0.36	0.47	11	0	6.4	5	11.0	N	33*	E	29+	17	1	13	4.7	
KOTZEBUE	10	1019.3	1019.9	- 8	-21	-14.3	-10.6	33	11+	-47	29+	0	31	-20	76	0.25	-0.10	0.11	7	0	5.6	7	10.5	E	39*	E	30	11	7	13	5.4	
MC GRATH	334	1002.7	1016.7	-14	-29	-21.3	-14.0	41	11	-67	27	0	31	-22	68	1.86	0.61	0.89	10	0	25.7	33	3.7	N	20*	N	17	14	6	11	5.1	
NOME	13	1017.6	1018.0	3	-13	- 5.5	-13.2	34	10	-41	28+	0	31	-16	62	0.63	-0.53	0.26	6	0	5.3	18	9.7	N	43*	E	8	16	4	11	4.5	41
ST. PAUL ISLAND	22	1009.8	1011.0	26	19	22.2	- 7.1	41	8	2	29+	0	29	17	79	2.98	0.99	1.00	22	0	16.6	7	24.3	NE	54*	NE	6	2	4	25	8.6	
SHEMYA	122	1004.7	1008.3	35	31	32.8		40	18	19	31+	0	19	27	79	1.65		0.56	18	0	3.2	T	23.6	NNE	48*	NE	4	0	4	27	9.3	
YAKUTAT	28	1002.0	1003.1	30	20	25.1	- 2.7	43	31	5	19	0	26	21	83	8.83	-3.48	2.17	25	0	64.0	52	9.5	E	44*	SE	31	1	4	26	9.0	
ARIZONA																																
FLAGSTAFF	6993	788.7	1021.4	41	11	26.0	- 2.4	56	30+	-16	12	0	31	16	70	3.15	1.29	1.01	8	0	29.6	18	6.6	NNE	30*	S	10	12	4	15	5.5	
PHOENIX	1109	977.3	1017.3	64	41	52.3	0.2	79	2	32	12	0	1	33	54	0.85	-0.12	0.58	5	0	0.0	0	4.8	E	18*	ESE	15+	11	7	13	5.5	71
PRESCOTT	5014	846.9	1019.2	49	24	36.1	- 1.7	62	30+	3	12	0	30	23	67	0.65	-0.72	0.36	6	0	5.3	4	4.8	SSW	45	SW	10	11	8	12	5.2	72
TUCSON	2584	926.9	1016.3	61	40	50.5	- 1.5	73	2+	32	18	0	1	35	64	1.57	0.63	0.77	9	0	0.0	0	8.4	SE	31	E	24	10	5	16	6.2	70
WINSLOW	4880	853.4	1024.0	32	13	22.6	-11.9	66	2+	-11	12	0	29	16	81	0.76	0.23	0.27	8	0	7.7	5	6.7	NW	51*	SW	10	6	4	21	7.4	
YUMA	199	1012.2	1017.5	68	44	56.1	- 1.0	80	1	36	12	0	0	32	49	1.43	0.88	1.37	3	0	0.0	0	4.6	N	22	N	5	14	8	9	4.7	76
ARKANSAS																																
FORT SMITH	449	1002.3	1019.8	49	31	40.0	- 2.5	74	3	14	13	0	18	32	75	3.60	0.46	1.46	8	1	T	T	8.1	ENE	31	W	22	10	6	15	6.4	41
LITTLE ROCK	257	1006.6	1020.2	50	33	41.7	- 2.2	75	4+	15	29	0	15	32	72	7.15	3.07	2.97	12	2	T	T	8.7	NW	30	SW	22	7	4	20	7.1	31
TEXARKANA	361			54	36	45.1	- 2.9	75	2	19	13	0	12	38	78	7.87	3.03	1.89	13	5	T	0	9.1	ENE								
CALIFORNIA																																
BAKERSFIELD	494	1003.1	1021.5	53	38	45.3	- 3.4	68	20	29	16	0	8	40	84	0.34	-0.69	0.34	1	0	0.0	0	5.3	NW	23*	S	1	3	9	19	8.0	
BISHOP	4108	875.7		53	22	37.9	- 1.2	68	30	10	11	0	30			0.82	-0.07	0.82	2	0	0.0	0						16	7	8	3.9	
BLUE CANYON	5280	840.2		46	33	39.5	1.0	63	23	16	11+	0	13			4.91	-3.84	1.24	9	0	17.8	19	7.4	ENE	37	ENE	6	8	8	15	6.2	
BURBANK	699	990.9	1017.5	66	44	54.9	0.2	79	23	37	13	0	0	38	60	1.70	-1.16	1.51	3	0	0.0	0	5.6	S	22*	SSW	2	14	8	9	4.8	
EUREKA U	43	1018.6		51	42	46.4	- 2.2	61	20	30	11	0	1			3.44	-2.65	1.04	16	0	0.0	0	5.7	NW	40	SW	20	4	9	18	7.6	51
FRESNO	326	1008.1	1020.3	50	37	43.8	- 2.5	65	20	28	15+	0	6	40	88	1.32	-0.31	1.18	4	0	0.0	0	3.6	SE	18	E	2	1	7	23	8.5	28
LONG BEACH	34	1016.3	1017.7	63	44	53.2		78	23	38	30+	0	0	45	80	1.17		0.93	3	0	0.0	0	5.2	WNW	21*	ENE	14+	8	10	13	6.2	
LOS ANGELES	99	1013.9	1017.8	62	46	54.1	- 1.5	76	24	40	28	0	0	45	77	1.07	-1.54	0.84	4	1	0.0	0	5.5	W	22*	W	10	11	8	12	5.7	
LOS ANGELES U	312			65	49	56.9	- 0.4	78	23	44	25+	0	0	41	62	1.44	-1.67	1.22	4	0	0.0	0	6.0	NW	27	E	14	13	7	11	5.0	69
MT SHASTA R	3544	894.7		42	26	34.2	- 0.5	54	4	8	11	0	29			3.76	-1.63	1.48	9	0	16.7	3						9	8	14	6.1	
OAKLAND	3	1019.6	1020.0	54	40	47.4	- 1.2	63	22	34	16+	0	0	39	75	1.90	-1.52	1.48	8	0	0.0	0	5.1	E	25*	W	2	10	6	15	6.1	
POINT ARGUELLO	367	998.0		60	41	50.8		72	24	36	30+	0	0			2.30		2.07	8	0	0.0	0	6.8		25*	SE	1	12	9	10	4.8	
RED BLUFF	341	1007.1	1020.4	53	38	45.1	- 1.7	66	22	30	11+	0	4	35	73	4.61	0.38	2.99	6	1	0.0	0	9.1	NNW	36	SE	20+	4	10	17	7.3	50
SACRAMENTO	17	1019.6	1020.9	51	38	44.1	- 1.7	63	20	29	16	0	7	39	87	2.47	-0.54	2.11	5	1	0.0	0	5.1	SE	20	SE	17	2	9	20	7.9	38
SACRAMENTO U	23			52	40	45.5	- 1.2	63	20	30	16	0	2			1.44	-1.75	1.00	5		0.0	0										
SANDBERG R	4517	863.2		46	35	40.4	- 2.0	60	25	23	12+	0	11			1.73	-1.12	1.31	3	0	3.1	3	15.1	ENE	37*	S	2	16	6	9	4.2	
SAN DIEGO	13	1013.9	1017.2	65	48	56.1	- 0.8	75	28	43	28	0	0	46	73	1.45	-1.12	0.88	8	0	0.0	0	5.5	NW	24	S	2	7	10	14	5.8	62
SAN FRANCISCO	8	1019.6	1020.4	53	41	47.3	- 2.0	60	22+	34	31+	0	0	42	83	1.82	-1.77	1.56	7	1	0.0	0	6.0	ENE	32	S	1	9	7	15	6.2	
SAN FRANCISCO U	52			54	46	50.0	- 1.9	63	22	40	31+	0	0			2.13	-1.94	1.60	8	0	0.0	0	6.4	NW	20	N	21					54
SANTA MARIA	238	1009.5	1018.5	64	39	51.2	- 1.2	76	24	33	30+	0	0	40	71	1.73	-0.88	1.62	6	0	0.0	0	5.1	WNW	28*	SSE	1	16	7	8	3.9	
COLORADO																																
ALAMOSA	7536	768.7		30	- 7	11.9	- 7.5	51	2	-41	12	0	31			0.57	0.40	0.49	3	0	8.8	7						16	9	6	3.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

DECEMBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No of days: Max. 90 F. or above	No of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No of days: .01 inch or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
COLORADO	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F	%	In.	In.	In.			In	In.	M.p.h.		M.p.h.								%
COLORADO SPRINGS	6173	808.3	1020.8	38	12	24.7	- 6.8	59	25+	-13	12+	0	31	10	58	0.43	0.12	0.30	4	0	7.1	4	8.4	NNE	32*	NW	18	13	11	7	4.4	
DENVER	5283	835.1	1018.2	41	15	27.7	- 4.0	65	25	-16	10	0	31	10	53	0.30	-0.21	0.21	4	0	3.8	3	9.0	SSW	49	W	21	12	12	7	4.6	79
GRAND JUNCTION	4849	861.8	1024.5	33	14	23.1	- 5.4	58	2	- 3	13	0	28	14	72	0.63	-0.05	0.19	9	0	8.1	5	4.6	ENE	37	NW	3	11	5	15	5.6	54
PUEBLO	4639	855.1	1019.6	41	10	25.1	- 6.0	63	3+	-28	12	0	31	12	64	0.64	0.21	0.49	5	0	12.4	7	8.1	W	42	W	21	17	8	6	3.9	84
CONNECTICUT																																	
BRIDGEPORT	7	1016.2	1017.1	39	27	33.1	0.8	56	5	11	16	0	24	24	69	2.68	-0.40	1.04	11	0	5.8	2	13.5	NW	38*	NNW	15+	9	10	12	6.0	
HARTFORD	169	1009.5	1015.6	36	22	28.9	- 0.7	55	5	3	16	0	29	21	69	3.15	-0.14	0.90	12	0	11.3	8	8.5	N	38	NW	15	7	10	14	6.7	50
NEW HAVEN	6	1016.1		39	26	32.5	0.6	56	5	10	16	0	27			3.29	-0.65	1.24	9		9.3	5	8.9		40	W	5	7	8	16	6.5	60
DELAWARE																																	
WILMINGTON	78	1014.6	1018.0	41	25	33.2	- 1.9	58	5	13	31+	0	26	25	73	3.03	0.04	0.87	11	0	6.4	4	10.8	WNW	35	NW	5	7	11	13	6.4	
DIST.OF COLUMBIA																																	
WASHINGTON U	72			44	32	38.0	- 0.2	63	5	22	30+	0	17			3.28	0.53	0.80	9														
WASH NATL AP	14	1014.3	1018.9	43	30	36.4	- 1.6	61	5	19	30+	0	19	25	64	2.88	0.27	0.75	9	0	1.2	T	7.7	S	40	NW	5	7	11	13	6.5	50
FLORIDA																																	
APALACHICOLA U	13	1017.7		64	51	57.6	1.3	75	17+	31	29	0	2			3.22	-0.07	1.53	8	4	0.0	0	7.9		29	E	8	12	9	10	5.1	75
DAYTONA BEACH	31	1018.6	1020.6	72	51	61.1	0.6	84	18	27	30+	0	3	52	74	0.73	-1.72	0.26	6	1	0.0	0	8.0	NW	23*	NW	29	12	10	9	5.0	
FORT MYERS	13	1018.8		78	54	66.2	0.6	86	14+	33	26	0	0			0.53	-0.76	0.46	3	1	0.0	0	8.9		23*	NNE	24	8	19	4	4.8	
JACKSONVILLE	24	1019.3	1020.8	69	46	57.7	1.3	83	12+	24	30	0	5	47	73	0.47	-1.90	0.19	6	0	0.0	0	8.7	NW	30Y	NW	13	12	10	9	5.0	57
KEY WEST	5	1017.8	1019.0	77	68	72.5	0.7	85	6	51	26	0	0	63	74	0.78	-1.00	0.40	8	0	0.0	0	12.2	ENE	26	SE	31+	15	12	4	4.2	69
LAKELAND U	214			74	54	63.7	1.2	84	18+	34	30	0	0			3.90	1.90	3.25	7	4	0.0	0	7.0					13	13	5	4.5	64
MIAMI BEACH	9			76	66	71.0	0.1	84	20	42	30	0	0			1.49	-0.34	1.03	6		0.0	0	8.1		31	W	28	17	8	6	4.3	66
MIAMI	7	1017.8	1019.1	77	61	68.9	- 0.3	86	20	39	30	0	0	58	71	0.13	-1.52	0.06	4	0	0.0	0	9.9	ESE	25*	NW	28	13	13	5	4.7	
ORLANDO	106	1015.7	1020.5	75	53	63.9	1.2	90	18	29	30	1	1	52	71	0.66	-1.43	0.43	4	1	0.0	0	8.6	NNE	20*	NW	29+	12	15	4	4.3	
PENSACOLA U	13			64	48	56.3	1.2	78	6	28	29	0	4			8.21	4.04	2.13	16	5	0.0	0	9.2		33	SE	31					60
TALLAHASSEE	58	1018.0	1020.8	66	43	54.4	0.3	78	5+	17	30	0	8	46	77	4.23	0.55	1.87	8	1	0.0	0	9.3	S	29*	NNE	12	11	5	15	5.7	
TAMPA	19	1018.7	1020.5	74	54	64.2	1.5	85	15+	33	30	0	0	52	70	3.80	1.84	2.93	7	3	0.0	0	11.3	NE	29*	NNW	13	14	9	8	4.8	73
WEST PALM BEACH	15	1018.4	1019.5	77	59	67.8	- 0.9	87	19	34	30	0	0	58	72	0.58	-1.62	0.39	4	0	0.0	0	10.1	NNW	29*	NW	28	8	17	6	5.4	
GEORGIA																																	
ATHENS	803	990.2	1020.1	54	34	43.9	- 1.3	72	4+	19	30+	0	15	35	74	7.65	2.93	2.85	16	2	T	T	8.9	S	27*	NNW	23	10	7	14	6.1	
ATLANTA	975	977.5	1020.6	52	35	43.5	- 1.7	72	4+	17	30+	0	14	34	72	9.92	5.37	3.85	14	2	1.0	T	9.4	NW	27*	NW	11	10	3	18	6.5	44
AUGUSTA	143	1013.0	1020.1	60	36	48.1	0.6	76	18	19	30	0	12	38	75	4.21	0.48	1.71	14	2	0.0	0	6.5	WNW	24*	NW	23	11	6	14	5.7	
COLUMBUS	385	1006.0		59	38	48.8	1.2	77	11	15	30	0	12			7.29	2.72	1.82	15	1	0.0	0	9.5		24*	NW	28	10	6	15	6.1	
MACON	356	1006.2	1020.3	60	39	49.3	- 0.4	77	3	21	30	0	10	39	72	6.89	2.65	2.63	14	0	0.0	0	8.2	NW	25	W	10	9	8	14	5.8	56
ROME	637	996.3		52	33	42.3	- 1.0	75	3	12	30	0	17			13.46	8.24	5.81	15	2	0.5	T						7	6	18	6.9	
SAVANNAH	48	1018.7	1021.1	64	41	52.1	0.4	82	12	20	30	0	10	44	78	2.85	0.21	0.86	11	1	0.0	0	8.6	WNW	26	N	12	13	7	11	4.9	61
THOMASVILLE U	283			64	45	54.4	- 0.2	78	11	25	30+	0	5			4.44	0.91	1.85	9	1	0.0	0										
HAWAII																																	
HILO	31	1015.2	1017.5	78	64	70.7	- 0.7	83	7	58	31	0	0	64	83	16.04	0.05	3.48	27	0	0.0	0	8.0	WSW	26*	SE	14+	2	14	15	7.2	34
HONOLULU	7	1016.3	1016.5	81	69	75.0	1.3	86	16	64	31	0	0	63	68	1.24	-2.76	0.79	5	0	0.0	0	12.3	ENE	42	SE	5	8	17	6	5.0	74
LIHUE	115	1011.2	1016.9	80	68	73.8	2.3	82	31+	59	31+	0	0	65	77	6.19	0.84	4.20	18	0	0.0	0	11.4	ENE	29	S	5	8	14	9	5.4	60
IDAHO																																	
BOISE	2838	922.8	1021.9	37	25	30.9	- 0.1	53	1	4	11+	0	27	21	67	0.90	-0.39	0.41	8	1	6.5	3	7.7	SE	38	SW	20	3	7	21	8.0	35
IDAHO FALLS 42NW R	4790			27	3	14.9	- 2.9	47	1	-27	11	0	31			0.65	0.04	0.21	11				4.6	NNW	35A	SSW	21					
IDAHO FALLS 46W R	4933	848.3		29	11	20.1	- 0.2	46	1	-13	11	0	31			0.54	-0.21	0.23	10	0	2.3	1	7.0	SW	34A	SW	21					
LEWISTON	1413	967.5		40	28	34.0	0.0	52	29+	- 3	11	0	19			1.10	-0.20	0.23	17	0	7.2	4						2	5	24	8.7	
POCATELLO	4444	864.2	1021.0	34	20	26.7	- 0.1	49	20+	- 4	10	0	29	21	80	0.93	-0.21	0.24	16	1	8.0	4	12.0	SW	51	W	21	2	8	21	8.1	40
ILLINOIS																																	
CAIRO U	314	1006.1		45	33	38.6	- 1.1	68	3	15	13	0	16			4.20	0.87	1.44	13	1	1.2	1	8.4	S*	38	SW	4	7	6	18	7.3	42
CHICAGO O HARE	658	991.8	1017.5	33	18	25.3		62	4+	- 4	28	0	30	19	76	1.35		0.73	12	0	10.7	8	12.2	WSW	44*	SW	12	6	7	18	7.2	
CHICAGO MIDWAY	610	993.8	1017.7	33	19	26.0	- 2.0	62	4	- 3	28	0	29	19	74	1.89	-0.06	0.71	15	0	16.6	10	13.0	W	41	SW	12	6	5	20	7.5	29
MOLINE	582	995.2	1018.5	32	14	23.0	- 3.9	64	3	-10	28	0	28	18	78	1.58	0.01	0.49	12	0	13.6	9	9.9	WNW	34	NW	6	6	4	21	7.6	39
PEORIA	652	995.6	1019.0	32	16	24.1	- 4.5	61	4	- 9	28	0	30	19	81	1.69	-0.35	0.57	11	1	10.5	5	9.8	WNW	32	W	6+	6	5	20	7.4	33

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 90 F. or above	No. of days: Min 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 01 inch or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile: Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In			In.	In.	M.p.h		M.p.h.							%
ILLINOIS																																
ROCKFORD	728	989.2	1017.7	30	15	22.8	- 2.7	60	4	-10	28	0	31	18	80	0.97	-0.67	0.34	11	0	8.8	6	12.0	WNW	36*	NW	6	7	4	20	7.2	
SPRINGFIELD	588	994.6	1018.9	35	20	27.8	- 2.8	65	3	- 5	28	0	29	20	73	1.28	-0.75	0.25	13	0	9.5	3	12.5	W	38	W	12	8	5	18	7.1	45
INDIANA																																
EVANSVILLE	381	1002.7	1019.2	42	26	34.3	- 2.6	68	3	3	28	0	25	28	79	4.29	1.11	1.44	15	0	5.2	4	8.4	NW	29	E	9	3	6	22	7.7	35
FORT WAYNE	791	985.8	1018.4	33	18	25.4	- 3.4	61	4	- 9	31	0	30	21	80	1.54	-0.72	0.38	13	0	8.4	6	12.3	W	38	W	7	5	7	19	7.4	44
INDIANAPOLIS	793	987.3	1018.5	36	22	29.1	- 2.0	63	4	- 4	30	0	26	25	84	3.05	0.26	0.77	17	0	6.2	3	9.1	W	32*	NW	4	5	4	22	7.8	30
SOUTH BEND	768	988.3	1017.4	34	20	26.7	- 1.1	59	4	- 4	28	0	30	21	77	2.03	-0.25	0.57	14	0	9.5	4	13.4	SW	37*	NW	6	3	7	21	7.9	
IOWA																																
BURLINGTON	694	992.1	1018.9	33	16	24.4	- 3.5	64	3	- 9	28	0	29	18	75	1.49	-0.19	0.45	13	0	15.6	6	10.0	WNW	32	NW	6	8	5	18	7.1	46
DES MOINES	948	987.0	1020.0	26	11	18.5	- 7.7	59	4+	-14	13	0	30	15	82	1.82	0.68	0.77	12	1	23.9	18	10.2	WNW	34	SW	5	5	4	22	7.6	32
DUBUQUE	1065	991.8		27	11	19.1	- 4.3	60	3	-16	28	0	31			2.03	0.68	0.77	9	0	20.7	14						6	5	20	7.5	
SIOUX CITY	1095	976.0	1019.5	26	7	16.7	- 6.7	56	1	-17	20+	0	30	13	83	1.16	0.42	0.45	10	0	11.5	9	11.7	NW	36	N	22+	6	8	17	7.0	40
WATERLOO	868	985.1	1018.7	28	9	18.5	- 4.6	62	3	-26	13	0	30	16	83	1.29	0.12	0.41	9	0	20.1	13	10.7	WNW	31*	NW	6	6	5	20	7.4	
KANSAS																																
CONCORDIA U	1375	967.8		32	16	24.1	- 7.7	62	3	- 7	13	0	30	17	74	0.90	0.29	0.34	6	0	7.3	7	7.1	W*	30	NW	27	10	6	15	5.9	57
DODGE CITY	2594	927.9	1018.9	41	20	30.4	- 3.0	66	3	- 7	12	0	29	21	72	0.23	-0.27	0.08	5	0	1.4	1	10.6	NNW	54	NW	22	14	6	11	5.0	69
GOODLAND	3645	887.0	1018.4	38	14	25.7	- 2.9	62	3	-19	12	0	31	17	73	0.36	-0.11	0.20	5	0	7.4	6	11.7	NNW	3[illegible]*	NNW	22	13	5	13	5.4	
TOPEKA	877	982.7	1020.1	35	15	25.0	- 7.2	66	3	-12	13	0	29	19	78	1.07	-0.09	0.48	6	0	11.2	5	11.0	WNW	34	NW	22	5	7	19	7.3	51
WICHITA	1321	968.7	1019.4	37	22	29.4	- 6.1	65	3	- 2	13	0	26	24	82	1.01	-0.09	0.67	7	0	4.9	4	11.5	NNW	47	NW	22	11	10	10	5.5	58
KENTUCKY																																
COVINGTON	869	985.8	1018.9	41	26	33.5	- 0.1	67	4	0	29+	0	23	25	73	3.39	0.56	0.89	16	0	8.1	4	10.6	WNW	32	W	4	5	4	22	8.0	
LEXINGTON	979	982.3	1019.2	44	27	35.5	- 0.4	67	4	1	29	0	22	30	81	3.89	0.21	1.46	13	0	5.1	2	11.7	SSW	35	W	4	5	5	21	7.8	
LOUISVILLE	474	999.3	1019.1	45	28	36.4	- 0.5	70	4	4	28	0	23	28	75	3.75	0.45	1.37	15	0	9.3	4	8.7	WNW	29	SW	4	5	4	22	7.8	27
LOUISIANA																																
ALEXANDRIA	92	1014.7	1019.5	61	38	49.4		75	3	18	29	0	12	43	82	8.29		4.32	12	6	0.0	0	6.7	S				9	6	16	6.4	
BATON ROUGE	64	1016.2	1019.4	65	43	53.9	0.3	80	9	24	29	0	8	47	80	8.19	2.94	2.39	14	6	0.0	0	8.8	SE				9	7	15	6.3	
BURWOOD R	5		1019.5	68	54	60.6	1.5	79	5	37	29	0	0	55	83	5.33	1.14	1.70	11	2	0.0	0	12.7	NE								
LAKE CHARLES	14	1016.9	1018.4	65	45	54.7	0.7	78	11	27	29	0	5	48	82	4.03	-1.73	1.34	13	2	0.0	0	15.1	ESE	37*	NNW	17	9	5	17	6.2	
NEW ORLEANS U	9			66	50	58.1	1.0	79	11	35	25	0	0			7.41	2.83	1.77	12	5	0.0	0	7.2		20	NW	17	9	8	14	5.7	51
NEW ORLEANS	3	1017.1	1019.3	66	46	56.2	0.1	80	11+	26	29	0	5	50	81	6.01	1.34	1.70	11	6	0.0	0	8.1	S	29*	SSW	17	10	8	13	5.7	
SHREVEPORT	252	1010.4	1019.9	57	39	48.1	- 1.7	77	4	22	13	0	9	41	80	7.50	2.67	2.60	11	4	0.0	0	10.8	S				9	6	16	6.4	44
MAINE																																
CARIBOU	624	987.8	1020.0	28	15	21.4	6.8	47	28	- 4	17+	0	31	17	72	2.39	0.16	1.13	13	0	8.9	5	12.6	WSW	44*	NW	15	1	11	19	8.0	
PORTLAND	61	1010.1	1014.3	35	17	26.1	1.0	53	5	- 2	31	0	29	20	73	2.96	-0.83	0.69	13	0	19.1	15	9.3	N	35	N	24	8	8	15	6.3	47
MARYLAND																																
BALTIMORE	146	1013.6	1018.6	42	24	33.4	- 2.3	61	5	10	31	0	27	23	67	2.85	-0.10	0.73	10	0	7.2	1	9.9	WNW	50	NW	5	10	7	14	6.1	56
BALTIMORE U	14			43	31	36.8	- 2.0	61	5	17	16	0	19			2.79	-0.16	0.73	10													
FREDERICK	294			40	23	31.8	- 3.2	60	5	8	31+	0	27			2.83	-0.09	0.93	12		9.4	4										
MASSACHUSETTS																																
BLUE HILL OBS R	629	989.5	1013.6	36	23	29.6		54	5	5	16	0	27		73	4.45	0.55	1.88	11		18.3	17	15.6	WNW	52	NW	5					49
BOSTON	15	1010.6	1014.5	39	27	32.8	0.0	57	5	11	16	0	25	23	68	3.36	-0.01	1.05	12	0	11.4	9	14.9	WNW	38	NW	15+	9	7	15	6.3	57
NANTUCKET	43	1014.0	1014.6	42	30	36.3	1.1	54	5	16	16	0	20	28	73	3.35	-0.45	1.63	10	0	3.6	3	14.8	WNW	36	NW	25	4	10	17	7.1	43
PITTSFIELD	1170			33	18	25.2	0.4	48	5	-10	31	0	30			3.33	0.28	0.66	17		25.9	13										
WORCESTER	986	976.5	1014.5	33	21	26.9	- 0.5	50	5	4	16	0	30	21	75	3.35	-0.27	1.20	13	0	20.3	19	9.8	W	27*	ENE	24+	8	9	14	6.5	
MICHIGAN																																
ALPENA	689	988.4		31	18	24.5	- 0.2	61	4	- 5	29+	0	28			1.33	-0.60	0.37	17	0	12.9	4	8.0	SW*	29	E	12	0	7	24	9.0	24
DETROIT	619	989.7	1017.5	35	24	29.0	- 0.5	58	4	0	29	0	28	22	75	1.29	-0.91	0.47	11	0	5.0	2	12.1	W	40	W	12+	0	8	23	8.4	27
DETROIT M WAYNE CO	633	992.2	1017.1	35	22	28.5		59	4	0	29	0	28	23	78	1.20		0.44	12	0	4.5	2	9.7	SW				1	9	21	8.2	
DETROIT WILLOW RUN	711	987.6	1017.0	34	21	27.3	- 1.4	58	4	- 1	29	0	30	22	80	1.15	-0.89	0.34	12	0	4.5	2	11.1	SW	37*	W	5	1	8	22	8.4	
ESCANABA U	594	990.1		29	15	21.5	- 0.9	57	4	- 7	28	0	28	15	74	1.85	0.42	0.48	9	1	21.3	17	10.0		32	N	12	5	11	15	6.8	40
FLINT	766	988.2	1017.1	34	20	26.6	0.3	58	4	- 2	29	0	30	21	79	1.11	-0.79	0.32	13	0	5.3	1	10.9	SW	27*	SW	12+	0	7	24	8.7	

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

DECEMBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max. 90 F. or above	No of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: .01 inch or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
MICHIGAN																																
GRAND RAPIDS	681	990.8	1017.0	33	21	27.4	0.1	60	4	- 1	29	0	29	21	77	1.54	-0.63	0.55	15	1	18.7	5	11.7	WNW	33	W	12	2	4	25	8.8	14
LANSING	852	983.4	1016.7	33	20	26.3	- 0.8	58	4	- 2	29	0	30	20	77	1.44	-0.68	0.52	15	0	6.1	3	15.2	W	54	SW	12	1	9	21	8.2	23
MARQUETTE U	677	986.9		28	17	22.4	- 0.7	55	4	- 3	28	0	29			2.12	0.08	1.04	15	1	33.5	22	8.3	W#	28	SE	3	3	7	21	8.1	35
MUSKEGON	627	992.5	1016.8	34	23	28.4	- 0.8	58	4	4	29	0	27	22	76	1.84	-0.09	0.55	12	1	24.3	9	10.8	WNW	27*	NW	6+	1	3	27	9.2	
SAULT STE MARIE	721	990.9	1014.6	27	14	20.8	0.9	59	4	- 7	28	0	27	17	85	3.31	1.01	1.23	20	1	30.9	19	10.1	WSW	29*	NW	5	3	7	21	8.2	26
MINNESOTA																																
DULUTH	1426	973.2	1016.6	21	5	12.9	- 0.3	44	4	-22	15	0	31	8	79	1.26	0.06	0.56	13	1	14.4	13	8.8	WNW	38	W	4	2	10	19	8.0	34
INTERNATIONAL FALLS	1179	973.6	1017.0	18	2	9.8	0.7	37	4+	-28	15	0	31	4	75	0.93	0.08	0.25	18	0	10.2	9	9.0	W	28*	NW	4	5	5	21	7.6	
MINNEAPOLIS	822	982.8	1018.3	25	6	15.3	- 4.1	50	3	-18	15	0	30	10	76	1.60	0.75	0.58	14	0	18.1	11	9.9	WNW	30	NW	6	2	8	21	8.1	23
ROCHESTER	1297	967.5	1017.8	23	7	15.2	- 3.8	57	3	-19	13	0	28	12	84	0.70	-0.32	0.29	8	0	18.3	11	12.8	WNW				3	7	21	8.0	
ST CLOUD	1034	978.1	1018.3	22	3	12.7	- 2.8	44	3	-22	15	0	30		76	0.80	0.11	0.42	11	0	11.9	7						5	5	21	7.7	
MISSISSIPPI																																
JACKSON	305	1007.2	1019.6	58	38	48.2	- 0.8	77	11+	21	29	0	12	41	78	11.16	5.56	2.78	15	7	0.0	0	6.7	S	40	N	17	10	6	15	6.3	45
MERIDIAN	292	1005.9	1020.1	59	38	48.2	0.0	77	4+	18	29	0	11	42	84	12.28	6.74	3.12	12	5	T	T	7.3	S	28*	SSE	17	10	6	15	6.3	
VICKSBURG U	234	1009.8		57	40	48.7	- 1.8	75	4+	25	13	0	8			13.91	8.53	3.84	15	5	T	T	8.7		30	W	9	11	3	17	6.4	45
MISSOURI																																
COLUMBIA	778	988.5	1018.2	37	22	29.4	- 3.7	68	3	0	13	0	24	23	76	1.63	-0.44	0.54	10	0	6.9	4	11.6	WNW	33	W	22	9	4	18	6.9	39
KANSAS CITY	742	983.0	1019.5	37	20	28.5	- 5.2	68	3	- 1	13	0	26	20	71	1.96	0.46	0.80	8	0	16.6	9	8.2	NW	37	NW	22	6	6	19	7.0	41
ST JOSEPH	809	982.6		33	12	22.3	- 8.9	65	3	-12	13	0	30			1.33	-0.06	0.38	8	0	15.6	9	10.9	N	44*	NW	22	8	5	18	6.7	
ST LOUIS	535	997.7	1019.1	40	24	32.0	- 3.1	70	3	0	28	0	25	23	71	1.95	-0.14	0.49	8	0	3.7	4	12.2	WNW	30	W	12	8	4	19	7.0	33
ST LOUIS RFC	465			40	27	33.5	- 2.7	70	3	1	28	0	23			2.15	-0.28	0.60	9	0	4.7	3										
SPRINGFIELD	1265	969.9	1019.1	41	25	33.0	- 2.7	68	3	4	13	0	24	26	77	2.83	0.66	0.86	13	0	2.8	1	11.1	SSE	38	W	22	5	7	19	7.1	42
MONTANA																																
BILLINGS	3567	888.9	1017.1	33	16	24.5	- 2.7	54	1	-17	11	0	29	10	56	0.22	-0.36	0.13	5	0	2.7	2	14.4	WSW	44	NW	25	6	5	20	7.0	50
GLASGOW	2277	940.4		21	0	10.4	- 5.4	50	1	-22	19	0	31	5	82	0.19	-0.34	0.08	7	0	1.9	2						5	13	13	6.3	
GREAT FALLS	3662	885.9	1016.9	30	10	20.3	- 6.2	48	24	-20	10	0	29	12	67	0.30	-0.40	0.16	7	0	3.0	2	13.3	SW	41	SW	21+	5	9	17	7.0	36
HAVRE	2582	925.2		23	- 1	11.0	- 9.4	44	24	-35	12+	0	30			0.29	-0.27	0.19	4	0	4.5	4	9.4	SW#	37	SW	21	7	3	21	6.9	52
HELENA	3893	871.7	1019.3	32	14	22.6	- 0.1	49	1	-22	11	0	29	12	65	0.55	-0.09	0.15	11	1	4.2	2	8.7	W	41	W	21	4	11	16	7.4	35
KALISPELL	2965	911.3		29	13	20.8	- 3.9	42	24	-14	11+	0	31			2.20	0.66	0.52	21	0	30.0	22	5.7					1	6	24	8.7	
MILES CITY	2629			28	7	17.6	- 3.1	51	1	-16	12	0	31	10	73	0.28	-0.23	0.10	5	0	3.0	1	9.8	NW	40*	NW	21	7	14	10	6.1	
MISSOULA	3190	902.5	1021.1	28	15	21.5	- 2.1	46	20	-15	11	0	31	16	79	1.18	0.15	0.22	19	0	11.3	5	6.1	NW	38	W	24	1	4	26	8.9	24
NEBRASKA																																
GRAND ISLAND	1841	949.9		31	9	19.7	- 7.3	64	2+	-12	15+	0	30	11	71	1.03	0.48	0.57	6	0	16.9	15	10.8	NNW				13	4	14	5.4	
LINCOLN U	1150			30	13	21.5	- 7.6	58	3	- 8	13	0	29			0.96	0.10	0.58	7	0	12.2	8	8.9	S#	30	NW	22	9	4	18	6.7	45
NORFOLK	1544	960.2		29	7	17.8	- 5.9	64	1	-19	13	0	30			1.01	0.23	0.44	6	0	10.3	9						11	6	14	5.8	
NORTH PLATTE	2779	915.1	1018.3	35	10	22.5	- 4.7	62	3	-20	12	0	31	12	67	0.44	0.04	0.23	7	0	7.3	5	10.1	NNW	52	NW	22	9	8	14	5.8	59
OMAHA	978	977.5	1019.7	29	12	20.1	- 7.3	58	3	-10	13	0	28	15	80	1.50	0.69	0.61	11	0	19.6	10	12.0	NW	40	NW	22	9	3	19	6.8	39
OMAHA N OMAHA AP	1323	968.8		27	10	18.3	- 7.0	55	3	-14	13	0	28			1.18	0.37	0.46	11	0	15.6	10						8	4	19	6.9	
SCOTTSBLUFF	3950	877.3	1018.4	39	13	25.6	- 1.4	57	25+	-10	12	0	31	13	64	0.18	-0.25	0.05	7	0	3.2	1	12.6	NW	40*	W	21	11	12	8	5.5	
VALENTINE	2587	923.3		35	8	21.6	- 3.6	66	3	-11	19+	0	31	13	73	0.10	-0.36	0.05	5	0	1.8	1	10.6	NW#	38	N	22+	12	6	13	5.3	68
NEVADA																																
ELKO	5075	845.9	1021.5	36	17	26.8	- 0.1	50	20	-12	11	0	29	21	77	0.99	-0.06	0.38	12	0	8.6	3	6.5	SW	28*	W	17	7	6	18	6.9	
ELY	6257	808.7	1021.2	38	12	25.1	- 1.8	52	24	-15	11	0	31	15	71	0.48	-0.40	0.25	5	0	5.5	3	7.4	S	38	N	10	8	10	13	6.2	71
LAS VEGAS	2162	952.6	1019.6	53	32	42.5	- 4.3	61	30+	21	13+	0	15	26	57	0.46	-0.12	0.28	4	0	T	0	6.7	WSW	26*	N	11	19	3	9	4.0	76
RENO	4404	864.2	1022.4	46	17	31.7	- 1.5	61	20	- 9	11	0	29	22	73	0.18	-0.76	0.12	3	0	0.7	1	4.7	SW	59	NW	17	12	5	14	6.0	67
WINNEMUCCA	4299	870.0		42	19	30.1	0.1	57	20	-16	11	0	28	24	79	1.08	0.08	0.40	10	0	4.0	2	6.3	S	37	SW	17	8	5	18	7.0	45
NEW HAMPSHIRE																																
CONCORD	339	1003.8	1015.5	35	19	27.0	3.0	54	5	- 7	31	0	30	19	61	2.88	0.07	0.76	11	0	19.7	19	5.5	NW	31	NW	15	8	11	12	6.3	54
MT WASHINGTON OBS	6262	794.4		19	4	11.4	2.5	35	5	-18	15	0	31		89	4.64	-1.21	0.99	17	0	41.1	13	34.7	W	108Y	W	5	6	4	21	7.6	30
NEW JERSEY																																
ATLANTIC CITY	58	1015.7	1018.0	44	27	35.1	- 1.6	60	5	11	31	0	25	26	73	3.38	0.30	0.96	12	0	1.0	1	12.8	WNW	43	ENE	23	8	11	12	6.2	48
ATLANTIC CITY U	10			45	33	39.0	0.8	57	5	23	16	0	15			3.25	-0.06	0.87	11				12.1		32	NW	5					

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station ⌀	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: .01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
NEW JERSEY																																
NEWARK	11	1016.0	1017.2	40	28	33.8	- 0.2	56	5	13	16	0	23	22	65	3.65	0.55	1.03	10	0	13.2	9	10.7	WNW	39	NW	5	9	9	13	5.8	
TRENTON U	56	1011.3		40	28	33.9	- 1.1	59	5	14	16	0	23			3.39	0.61	0.94	13	0	7.9	5	9.2	W#	43	NW	5	10	9	12	5.9	59
NEW MEXICO																																
ALBUQUERQUE	5310	848.3	1018.2	44	24	34.1	- 1.9	60	1	7	12	0	27	19	59	0.65	0.06	0.32	5	0	2.4	1	7.7	N	34	S	10+	15	5	11	4.5	80
CLAYTON	4969	843.6		45	19	32.1	- 3.0	67	25+	- 3	12	0	29			0.10	-0.26	0.08	3	0	1.2	1						18	3	10	4.0	
RATON	6379	802.6		41	12	26.7	- 2.7	62	2	-20	12	0	31			0.39	0.04	0.12	6	0	6.3	5						15	7	9	4.1	
ROSWELL	3612	893.0		57	23	40.0	- 0.8	72	1	10	25	0	28	25	64	0.29	-0.24	0.18	5	0	0.3	T	8.8		43	W	18	15	7	9	4.4	
SILVER CITY	5373	833.4		52	30	40.9		67	1	23	31+	0	23			1.12		0.51	8	0	0.2	T						15	5	11	4.5	
NEW YORK																																
ALBANY	277	1009.1	1016.3	34	21	27.7	1.3	50	5	- 2	30	0	30	21	72	1.96	-0.21	0.56	13	0	14.4	7	8.6	WNW	34	NW	5	3	7	21	8.3	34
BINGHAMTON	1590	954.6	1015.6	30	20	25.1	- 0.3	46	5	- 1	30+	0	30	21	80	1.52	-1.08	0.41	16	0	14.5	7	10.7	WNW	38	N	24+	1	6	24	8.8	20
BUFFALO	705	987.7	1016.6	36	23	29.7	0.7	60	4	4	16	0	26	22	74	2.62	-0.30	0.70	19	0	30.2	26	11.8	W	38	W	14+	0	4	27	9.1	17
NEW YORK U	132	1004.6		41	30	35.5	- 0.4	58	5	14	16	0	20	24	65	3.04	-0.14	1.05	9		7.7	6	10.1		42	NW	5	13	9	9	5.2	59
NEW YORK	19	1015.1	1017.0	40	31	35.4	- 0.3	58	5	16	16	0	18	25	67	3.52	0.52	1.30	9	1	5.2	3	16.3	WNW	43	W	5	7	13	11	6.0	
ROCHESTER	543	996.7	1016.6	36	24	29.6	1.4	57	4	3	16	0	27	23	78	1.23	-1.17	0.43	12	0	6.0	2	13.0	WSW	50	W	5	2	4	25	8.7	30
SCHENECTADY	217			35	23	28.7	2.8	49	5	1	31	0	28			2.07	-0.36	0.49	10		14.4	8						9	12	10	5.5	
SYRACUSE	424	993.5	1016.5	35	23	29.1	0.0	55	5	2	16	0	30	22	76	2.45	-0.29	0.50	17	0	22.3	8	11.4	WSW	42	SW	5	2	4	25	8.6	17
NORTH CAROLINA																																
ASHEVILLE U	2203	938.0		49	31	39.7	- 0.5	67	18	11	29	0	18			6.09	3.13	2.38	17	0	1.2	1	8.9	NW#	27	NW	19+	8	8	15	6.4	38
CAPE HATTERAS R	7	1018.0	1018.7	58	41	49.4	- 0.1	72	18+	26	31+	0	6	41	75	2.40	-2.69	1.61	9	2	0.0	0	10.4	NW	31	SSE	23	8	9	14	6.2	55
CHARLOTTE	735	990.3	1019.3	53	33	42.7	- 0.3	72	18	15	30	0	15	32	68	6.03	2.24	2.09	12	0	T	0	5.9	SW	31	SW	5	9	7	15	6.0	51
GREENSBORO	891	986.3	1019.3	49	30	39.5	- 0.6	65	18	13	30	0	23	29	70	5.30	2.19	2.00	10	0	T	T	7.5	SW	28	NW	24	9	7	15	6.4	48
RALEIGH	433	1004.8	1019.1	51	31	41.3	- 1.1	73	18	15	30	0	20	30	68	4.76	1.47	1.20	10	1	T	T	7.4	SSW	23*	NNW	28	7	8	16	6.5	47
WILMINGTON	30	1016.7	1019.6	60	38	48.8	0.2	76	12	20	30	0	12	40	76	0.78	-2.68	0.24	12	0	0.0	0	8.8	WSW	41	SW	18	11	7	13	5.8	57
WINSTON SALEM	967	982.9	1019.3	49	32	40.3	- 0.3	63	18	18	30	0	18	27	62	6.47	3.24	2.48	12	1	0.3	T	8.8	NW	29	NW	24	8	7	16	6.3	
NORTH DAKOTA																																
BISMARCK	1647	954.7	1018.7	22	- 2	10.0	- 5.5	58	1	-19	29+	0	31	1	70	0.88	0.48	0.42	10	0	5.8	3	9.0	NW	37	NW	6	12	4	15	5.7	60
DEVILS LAKE U	1471	961.2		14	- 4	4.7	- 6.5	47	1	-18	12	0	31			1.10	0.62	0.48	12	0	13.5	10	8.9	NW#	23	NW	25+	10	5	16	6.3	56
FARGO	900	982.2	1018.8	19	3	10.7	- 2.2	41	3	-21	20	0	30	4	74	0.57	-0.03	0.2[illegible]	9	0	6.5	5	12.0	NNW	35	SE	21+	4	7	20	7.6	32
WILLISTON U	1877	947.2		20	- 2	9.0	- 6.7	54	1	-25	19	0	31			0.50	-0.04	0.17	8	0	5.8	4	6.4	W#	23	NW	22+	9	9	13	6.0	44
OHIO																																
AKRON	1209	978.6	1018.6	36	22	29.0	- 1.1	60	4	- 5	29	0	25	23	74	1.59	-0.99	0.56	17	0	7.7	4	15.2	WSW	47	W	5	0	7	24	8.5	
CINCINNATI OBS	761			41	26	33.4	- 1.6	66	4	2	29+	0	23			3.39	0.55	1.05	14		8.1	4	6.8	W#	24	W	5					30
CINCINNATI	553	995.0		43	28	35.4	- 1.2	68	4	4	29+	0	21			3.35	0.51	0.92	14		6.0											
CLEVELAND	777	988.7	1017.7	37	23	29.7	- 1.2	60	4	- 4	29	0	27	21	61	1.84	-0.45	0.93	12	0	4.3	2	12.8	WSW	35	SW	5	0	5	26	8.7	21
COLUMBUS	812	987.8	1019.1	37	22	29.7	- 2.0	64	4	- 1	29	0	25	23	71	2.42	-0.07	0.68	12	0	8.8	4	9.5	W	33	W	5	2	5	24	8.5	18
COLUMBUS U	724			38	24	31.4	- 1.9	65	4	0	29	0	23			2.04	-0.40	0.54	10		8.8	5										
DAYTON	1002	980.7	1018.5	37	22	29.6	- 2.1	63	4	- 3	28	0	27	23	78	2.59	0.12	0.89	12	0	8.4	4	11.0	WNW	41	W	5	3	7	21	8.0	35
MANSFIELD	1296			35	20	27.7		62	4	- 7	29	0	28			2.38		0.97	13	0	5.8	4						0	10	21	8.5	
SANDUSKY U	603	994.6		37	24	30.6	- 0.9	60	4	- 2	29	0	24			1.75	-0.41	0.95	9	0	2.7	1	10.5		45	W	7	2	10	19	7.7	47
TOLEDO	676	991.8	1018.2	34	19	26.5	- 2.4	60	4	- 6	28	0	30	21	75	1.29	-1.00	0.46	13	0	8.9	4	10.8	WSW	37	W	7	2	5	24	8.3	40
YOUNGSTOWN	1178	973.6	1017.8	35	21	27.6	- 2.4	60	4	- 5	29	0	27	22	73	0.99	-1.95	0.25	20	0	10.8	5	11.5	WSW	29	SW	5	1	7	23	8.6	
OKLAHOMA																																
OKLAHOMA CITY	1280	974.9	1019.9	45	28	36.7	- 3.5	67	3	7	12	0	23	27	72	1.04	-0.44	0.46	8	1	0.8	1	12.3	N	56	NW	22	13	4	14	5.6	56
TULSA	650	994.3	1019.7	44	26	35.1	- 5.7	67	4	6	13	0	23	26	74	2.18	0.49	0.85	9	1	2.0	2	10.8	SSE	35	W	22	12	3	16	6.2	50
OREGON																																
ASTORIA	8	1017.6	1018.2	48	37	42.3	- 0.4	54	30+	25	11	0	7	38	86	10.40	-2.81	1.85	25	0	T	0	10.5	ESE	52*	SW	17	0	3	28	9.2	
BURNS U	4151	874.4		35	17	26.2	- 1.5	44	31	- 5	11	0	31	21	79	2.24	0.80	0.67	14	0	18.8	12						3	6	22	8.0	
EUGENE	361	1006.8		48	36	42.0	1.4	57	27+	20	11	0	8			7.37	1.37	1.68	17	1	0.0	0	8.2		40*	SW	20	1	4	26	9.0	
MEACHAM	4050			32	22	27.1	- 2.0	43	29	- 6	11+	0	28			5.15	0.77	1.75	25	0	21.9	18						2	2	27	9.1	
MEDFORD	1298	973.6	1022.6	41	30	35.6	- 2.9	58	20	15	11	0	21	33	90	2.60	-0.53	0.71	15	1	3.6	2	2.0	N	25*	SW	17	0	3	28	9.2	
PENDLETON	1482	964.8	1019.6	43	31	36.9	1.6	60	20	1	11	0	14	29	76	1.27	-0.42	0.36	18	0	5.6	4	9.9	W	58*	SW	17	2	4	25	8.5	
PORTLAND	21	1013.9	1019.6	46	36	40.9	0.1	59	19	21	11	0	10	36	81	5.94	-0.23	1.39	20	0	1.0	1	8.4	SE	53	SW	16	0	5	26	8.9	19

See footnotes at end of table

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State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Average minimum	Average	Departure from normal	Highest	Date	Lowest	Date	No. of days: Max. 90°F. or above	No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Departure from normal	Greatest in 24 hours	No. of days: 01 inch or more	With thunderstorms	Snow, Sleet: Total	Maximum depth on ground	Wind: Average speed	Prevailing direction	Fastest mile: Speed	Direction	Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F	F	F.	F		F				F.	%	In.	In.	In			In	In	M p h		M p h							%
OREGON																																
PORTLAND U	30			47	38	42.7	0.3	59	19	22	11	0	6			6.74	-0.36	1.24	21		1.5	1										
ROSEBURG	505	1002.0		49	36	42.4	1.2	60	28	19	11	0	10			4.46	-0.47	1.15	19	1	0.0	0	3.4	N#	22	SW	20	1	3	27	9.1	22
SALEM	195	1012.5	1019.9	47	35	41.0	0.0	56	19+	15	11	0	10	35	79	6.64	-0.48	1.72	21	0	T	T	9.1	S	43*	SSE	16	0	5	26	9.1	
SEXTON SUMMIT R	3836	884.9		40	30	35.2	- 1.5	58	23	17	11	0	23			4.44	-0.26	1.08	16	0	10.2	5	12.0	S				3	6	22	8.2	
PACIFIC AREA																																
CANTON ISLAND	8	1008.3	1008.7	89	79	83.8	0.8	90	23+	75	12	10	0	71	70	0.37	-0.58	0.20	5	0	0.0	0	11.6	ENE	23*	ENE	19	11	18	2	4.4	
ENIWETOK	13	1008.8		86	79	82.6		88	3	76	17+	0	0	73	74	1.46		0.64	17	0	0.0	0	18.9									
JOHNSTON	7	1012.2		81	72	76.7		86	7	65	3	0	0	70	78	1.74		0.73	13	0	0.0	0	14.8		34	S	2	13	15	3	4.3	72
KOROR R	94	1005.4	1008.0	86	76	80.7	- 0.1	89	13+	74	29+	0	0	75	87	13.23	-0.30	1.85	26	0	0.0	0	7.3	ENE	29	E	23	0	0	31	9.8	39
KWAJALEIN	8	1007.7	1008.6	85	77	80.8		87	24+	73	20	0	0	74	79	8.50		1.80	21	1	0.0	0	17.1	ENE	40*	ESE	20	4	7	20	7.7	
MAJURO	10	1008.2	1008.5	85	77	80.9		87	3+	74	27	0	0	75	81	16.91		3.22	25	4	0.0	0	10.1	ENE	36	E	20	1	5	25	9.0	48
PONAPE R	123	1003.1	1007.7	86	75	80.6	- 0.3	89	31+	72	6	0	0	75	84	16.47	-0.72	2.49	27	3	0.0	0	6.4	NE	22	NE	20	0	8	23	9.0	50
TAGUAC GUAM R	361			84	74	78.7	0.6	85	19+	65	29	0	0			4.35	-0.56	1.08	23	0	0.0	0	8.4	NE#	27	NE	28					56
TRUK MOEN ISLAND	5	1007.2	1007.5	85	77	80.8	- 0.3	89	8	74	20+	0	0	76	85	15.24	3.09	2.52	26	4	0.0	0	7.1	NNE	19	SE	4	0	5	26	9.3	75
WAKE ISLAND	11	1012.8	1013.2	83	73	78.1	- 0.9	86	31	68	17	0	0	67	70	0.76	-1.31	0.44	6	0	0.0	0	11.2	ENE	28*	ENE	14	17	10	4	3.7	
YAP R	55	1005.9	1007.9	85	76	80.8	- 0.4	88	7+	73	29+	0	0	76	85	11.27	1.12	2.76	24	0	0.0	0	11.4	NE	30	NE	17	0	0	31	10.0	44
PENNSYLVANIA																																
ALLENTOWN	376	1002.8	1017.7	37	22	29.8	- 1.3	54	5	5	30+	0	27	23	75	3.84	0.82	1.14	12	0	13.3	6	11.1	WSW	46*	SW	5	9	7	15	6.4	
ERIE	732	989.8	1016.8	37	25	30.9	0.2	61	4	0	29	0	23	24	70	2.84	0.45	1.06	18	2	11.9	4	13.9	SW	35*	SW	5	1	4	26	9.1	
HARRISBURG	335	1004.1	1018.3	39	23	31.1	- 2.8	59	5	3	30	0	28	22	70	3.42	0.86	1.11	13	0	18.8	12	8.8	WNW	33	W	5	9	5	17	6.5	47
PHILADELPHIA	5	1013.0	1017.6	39	23	31.0	- 4.9	55	5	10	31	0	27	23	72	2.78	0.11	0.82	12	0	5.2	3	9.2	WNW	38	W	5	7	9	15	6.5	55
PHILADELPHIA U	35			43	31	36.7	- 0.7	58	5	16	16	0	18																			
PITTSBURGH	1151	987.0	1018.4	38	24	31.3	0.4	63	4	4	29	0	25	24	74	1.71	-0.80	0.44	18	0	5.6	2	10.1	WSW	32*	W	5	1	6	24	8.5	37
PITTSBURGH U	749			41	27	34.2	- 1.0	65	4	7	29	0	22			1.66	-0.91	0.39	17		5.5											18
READING U	266	1005.6	1018.2	40	28	33.8	- 1.0	58	5	14	16	0	21			3.21	0.41	0.97	14	0	9.9	7	10.4	W	52	W	5	8	8	15	6.5	51
SCRANTON	940	982.1	1017.6	36	23	29.6	0.0	51	5	0	30	0	27	22	75	2.52	0.15	0.93	16	0	12.8	7	8.8	SW	34	W	5	4	7	20	7.6	34
WILLIAMSPORT	527	998.5	1018.2	38	23	30.3	- 0.6	53	5	0	30	0	27	22	71	2.53	-0.14	0.63	14	0	11.3	6	8.6	W	31*	W	5	4	10	17	7.4	
RHODE ISLAND																																
BLOCK ISLAND	110	1010.6	1015.0	40	29	34.6	- 0.5	55	5	13	16	0	21			4.15	0.79	1.07	9	0	4.2	2						5	10	16	6.7	
PROVIDENCE	55	1009.2	1015.4	39	26	32.1	0.5	55	5	10	16	0	27	22	64	3.16	-0.29	1.11	10	0	9.2	4	11.1	NNW	30*	NNW	15+	9	7	15	6.3	47
SOUTH CAROLINA																																
CHARLESTON	41	1017.8	1019.9	63	39	51.0	0.5	78	12	21	31	0	11	40	71	1.43	-1.28	0.69	11	0	0.0	0	8.0	WNW	38	S	18+	12	7	12	5.2	69
CHARLESTON U	9			61	46	53.5	1.3	75	11	27	30	0	3			1.32	-1.39	0.58	8		0.0	0	9.8		26	NW	28+					
COLUMBIA	217	1006.8	1020.1	59	36	47.0	0.0	76	18	20	30	0	11	36	72	3.21	-0.38	1.25	14	0	0.0	0	6.0	WSW	23*	SSW	18	11	6	14	5.4	57
FLORENCE	146	1013.3	1019.3	59	37	47.7	1.2	74	18	19	30	0	11	36	69	1.43	-1.82	0.54	13	0	0.0	0	7.3	S	19*	SSW	18	12	6	13	5.4	
GREENVILLE	1009	980.8	1019.1	53	34	43.5	- 0.6	70	18+	18	29	0	12	33	70	10.10	5.59	3.47	15	1	T	T	7.8	WSW	26	SW	19	10	6	15	6.0	48
SPARTANBURG	801	988.7	1019.4	52	34	42.9	- 1.0	70	18	19	30	0	14	32	70	9.65	5.66	3.62	13	1	T	T	7.5	SW	32*	NW	24	11	4	16	5.8	
SOUTH DAKOTA																																
HURON	1282	969.1	1019.0	25	2	13.5	- 6.1	58	2	-19	13	0	30	8	79	0.29	-0.16	0.15	7	0	5.1	3	11.7	NW	43	NW	6	9	4	18	6.7	48
RAPID CITY	3165	899.4	1017.8	34	12	23.0	- 2.7	61	3	- 9	11	0	31	11	64	0.51	0.17	0.15	8	0	5.5	2	11.5	NNW	47	NW	22	13	4	14	5.5	58
SIOUX FALLS	1420	964.2	1018.4	26	6	16.0	- 3.4	56	2	-16	20	0	30	7	68	0.80	0.13	0.38	8	0	7.7	7	8.1	NW	25*	NW	27+	8	6	17	6.8	
TENNESSEE																																
BRISTOL	1507	963.2	1019.1	47	32	39.2	0.5	70	4	10	29	0	17	30	71	6.75	3.32	1.70	15	0	3.2	3	7.2	NE	33*	SW	19	5	3	23	7.7	
CHATTANOOGA	670	991.8	1020.3	50	34	42.1	0.0	72	4	14	29	0	14	33	73	13.68	8.37	4.85	14	1	1.8	2	7.5	S	29	S	9+	3	12	16	7.1	38
KNOXVILLE	950	983.7	1020.0	48	32	39.9	- 1.1	68	4	9	29	0	16	32	75	11.64	7.38	2.91	14	0	4.5	2	8.3	NE	49	S	4	7	5	19	7.3	32
MEMPHIS	263	1004.5	1019.8	50	35	42.4	- 0.9	74	3	18	13	0	12	33	74	8.56	3.47	2.49	16	2	T	T	9.1	S	29	N	27	7	4	20	7.4	32
MEMPHIS U	271			49	37	43.0	- 1.4	71	3	18	13	0	11			9.25	4.46	3.51	13		T	T										
NASHVILLE	577	998.8	1019.3	50	33	41.1	- 0.5	73	3	10	29	0	16	33	75	6.44	2.38	2.45	13	0	2.0	1	8.2	S	31	NW	5	3	7	21	7.8	32
OAK RIDGE	905	984.9		49	32	40.4	0.8	67	4	10	29	0	16			9.86	4.20	2.36	14	0	5.6	3	6.5		31Y		19	6	4	21	7.5	
TEXAS																																
ABILENE	1759	956.0	1018.6	56	34	44.9	- 0.9	74	3	16	12	0	13	32	66	0.30	-1.07	0.12	7	0	0.0	0	9.2	S	32	S	3	16	3	12	4.9	58
AMARILLO	3607	888.4	1017.2	49	24	36.5	- 0.8	74	2	- 3	12	0	27	22	64	0.16	-0.51	0.09	5	1	0.5	1	12.9	SSW	34	SW	16	12	9	10	4.8	70
AUSTIN	597	996.7	1019.2	62	43	52.2	0.0	79	9	24	13	0	4	41	70	0.91	-1.80	0.53	9	2	0.0	0	9.0	NNE	40	N	27	12	5	14	5.7	43

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ENGLISH UNITS

DECEMBER 1961

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h.							%
TEXAS																																
BROWNSVILLE	16	1014.6	1017.5	73	54	63.9	1.5	86	9	38	13	0	0	57	82	0.77	-1.39	0.50	9	1	0.0	0	10.9	SE	30	S	9	4	11	16	6.5	53
CORPUS CHRISTI	43	1016.9	1018.3	70	50	59.6	0.8	85	9	33	28+	0	0	50	74	0.53	-1.74	0.33	5	1	0.0	0	11.8	NNE	36	N	12	8	6	17	6.3	59
DALLAS	481	1000.1	1019.6	55	37	46.3	- 2.0	74	26	20	13+	0	9	36	72	3.19	0.57	1.34	10	3	0.0	T	11.3	S	30	N	22	13	3	15	5.4	56
DEL RIO U	957			64	43	53.8	0.6	77	18	28	28	0	6			0.29	-0.59	0.16	7	0	0.0	0										
EL PASO	3918	886.6	1016.6	58	35	46.3	1.5	70	2+	24	30+	0	15	28	54	0.63	0.14	0.57	4	0	T	T	7.1	NNE	49	W	15+	14	10	7	4.1	79
FORT WORTH	544	997.7	1019.3	56	36	45.8	- 2.3	74	26	19	13+	0	12	35	72	2.12	-0.36	0.81	10	4	0.0	0	13.8	S	37*	N	22	13	4	14	5.2	
GALVESTON U	7			64	53	58.2	1.2	74	5	33	13	0	0			3.03	-1.23	1.27	7		0.0	0	12.6		32	N	12					57
GALVESTON	5	1016.5	1019.0	64	52	58.2	1.7	76	5	34	13	0	0	49	75	2.50	-2.32	0.98	8	3	0.0	0	10.9	SE				12	4	15	5.5	
HOUSTON U	41			67	51	59.1	3.3	81	5	34	13	0	0			1.50	-3.13	0.79	7		0.0	0										
HOUSTON	50	1016.2	1019.4	67	46	56.3	1.1	81	5+	30	29+	0	4	47	77	3.31	-1.15	1.23	8	2	T	0	11.0	NNW				9	5	17	6.4	51
LAREDO	500	1002.2	1017.9	69	49	58.7	- 0.6	82	4	34	29	0	0	45	68	0.51	-0.93	0.33	8	0	0.0	0	8.3	SE	23*	NNE	12	10	6	15	5.9	
LUBBOCK	3243	904.3	1018.6	52	26	39.3	- 1.3	76	1	6	12	0	26	26	67	0.35	-0.31	0.20	6	2	0.7	1	13.8	W	44*	W	18	17	6	8	4.2	
MIDLAND	2854	916.4	1017.1	56	33	44.6	- 0.8	76	1	19	13	0	16	30	64	0.33	-0.42	0.12	6	1	T	0	9.5	S	27*	N	22	16	4	11	4.4	
PORT ARTHUR	16	1016.9	1018.6	67	45	55.8	1.7	81	5	26	29	0	7	48	81	4.77	-0.70	1.45	13	6	0.0	0	9.8	ENE	32	N	27+	10	5	16	6.2	44
SAN ANGELO	1903	949.7	1018.5	59	34	46.2	- 2.6	74	26+	20	29+	0	13	33	67	0.11	-1.02	0.04	7	0	0.0	0	8.6	ENE	28*	NW	18	15	5	11	4.7	
SAN ANTONIO	792	992.9	1018.5	64	44	54.2	1.1	79	9+	27	29	0	5	43	71	0.70	-1.22	0.19	8	1	0.0	0	9.4	NE	34	N	31	11	5	15	5.7	49
VICTORIA	104	1013.9		67	46	56.7	- 0.1	82	5	29	28	0	3			0.54	-2.53	0.20	5	1	0.0	0	11.0		44Y	N	12	11	6	14	5.7	
WACO	500	997.8	1019.4	59	40	49.2	- 1.0	75	26+	22	13	0	10	39	74	1.14	-1.60	0.23	9	3	T	T	12.9	NNW	37*	NNW	22	14	6	11	5.1	
WICHITA FALLS	994	981.7	1019.1	52	31	41.5	- 2.3	72	3	15	12	0	17	31	71	1.03	-0.44	0.54	10	1	T	T	10.2	S	29*	N	22	16	5	10	4.7	
UTAH																																
MILFORD	5028	844.9		41	16	28.4	0.4	56	25	-12	12	0	29			0.49	-0.26	0.29	7	0	2.5	2						13	4	14	5.3	
SALT LAKE CITY	4220	869.6	1022.5	36	20	28.2	- 3.3	54	1	-10	10	0	29	23	80	0.88	-0.46	0.24	10	0	8.5	6	8.3	SSE	38	S	17	5	5	21	7.4	47
WENDOVER	4237	872.7		37	22	29.5		51	21+	4	11	0	27			0.25		0.08	6	0	3.8	2						8	8	15	5.8	
VERMONT																																
BURLINGTON	331	999.8	1015.2	30	18	23.9	1.1	47	5	- 1	29	0	30	19	71	1.75	-0.13	0.63	14	0	21.1	14	8.5	SSW	38	NW	15	2	5	24	8.4	33
VIRGINIA																																
LYNCHBURG	947	993.5		45	30	37.5	- 1.4	60	3	14	30	0	20			4.89	1.74	1.50	12	0	2.1	1	8.0		34	SW	13	9	4	18	6.5	45
NORFOLK	26	1017.8	1019.2	50	33	41.5	- 1.3	71	18	19	30	0	14	31	69	3.74	0.86	1.39	11	1	T	T	9.9	SW	30	W	24	6	9	16	6.8	56
RICHMOND	162	1013.1	1019.7	46	28	37.1	- 2.4	64	5	16	31+	0	25	27	71	5.05	2.16	1.39	10	0	0.9	T	7.2	SSW	30	NW	5	5	9	17	6.9	44
ROANOKE	1174	975.6	1019.2	44	30	37.2	- 1.8	62	4	16	29+	0	21	25	64	5.07	1.94	1.19	11	0	4.5	2	9.0	WNW	37	NW	24	8	7	16	6.5	
WASHINGTON																																
OLYMPIA	190	1011.2	1018.4	44	33	38.6	- 0.8	53	28+	17	10	0	15	35	87	8.25	-0.41	1.46	23	0	1.7	1	7.8	SW	31*	SW	17	0	3	28	9.2	
SEATTLE TACOMA	400	1003.1	1017.2	44	35	39.3	- 0.5	53	1	23	11	0	7	34	82	5.32	-0.36	1.14	19	0	0.9	1	11.2	S	40*	SSW	20	2	5	24	8.7	
SEATTLE	14		1017.6											36	81								6.5	SSE								
SEATTLE U	14			46	39	42.4	- 0.7	54	19+	28	11+	0	2			5.58	0.24	1.68	21		0.2	T			52	SW	21					15
SPOKANE	2357	948.2	1018.8	32	21	26.6	- 2.5	46	1	- 6	10	0	30	22	79	3.91	1.70	0.96	18	0	26.2	12	8.6	SW	47	SW	21	2	5	24	8.3	22
STAMPEDE PASS R	3958	877.4		29	21	24.8	- 1.4	42	23	4	11+	0	30			18.43	3.77	2.61	25	0	110.8	89						1	1	29	9.4	
TATOOSH ISLAND	101	1012.9	1016.0	46	39	42.2	- 1.9	53	31	29	10	0	2	38	83	11.89	-0.15	2.09	24	1	0.3	T	19.8	ENE	60	SW	4	0	4	27	9.4	17
WALLA WALLA U	949	982.1		43	32	37.3	1.0	62	20	6	11	0	13			2.42	0.61	0.89	16	0	9.0	6	6.0	W*	47	W	21	2	3	26	8.8	16
YAKIMA	1061	979.7	1020.0	40	23	31.4	0.8	56	4	12	11	0	31	24	77	1.27	0.17	0.49	9	0	10.8	9	6.7	WNW	36*	NNW	17	6	7	18	7.1	
WEST INDIES																																
SAN JUAN P.R. U	47			82	71	76.5	0.0	87	24	69	26+	0	0			9.51	4.68	4.52	19	2	0.0	0										
SAN JUAN P.R.	15	1013.5	1016.4	84	71	77.2	1.4	87	29+	64	29+	0	0	70	81	10.00	4.01	3.54	21	0	0.0	0	7.3	ENE	34	E	5	5	19	7	5.9	54
SWAN ISLAND	28	1013.0		84	74	78.8	0.4	85	13+	67	3	0	0			4.83	0.23	1.98	19		0.0	0						0	19	12	6.8	
WEST VIRGINIA																																
CHARLESTON	939	982.6	1019.4	46	29	37.2	- 0.9	68	4	9	29	0	21	27	71	4.74	1.76	1.09	17	1	5.6	2	6.5	WSW	29*	SW	19	3	5	23	8.3	
HUNTINGTON U	567			46	30	38.1	- 1.0	69	4	5	29	0	23			4.43	1.26	1.41	18		5.4	3										
PARKERSBURG U	621			44	27	35.1	- 1.0	68	4	7	29	0	23			3.40	0.50	0.86	16	1	7.0	3	6.8		30	W	19					22
WISCONSIN																																
GREEN BAY	682	994.3	1017.1	26	7	16.9	- 3.2	58	4	-17	15	0	29	13	80	1.27	0.01	0.54	6	0	16.8	12	9.5	W	30	W	5+	7	9	15	6.8	35
LA CROSSE	652	992.1		26	10	18.3	- 2.2	61	4+	-13	15	0	28	13	77	0.98	-0.24	0.38	7	0	14.9	9	9.9	S	40*	NW	6	5	5	21	7.7	
MADISON	858	980.1	1017.5	28	10	18.8	- 4.2	59	4	-15	15	0	30	14	78	1.02	-0.38	0.54	6	0	12.0	9	9.5	W	36	W	6	5	3	23	7.7	28
MILWAUKEE	670	992.0	1018.1	31	15	22.8	- 2.9	60	4+	- 8	28	0	31	17	77	1.02	-0.46	0.34	11	0	7.7	4	11.3	W	31	W	5+	6	7	18	7.3	33

See footnotes at end of table

CLIMATOLOGICAL DATA

ENGLISH UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	Temperature: No. of days: Max. 90 F. or above	Temperature: No. of days: Min. 32 F. or below	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	Precipitation: No. of days: 01 inch or more	Precipitation: No. of days: With thunderstorms	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	No. of days (sunrise to sunset): Partly cloudy, 4-7	No. of days (sunrise to sunset): Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	Ft.	Mb.	Mb.	F.	F.	°F.	F.	F.		F.				F.	%	In.	In.	In.			In.	In.	M.p.h.		M.p.h							%
WYOMING																																
CASPER	5319	834.1	1017.5	31	12	21.6	- 3.9	50	3+	-18	10	0	31	13	68	0.62	-0.03	0.22	10	0	11.7	5	15.1	SW	39*	SSW	21	5	14	12	6.2	
CHEYENNE	6126	808.7	1017.4	34	13	23.4	- 5.3	53	25	-17	10	0	31	9	54	0.09	-0.43	0.03	5	0	1.5	1	16.1	WNW	52	NW	22	10	10	11	5.5	60
LANDER	5563	832.4		29	7	17.7	- 2.7	47	25+	-21	11	0	31	5	59	0.20	-0.29	0.14	2	0	3.3	5	6.2	SE#	65	W	5	9	10	12	5.7	72
SHERIDAN	3942	882.5	1013.6	32	10	20.9	- 3.1	53	1	-17	11	0	30	12	69	0.74	0.07	0.32	9	0	5.9	2	7.8	NW	59	NW	21	6	9	16	6.4	59

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.

* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.

Ø Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.

Z Sun continuously below horizon.

A Maximum hourly average.

\+ And also on an earlier date or dates.

B Number of days maximum 70°F. or above for Alaskan Stations.

\# Wind direction to 8 compass points only.

Y Peak Gust.

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max. 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm. or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm.	Mm.	M.p.s.		M.p.s.							%
ALABAMA																																
BIRMINGHAM		994.2	1020.2	13.3	3.3	8.3	0.7	23.9	4+	- 6.7	30+	0	11	2.8	72	355	222	134	16	3	T	0	4.0	NNW	17.0	SW	12	9	4	18	6.6	38
HUNTSVILLE	184	995.9	1019.9	11.1	2.2	6.6		23.9	3	-10.0	29	0	14	1.7	74	309		87	16	3	18	T	3.7	ESE	15.6*	ESE	9	5	7	19	7.3	
MOBILE	64	1017.6	1020.0	17.8	7.8	12.7	0.8	26.1	6	- 3.3	29	0	6	8.3	77	277	140	92	12	5	0	0	5.1	S	15.2*	N	31	11	5	15	5.8	
MONTGOMERY	59	1011.8	1020.3	15.6	5.0	10.2	0.6	26.7	11	- 6.1	30	0	8	6.1	78	288	173	82	15	5	0	0	3.6	NW	11.2	SW	11+	10	4	17	6.0	45
ALASKA																																
ANCHORAGE	27	1002.4	1007.5	-11.7	-19.4	-15.4	-5.3	5.6	10	-34.4	28+	B 0	31	-21.1	64	24	3	8	11	0	279	178	2.1	N	7.6*	NNW	21	13	1	17	5.7	41
ANNETTE	34	1004.7	1008.6	3.3	- 0.6	1.4	-0.9	9.4	31	-10.0	21	0	20	0.0	88	376	145	54	27	0	1001	305	5.1	ESE	15.6*	SSE	31	0	3	28	9.5	
BARROW	7	1022.4	1022.9	-23.3	-30.0	-26.7	-3.2	-11.1	11	-40.0	24	0	31	-32.2	59	3	- 2	2	5	0	91	356	3.8	W	15.6*	ENE	31	Z	Z	Z		
BARTER ISLAND	12	1020.7	1022.4	-25.0	-32.2	-28.4	-4.6	- 4.4	12	-46.1	24	0	31	-32.2	68	4	- 7	2	7	0	58	152	8.3	W	32.2*	W	12	Z	Z	Z		
BETHEL	38	1011.9	1013.1	-17.8	-23.3	-20.6	-6.8	4.4	9	-36.7	28+	0	31	-26.1	64	28	6	15	10	0	94	178	8.2	NNE	17.9*	NNE	30+	16	3	12	4.5	
COLD BAY	29	1003.1	1007.0	- 0.6	- 5.6	- 3.2	-1.9	8.3	9	-15.6	19	0	26	- 5.6	80	71	8	26	13	0	124	51	7.4	N	21.5*	NNE	26	4	2	25	8.6	
CORDOVA	12	1000.7	1002.4	- 3.3	-12.2	- 7.9	-4.9	7.2	31	-24.4	28	0	28	-10.6	80	123	- 53	31	16	0	480	330	1.8	E	10.3*	ESE	31	5	4	22	7.7	
FAIRBANKS	133	1000.0	1018.6	-26.7	-35.0	-31.1	-8.2	- 3.9	10+	-52.2	29+	0	31	-32.8	70	15	2	9	6	0	160	457	1.6	N	6.7*	NNW	14+	11	7	13	5.7	
JUNEAU	5	1006.4	1007.3	- 2.2	- 6.1	- 4.1	-1.7	8.3	31	-19.4	21	0	24	- 7.2	78	103	- 3	22	28	0	671	229	5.1	ESE	17.4*	ESE	31	1	0	30	9.6	33
KING SALMON	13	1006.4	1008.3	-11.1	-17.2	-14.2	-4.3	8.9	9	-32.8	28+	0	27	-20.0	63	42	9	12	11	0	163	127	4.9	N	14.8*	E	29+	17	1	13	4.7	
KOTZEBUE	3	1019.3	1019.9	-22.2	-29.4	-25.7	-5.9	0.6	11+	-43.9	29+	0	31	-28.9	76	6	- 3	3	7	0	142	178	4.7	E	17.4*	E	30	11	7	13	5.4	
MC GRATH	102	1002.7	1016.7	-25.6	-33.9	-29.6	-7.8	5.0	11	-55.0	27	0	31	-30.0	68	47	15	23	10	0	653	938	1.7	N	8.9*	N	17	14	6	11	5.1	
NOME	4	1017.6	1018.0	-16.1	-25.0	-20.8	-7.3	1.1	10	-40.6	28+	0	31	- 6.7	62	16	- 13	7	6	0	135	457	4.3	N	19.2*	E	8	16	4	11	4.5	41
ST. PAUL ISLAND	7	1009.8	1011.0	- 3.3	- 7.2	- 5.4	-3.9	5.0	8	-16.7	29+	0	29	- 8.3	79	76	25	25	22	0	422	178	10.9	NE	4.1*	NE	6	2	4	25	8.6	
SHEMYA	37	1004.7	1008.3	1.7	- 0.6	0.4		4.4	18	- 7.2	31+	0	19	- 2.8	79	42		14	18	0	81	T	10.6	NNE	1.5*	NE	4	0	4	27	9.3	
YAKUTAT	9	1002.0	1003.1	- 1.1	- 6.7	- 3.8	-1.5	6.1	31	-15.0	19	0	26	- 6.1	83	224	- 88	55	25	0	1626	321	4.2	E	19.7*	SE	31	1	4	26	9.0	
ARIZONA																																
FLAGSTAFF	2131	788.7	1021.4	5.0	-11.7	- 3.3	-1.3	13.3	30+	-26.7	12	0	31	- 8.9	70	80	33	26	8	0	752	457	3.0	NNE	13.4*	S	10	12	4	15	5.5	
PHOENIX	338	977.3	1017.3	17.8	5.0	11.3	0.1	26.1	2	0.0	12	0	1	0.6	54	22	- 3	15	5	0	0	0	2.1	E	8.0*	ESE	15+	11	7	13	5.5	71
PRESCOTT	1528	846.9	1019.2	9.4	- 4.4	2.3	-0.9	16.7	30+	-16.1	12	0	30	- 5.0	67	17	- 18	9	6	0	135	102	2.1	SSW	20.1	SW	10	11	8	12	5.2	72
TUCSON	788	926.9	1016.3	16.1	4.4	10.3	-0.8	22.8	2+	0.0	18	0	1	1.7	64	40	16	20	9	0	0	0	3.8	SE	13.9	E	24	10	5	16	6.2	70
WINSLOW	1487	853.4	1024.0	0.0	-10.6	- 5.2	-6.6	18.9	2+	-23.9	12	0	29	- 8.9	81	19	6	7	8	0	196	127	3.0	NW	22.8*	SW	10	6	4	21	7.4	
YUMA	61	1012.2	1017.5	20.0	6.7	13.4	-0.6	26.7	1	2.2	12	0	0	0.0	49	36	22	35	3	0	0	0	2.1	N	9.8	N	5	14	8	9	4.7	76
ARKANSAS																																
FORT SMITH	137	1002.3	1019.8	9.4	- 0.6	4.4	-1.4	23.3	3	-10.0	13	0	18	0.0	75	91	12	37	8	1	T	T	3.6	ENE	13.9	W	22	10	6	15	6.4	41
LITTLE ROCK	78	1006.6	1020.2	10.0	0.6	5.4	-1.2	23.9	4+	- 9.4	29	0	15	0.0	72	182	78	75	12	2	T	T	3.9	NW	13.4	SW	22	7	4	20	7.1	31
TEXARKANA	110			12.2	2.2	7.3	-1.6	23.9	2	- 7.2	13	0	12	3.3	78	200	77	48	13	5	T	0	4.1	ENE								
CALIFORNIA																																
BAKERSFIELD	151	1003.1	1021.5	11.7	3.3	7.4	-1.9	20.0	20	- 1.7	16	0	8	4.4	84	9	- 18	9	1	0	0	0	2.4	NW	10.3*	S	1	3	9	19	8.0	
BISHOP	1252	875.7		11.7	- 5.6	3.3	-0.7	20.0	30	-12.2	11	0	30			21	- 2	21	2	0	0	0						16	7	8	3.9	
BLUE CANYON	1609	840.2		7.8	0.6	4.2	0.6	17.2	23	- 8.9	11+	0	13			125	- 98	31	9	0	452	483	3.3	ENE	16.5	ENE	6	8	8	15	6.2	
BURBANK	213	990.9	1017.5	18.9	6.7	12.7	0.1	26.1	23	2.8	13	0	0	3.2	60	43	- 29	38	3	0	0	0	2.5	S	9.8*	SSW	2	14	8	9	4.8	
EUREKA U	13	1018.6		10.6	5.6	8.0	-1.2	16.1	20	- 1.1	11	0	1			87	- 67	26	16	0	0	0	2.5	NW	17.9	SW	26	4	9	18	7.6	51
FRESNO	99	1008.1	1020.3	10.0	2.8	6.6	-1.4	18.3	20	- 2.2	15+	0	6	4.4	88	34	- 8	30	4	0	0	0	1.6	SE	8.0	E	2	1	7	23	8.5	28
LONG BEACH	10	1016.3	1017.7	17.2	6.7	11.8		25.6	23	3.3	30+	0	0	7.2	80	30		24	3	0	0	0	2.3	WNW	9.4*	ENE	14+	8	10	13	6.2	
LOS ANGELES	30	1013.9	1017.8	16.7	7.8	12.3	-0.8	24.4	24	4.4	28	0	0	7.2	77	27	- 39	21	4	1	0	0	2.5	W	9.8*	W	10	11	8	12	5.7	
LOS ANGELES U	95			18.3	9.4	13.8	-0.2	25.6	23	6.7	25+	0	0	5.0	62	37	- 42	31	4	0	0	0	2.7	NW	12.1	E	14	13	7	11	5.0	69
MT SHASTA R	1080	894.7		5.6	- 3.3	1.2	-0.3	12.2	4	-13.3	11	0	29			96	- 41	38	9	0	424	76						9	8	14	6.1	
OAKLAND	1	1019.6	1020.0	12.2	4.4	8.6	-0.7	17.2	22	1.1	16+	0	0	3.7	75	48	- 39	38	8	0	0	0	2.3	E	11.2*	W	2	10	6	15	6.1	
POINT ARGUELLO	112	998.0		15.6	5.0	10.4		22.2	24	2.2	30+	0	0			58		53	8	0	0	0	3.0		11.2*	SE	1	12	9	10	4.8	
RED BLUFF	104	1007.1	1020.4	11.7	3.3	7.3	-0.9	18.9	22	- 1.1	11+	0	4	1.7	73	117	10	76	6	1	0	0	4.1	NNW	16.1	SE	20+	4	10	17	7.3	50
SACRAMENTO	5	1019.6	1020.9	10.6	3.3	6.7	-0.9	17.2	20	- 1.7	16	0	7	3.9	87	63	- 14	54	5	1	0	0	2.3	SE	8.9	SE	17	2	9	20	7.9	38
SACRAMENTO U	7			11.1	4.4	7.5	-0.7	17.2	20	- 1.1	16	0	2			37	- 44	25	5		0	0										
SANDBERG R	1377	863.2		7.8	1.7	4.7	-1.1	15.6	25	- 5.0	12+	0	11			44	- 28	33	3	0	79	76	6.8	ENE	16.5*	S	2	16	6	9	4.2	
SAN DIEGO	4	1013.9	1017.2	18.3	8.9	13.4	-0.4	23.9	28	6.1	28	0	0	7.8	73	37	- 28	22	8	0	0	0	2.5	NW	10.7	S	2	7	10	14	5.8	62
SAN FRANCISCO	2	1019.6	1020.4	11.7	5.0	8.5	-1.1	15.6	22+	1.1	31+	0	0	5.6	83	46	- 45	40	7	1	0	0	2.7	ENE	14.3	S	1	9	7	15	6.2	
SAN FRANCISCO U	16			12.2	7.8	10.0	-1.1	17.2	22	4.4	31+	0	0			54	- 49	41	8	0	0	0	2.9	NW	8.9	N	21					54
SANTA MARIA	73	10[illegible]	1018.6	17.8	3.9	10.[illegible]	-0.7	24.4	24	0.6	30+	0	0	4.4	71	44	- 22	41	6	0	0	0	2.3	WNW	12.5*	SSE	1	16	7	8	3.9	
COLORADO																																
ALAMOSA	2297	768.7		- 1.1	-21.7	-11.2	-4.2	10.6	2	-40.6	12	0	31			14	10	12	3	0	224	178						16	9	6	3.7	
COLORADO SPRINGS	1882	808.3	1020.8	3.3	-11.1	- 4.1	-3.8	15.0	25+	-25.0	12+	0	31	-12.2	58	11	3	8	4	0	180	102	3.8	NNE	14.3*	NW	18	13	11	7	4.4	
DENVER	1610	835.1	1018.2	5.0	- 9.4	- 2.4	-2.2	18.3	25	-26.7	10	0	31	-12.2	53	8	- 5	5	4	0	97	76	4.0	SSW	21.9	W	21	12	12	7	4.6	79
GRAND JUNCTION	1478	861.8	1024.5	0.6	-10.0	- 4.9	-3.0	14.4	2	-19.4	13	0	28	-10.0	72	16	- 1	5	9	0	206	127	2.1	ENE	16.5	NW	3	11	5	15	5.6	54

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station ⌀	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm. or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s.							%
COLORADO																																
PUEBLO	1414	855.1	1019.6	5.0	-12.2	- 3.8	-3.3	17.2	3+	-33.3	12	0	31	-11.1	64	16	5	12	5	0	315	178	3.6	W	18.8	W	21	17	8	6	3.9	84
CONNECTICUT																																
BRIDGEPORT	2	1016.2	1017.1	3.9	- 2.8	0.6	0.4	13.3	5	-11.7	16	0	24	- 4.4	69	68	- 10	26	11	0	147	51	6.0	NW	17.0*	NNW	15+	9	10	12	6.0	
HARTFORD	52	1009.5	1015.6	2.2	- 5.6	- 1.7	-0.4	12.8	5	-16.1	16	0	29	- 6.1	69	80	- 4	23	12	0	287	203	3.8	N	17.0	NW	15	7	10	14	6.7	50
NEW HAVEN	2	1016.1		3.9	- 3.3	0.3	0.3	13.3	5	-12.2	16	0	27			84	- 17	31	9		236	127	4.0		17.9	W	5	7	8	16	6.5	60
DELAWARE																																
WILMINGTON	24	1014.6	1018.0	5.0	- 3.9	0.7	-1.1	14.4	5	-10.6	31+	0	26	- 3.9	73	77	1	22	11	0	163	102	4.8	WNW	15.6	WNW	5	7	11	13	6.4	
DIST. OF COLUMBIA																																
WASHINGTON U	22			6.7	0.0	3.3	-0.1	17.2	5	- 5.6	30+	0	17			83	13	20	9													
WASH NATL AP	4	1014.3	1018.9	6.1	- 1.1	2.4	-0.9	16.1	5	- 7.2	30+	0	19	- 3.9	64	73	7	19	9	0	30	T	3.4	S	17.9	NW	5	7	11	13	6.5	50
FLORIDA																																
APALACHICOLA U	4	1017.7		17.8	10.6	14.2	0.7	23.9	17+	- 0.6	29	0	2			82	- 2	39	8	4	0	0	3.5		13.0	E	8	12	9	10	5.1	75
DAYTONA BEACH	9	1018.6	1020.6	22.2	10.6	16.2	0.3	28.9	18	- 2.8	30+	0	3	11.1	74	19	- 44	7	6	1	0	0	3.6	NW	10.3*	WNW	29	12	10	9	5.0	
FORT MYERS	4	1018.8		25.6	12.2	19.0	0.3	30.0	14+	0.6	26	0	0			13	- 19	12	3	1	0	0	4.0		10.3*	NNE	24	8	19	4	4.8	
JACKSONVILLE	7	1019.3	1020.8	20.6	7.8	14.3	0.7	28.3	12+	- 4.4	30	0	5	8.3	73	12	- 48	5	6	0	0	0	3.9	NW	13.4Y	NW	13	12	10	9	5.0	57
KEY WEST	2	1017.8	1019.0	25.0	20.0	22.5	0.4	29.4	6	10.6	26	0	0	17.2	74	20	- 25	10	8	0	0	0	5.5	ENE	11.6	SE	31+	15	12	4	4.2	69
LAKELAND U	65			23.3	12.2	17.6	0.7	28.9	18+	1.1	30	0	0			99	48	83	7	4	0	0	3.1					13	13	5	4.5	64
MIAMI BEACH	3			24.4	18.9	21.7	0.1	28.9	20	5.6	30	0	0			38	- 9	26	6		0	0	3.6		13.9	W	28	17	8	6	4.3	66
MIAMI	2	1017.8	1019.1	25.0	16.1	20.5	-0.2	30.0	20	3.9	30	0	0	14.4	71	3	- 39	2	4	0	0	0	4.4	ESE	11.2*	WNW	28	13	13	5	4.7	
ORLANDO	32	1015.7	1020.5	23.9	11.7	17.7	0.7	32.2	18	- 1.7	30	1	1	1.1	71	17	- 36	11	4	1	0	0	3.8	NNE	8.9*	WNW	29+	12	15	4	4.3	
PENSACOLA U	4			17.8	8.9	13.5	0.7	25.6	6	- 2.2	29	0	4			209	103	54	16	5	0	0	4.1		14.8	SE	31					60
TALLAHASSEE	18	1018.0	1020.8	18.9	6.1	12.4	0.2	25.6	5+	- 8.3	30	0	8	7.8	77	107	14	47	8	1	0	0	4.2	S	13.0*	NNE	12	11	5	15	5.7	
TAMPA	6	1018.7	1020.5	23.3	12.2	17.9	0.8	29.4	15+	0.6	30	0	0	11.1	70	97	47	74	7	3	0	0	5.1	NE	3.0*	NNW	13	14	9	8	4.8	73
WEST PALM BEACH	5	1018.4	1019.5	25.0	15.0	19.9	-0.5	30.6	19	1.1	30	0	0	14.4	72	15	- 41	10	4	0	0	0	4.5	NNW	13.0*	WNW	28	8	17	6	5.4	
GEORGIA																																
ATHENS	245	990.2	1020.1	12.2	1.1	6.6	-0.7	22.2	4+	- 7.2	30+	0	15	1.7	74	194	74	72	16	2	T	T	4.0	S	12.1*	NNW	23	10	7	14	6.1	
ATLANTA	297	977.5	1020.6	11.1	1.7	6.4	-0.9	22.2	4+	- 8.3	30+	0	14	1.1	72	252	136	98	14	2	25	T	4.2	NW	12.1*	WNW	11	10	3	18	6.5	44
AUGUSTA	44	1013.0	1020.1	15.6	2.2	8.9	0.3	24.4	18	- 7.2	30	0	12	3.3	75	107	12	43	14	2	0	0	2.9	WNW	10.7*	WNW	23	11	6	14	5.7	
COLUMBUS	117	1006.0		15.0	3.3	9.3	0.7	25.0	11	- 9.4	30	0	12			185	69	46	15	1	0	0	4.2		10.7*	NW	28	10	6	15	6.1	
MACON	109	1006.2	1020.3	15.6	3.9	9.6	-0.2	25.0	3	- 6.1	30	0	10	3.9	72	175	67	67	14	0	0	0	3.7	NW	11.2	W	10	9	8	14	5.8	56
ROME	194	996.3		11.1	0.6	5.7	-0.6	23.9	3	-11.1	30	0	17			342	209	148	15	2	13	T						7	6	18	6.9	
SAVANNAH	15	1018.7	1021.1	17.8	5.0	11.2	0.2	27.8	12	- 6.7	30	0	10	6.7	78	72	5	22	11	1	0	0	3.8	WNW	1.6	N	12	13	7	11	4.9	61
THOMASVILLE U	86			17.8	7.2	12.4	-0.1	25.6	11	- 3.9	30+	0	5			113	23	47	9	1	0	0										
HAWAII																																
HILO	9	1015.2	1017.5	25.6	17.8	21.5	-0.4	28.3	7	14.4	31	0	0	17.8	83	407	1	88	27	0	0	0	3.6	WSW	11.6*	SE	14+	2	14	15	7.2	34
HONOLULU	2	1016.3	1016.5	27.2	20.6	23.9	0.7	30.0	16	17.8	31	0	0	17.2	68	31	- 70	20	5	0	0	0	5.5	ENE	18.8	SE	5	8	17	6	5.0	74
LIHUE	35	1011.2	1016.9	26.7	20.0	23.2	1.3	27.8	31+	15.0	31+	0	0	18.3	77	157	21	107	18	0	0	0	5.1	ENE	13.0	S	5	8	14	9	5.4	60
IDAHO																																
BOISE	865	922.8	1021.9	2.8	- 3.9	- 0.6	-0.1	11.7	1	-15.6	11+	0	27	- 6.1	67	23	- 10	10	8	1	165	76	3.4	SE	17.0	SW	20	3	7	21	8.0	35
IDAHO FALLS 42NW R	1460			- 2.8	-16.1	- 9.5	-1.6	8.3	1	-32.8	11	0	31			17	1	5	11				2.1	NNW	15.6A	SSW	21					
IDAHO FALLS 46W R	1504	848.3		- 1.7	-11.7	- 6.6	-0.1	7.8	1	-25.0	11	0	31			14	- 5	6	10	0	58	25	3.1	SW	15.2A	SW	21					
LEWISTON	431	967.5		4.4	- 2.2	1.1	0.0	11.1	29+	-19.4	11	0	19			28	- 5	6	17	0	183	102						2	5	24	8.7	
POCATELLO	1355	864.2	1021.0	1.1	- 6.7	- 2.9	-0.1	9.4	20+	-20.0	10	0	29	- 6.1	80	24	- 5	6	16	1	203	102	5.4	SW	22.8	W	21	2	8	21	8.1	40
ILLINOIS																																
CAIRO U	96	1006.1		7.2	0.6	3.7	-0.6	20.0	3	- 9.4	13	0	16			107	22	37	13	1	30	25	3.8	S#	17.0	SW	4	7	6	18	7.3	42
CHICAGO O HARE	201	991.8	1017.5	0.6	- 7.8	- 3.7		16.7	4+	-20.0	28	0	30	- 7.2	76	34		19	12	0	272	203	5.5	WSW	19.7*	WSW	12	6	7	18	7.2	
CHICAGO MIDWAY	186	993.8	1017.7	0.6	- 7.2	- 3.3	-1.1	16.7	4	-19.4	28	0	29	- 7.2	74	48	- 2	18	15	0	422	254	5.8	W	18.3	SW	12	6	5	20	7.5	29
MOLINE	177	995.2	1018.5	0.0	-10.0	- 5.0	-2.2	17.8	3	-23.3	28	0	28	- 7.8	78	40	0	12	12	0	345	229	4.4	WNW	15.2	NW	6	6	4	21	7.6	39
PEORIA	199	995.6	1019.0	0.0	- 8.9	- 4.4	-2.5	16.1	4	-22.8	28	0	30	- 7.2	81	43	- 9	14	11	1	267	127	4.4	WNW	14.3	W	6+	6	5	20	7.4	33
ROCKFORD	222	989.2	1017.7	- 1.1	- 9.4	- 5.1	-1.5	15.6	4	-23.3	28	0	31	- 7.8	80	25	- 17	9	11	0	224	152	5.4	WNW	16.1*	WNW	6	7	4	20	7.2	
SPRINGFIELD	179	994.6	1018.9	1.7	- 6.7	- 2.3	-1.6	18.3	3	-20.6	28	0	29	- 6.7	73	33	- 19	6	13	0	241	76	5.6	W	17.0	W	12	8	5	18	7.1	45
INDIANA																																
EVANSVILLE	116	1002.7	1019.2	5.6	- 3.3	1.3	-1.4	20.0	3	-16.1	28	0	25	- 2.2	79	109	28	37	15	0	132	102	3.8	NW	13.0	E	9	3	6	22	7.7	35
FORT WAYNE	241	985.8	1018.4	0.6	- 7.8	- 3.7	-1.9	16.1	4	-22.8	31	0	30	- 6.1	80	39	- 18	10	13	0	213	152	5.5	W	17.0	W	7	5	7	19	7.4	44

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: .25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s.		M.p.s.							%
INDIANA																																
INDIANAPOLIS	242	987.3	1018.5	2.2	- 5.6	- 1.6	-1.1	17.2	4	-20.0	30	0	26	- 3.9	84	77	7	20	17	0	157	76	4.1	W	14.3*	WNW	4	5	4	22	7.8	30
SOUTH BEND	234	988.3	1017.4	1.1	- 6.7	- 2.9	-0.6	15.0	4	-20.0	28	0	30	- 6.1	77	52	- 6	14	14	0	241	102	6.0	SW	16.5*	WNW	6	3	7	21	7.9	
IOWA																																
BURLINGTON	212	992.1	1018.9	0.6	- 8.9	- 4.2	-1.9	17.8	3	-22.8	28	0	29	- 7.8	75	38	- 5	11	13	0	396	152	4.5	WNW	14.3	NW	6	8	5	18	7.1	46
DES MOINES	289	987.0	1020.0	- 3.3	-11.7	- 7.5	-4.3	15.0	4+	-25.6	13	0	30	- 9.4	82	46	17	20	12	1	607	457	4.6	WNW	15.2	SW	5	5	4	22	7.6	32
DUBUQUE	325	991.8		- 2.8	-11.7	- 7.2	-2.4	15.6	3	-26.7	28	0	31			52	17	20	9	0	526	356						6	5	20	7.5	
SIOUX CITY	334	976.0	1019.5	- 3.3	-13.9	- 8.5	-3.7	13.3	1	-27.2	20+	0	30	-10.6	83	29	11	11	10	0	292	229	5.2	NW	6.1	N	22+	6	8	17	7.0	48
WATERLOO	265	985.1	1018.7	- 2.2	-12.8	- 7.5	-2.6	16.7	3	-32.2	13	0	30	- 8.9	83	33	3	10	9	0	511	330	4.8	WNW	13.9*	NW	6	6	5	20	7.4	
KANSAS																																
CONCORDIA U	419	967.8		0.0	- 8.9	- 4.4	-4.3	16.7	3	-21.7	13	0	30	- 8.3	74	23	7	9	6	0	185	178	3.2	WNW	13.4	NW	27	10	6	15	5.9	57
DODGE CITY	791	927.9	1018.9	5.0	- 6.7	- 0.9	-1.7	18.9	3	-21.7	12	0	29	- 6.1	72	6	- 7	2	5	0	36	25	4.7	NNW	24.1	NW	22	14	6	11	5.0	69
GOODLAND	1111	887.0	1018.4	3.3	-10.0	- 3.5	-1.6	16.7	3	-28.3	12	0	31	- 8.3	73	9	- 3	5	5	0	188	152	5.2	NNW	15.6*	NNW	22	13	5	13	5.4	
TOPEKA	267	982.7	1020.1	1.7	- 9.4	- 3.9	-4.0	18.9	3	-24.4	13	0	29	- 7.2	78	27	- 2	12	6	0	284	127	4.9	WNW	15.2	NW	22	5	7	19	7.3	51
WICHITA	403	968.7	1019.4	2.8	- 5.6	- 1.4	-3.4	18.3	3	-18.9	13	0	28	- 4.4	82	26	- 2	17	7	0	124	102	5.1	NNW	21.0	NW	22	11	10	10	5.5	58
KENTUCKY																																
COVINGTON	265	985.8	1018.9	5.0	- 3.3	0.8	-0.1	19.4	4	-17.8	29+	0	23	- 3.9	73	86	14	23	16	0	206	102	4.7	WNW	14.3	W	4	5	4	22	8.0	
LEXINGTON	298	982.3	1019.2	6.7	- 2.8	1.9	-0.2	19.4	4	-17.2	29	0	22	- 1.1	81	99	5	37	13	0	130	51	5.2	SSW	15.6	W	4	5	5	21	7.8	
LOUISVILLE	144	999.3	1019.1	7.2	- 2.2	2.4	-0.3	21.1	4	-15.6	28	0	23	- 2.2	75	95	11	35	15	0	236	102	3.9	WNW	13.0	SW	4	5	4	22	7.8	27
LOUISIANA																																
ALEXANDRIA	28	1014.7	1019.5	16.1	3.3	9.7		23.9	3	- 7.8	29	0	12	6.1	82	211		110	12	6	0	0	3.0	S				9	6	16	6.4	
BATON ROUGE	20	1016.2	1019.4	18.3	6.1	12.2	0.2	26.7	9	- 4.4	29	0	8	8.3	80	208	75	61	14	6	0	0	3.9	SE				9	7	15	6.3	
BURWOOD R	2		1019.5	20.0	12.2	15.9	0.8	26.1	5	2.8	29	0	0	12.8	83	135	29	43	11	2	0	0	5.7	NE								
LAKE CHARLES	4	1016.9	1018.4	18.3	7.2	12.6	0.4	25.6	11	- 2.8	29	0	5	8.9	82	102	- 44	34	13	2	0	0	6.8	ESE	16.5*	NNW	17	9	5	17	6.2	
NEW ORLEANS U	3			18.9	10.0	14.5	0.6	26.1	11	1.7	25	0	0			188	72	45	12	5	0	0	3.2		8.9	NW	17	9	8	14	5.7	51
NEW ORLEANS	1	1017.1	1019.3	18.9	7.8	13.4	0.1	26.7	11+	- 3.3	29	0	5	10.0	81	153	34	43	11	6	0	0	3.6	S	13.0*	SSW	17	10	8	13	5.7	
SHREVEPORT	77	1013.4	1019.9	13.9	3.9	8.9	-0.9	25.0	4	- 5.6	13	0	9	5.0	80	191	68	66	11	4	0	0	4.8	S				9	6	16	6.4	44
MAINE																																
CARIBOU	190	987.8	1020.0	- 2.2	- 9.4	- 5.9	3.8	8.3	28	-20.0	17+	0	31	- 8.3	72	61	4	29	13	0	226	127	5.6	WSW	19.7*	WNW	15	1	11	19	8.0	
PORTLAND	19	1010.1	1014.3	1.7	- 8.3	- 3.3	0.6	11.7	5	-18.9	31	0	29	- 6.7	73	75	- 21	18	13	0	485	381	4.2	N	15.6	N	24	8	8	15	6.3	47
MARYLAND																																
BALTIMORE	45	1013.6	1018.6	5.6	- 4.4	0.8	-1.3	16.1	5	-12.2	31	0	27	- 5.0	67	72	- 3	19	10	0	183	25	4.4	WNW	22.4	NW	5	10	7	14	6.1	56
BALTIMORE U	4			6.1	- 0.6	2.7	-1.1	16.1	5	- 8.3	16	0	19			71	- 4	19	10													
FREDERICK	90			4.4	- 5.0	- 3.1	-1.8	15.6	5	-13.3	31+	0	27			72	- 2	24	12		239	102										
MASSACHUSETTS																																
BLUE HILL OBS R	192	989.5	1013.6	2.2	- 5.0	- 1.3		12.2	5	-15.0	16	0	27		73	113	14	48	11		465	432	7.0	WNW	23.2	WNW	5					49
BOSTON	5	1010.6	1014.5	3.9	- 2.8	0.4	0.0	13.9	5	-11.7	16	0	25	- 5.0	68	85	- 0	27	12	0	290	229	6.7	WNW	17.0	NW	15+	9	7	15	6.3	57
NANTUCKET	13	1014.0	1014.6	5.6	- 1.1	2.4	0.6	12.2	5	- 8.9	16	0	20	- 2.2	73	85	- 11	41	10	0	91	76	6.6	WNW	16.1	NW	25	4	10	17	7.1	43
PITTSFIELD	357			0.6	- 7.8	- 3.8	0.2	8.9	5	-23.3	31	0	30			85	7	17	17		658	330										
WORCESTER	301	976.5	1014.5	0.6	- 6.1	- 2.8	-0.3	10.0	5	-15.6	16	0	30	- 6.1	75	85	- 7	30	13	0	516	483	4.4	W	12.1*	ENE	24+	8	9	14	6.5	
MICHIGAN																																
ALPENA	210	988.4		- 0.6	- 7.8	- 4.2	-0.1	16.1	4	-20.6	29+	0	28			34	- 15	9	17	0	328	102	3.6	SW	13.0	E	12	0	7	24	9.0	24
DETROIT	189	989.7	1017.5	1.7	- 4.4	- 1.7	-0.3	14.4	4	-17.8	29	0	28	- 5.6	75	33	- 23	12	11	0	127	51	5.4	W	17.9	W	12+	0	8	23	8.4	27
DETROIT M WAYNE CO	193	992.2	1017.1	1.7	- 5.6	- 1.9		15.0	4	-17.8	29	0	28	- 5.0	78	30		11	12	0	114	51	4.3	SW				1	9	21	8.2	
DETROIT WILLOW RUN	217	987.6	1017.0	1.1	- 6.1	- 2.6	-0.8	14.4	4	-18.3	29	0	30	- 5.6	80	29	- 23	9	12	0	114	51	5.0	SW	16.5*	W	5	1	8	22	8.4	
ESCANABA U	181	990.1		- 1.7	- 9.4	- 5.8	-0.5	13.9	4	-21.7	28	0	28	- 9.4	74	47	11	12	9	1	541	432	4.5		14.3	N	12	5	11	15	6.8	40
FLINT	233	988.2	1017.1	1.1	- 6.7	- 3.0	0.2	14.4	4	-18.9	29	0	30	- 6.1	79	28	- 20	8	13	0	135	25	4.9	SW	12.1*	WSW	12+	0	7	24	8.7	
GRAND RAPIDS	208	990.8	1017.0	0.6	- 6.1	- 2.6	0.1	15.6	4	-18.3	29	0	29	- 6.1	77	39	- 16	14	15	1	475	127	5.2	WNW	14.8	W	12	2	4	25	8.8	14
LANSING	260	983.4	1016.7	0.6	- 6.7	- 3.2	-0.4	14.4	4	-18.9	29	0	30	- 6.7	77	37	- 17	13	15	0	155	76	6.8	W	24.1	SW	12	1	9	21	8.2	23
MARQUETTE U	206	986.9		- 2.2	- 8.3	- 5.3	-0.4	12.8	4	-19.4	28	0	29			54	2	26	15	1	851	559	3.7	W	12.5	SE	3	3	7	21	8.1	35
MUSKEGON	191	992.5	1016.8	1.1	- 5.0	- 2.0	-0.4	14.4	4	-15.6	29	0	27	- 5.6	76	47	- 2	14	12	1	617	224	4.8	WNW	12.1*	WNW	6+	1	3	27	9.2	
SAULT STE MARIE	224	990.9	1014.6	- 2.8	-10.0	- 6.2	0.5	15.0	4	-21.7	28	0	27	- 8.3	85	84	26	31	20	1	785	483	4.5	WSW	13.2*	WNW	5	3	7	21	8.2	26
MINNESOTA																																
DULUTH	435	973.2	1016.6	- 6.1	-15.0	-10.6	-0.2	6.7	4	-30.0	15	0	31	-13.3	79	32	2	14	13	1	366	330	3.9	WNW	17.0	W	4	2	10	19	8.0	34
INTERNATIONAL FALLS	359	973.6	1017.0	- 7.8	-16.7	-12.3	0.4	2.8	4+	-33.3	15	0	31	-15.6	75	24	2	6	18	0	259	229	4.0	W	12.5*	WNW	4	5	5	21	7.6	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station Ø	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No of days: Max 32.2 °C or above	No of days: Min 0 °C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: 25 mm or more	No of days: With thunderstorms	Snow Sleet: Total	Snow Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	No of days (sunrise to sunset): Clear 0-3	No of days (sunrise to sunset): Partly cloudy, 4-7	No of days (sunrise to sunset): Cloudy, 8-10	Sky cover tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb	C.	C.	C	C	C.		C				C	%	Mm.	Mm	Mm.			Mm.	Mm.	M p.s.		M.p s							%
MINNESOTA																																
MINNEAPOLIS	251	982.8	1018.3	- 3.9	-14.4	- 9.3	-2.3	10.0	3	-27.8	15	0	30	-12.2	76	41	19	15	14	0	460	279	4.4	WNW	13.4	NW	6	2	8	21	8.1	23
ROCHESTER	395	967.5	1017.8	- 5.0	-13.9	- 9.3	-2.1	13.9	3	-28.3	13	0	28	-11.1	84	18	- 8	7	8	0	465	279	5.7	WNW				3	7	21	8.0	
ST CLOUD	315	978.1	1018.3	- 5.6	-16.1	-10.7	-1.6	6.7	3	-30.0	15	0	30		76	20	3	11	11	0	302	178						5	5	21	7.7	
MISSISSIPPI																																
JACKSON	93	1007.2	1019.6	14.4	3.3	9.0	-0.4	25.0	11+	- 6.1	29	0	12	5.0	78	283	141	71	15	7	0	0	3.0	S	17.9	N	17	10	6	15	6.3	45
MERIDIAN	89	1005.9	1020.1	15.0	3.3	9.0	0.0	25.0	4+	- 7.8	29	0	11	5.6	84	312	171	79	12	5	T	T	3.3	S	12.5*	SSE	17	10	6	15	6.3	
VICKSBURG U	71	1009.8		13.9	4.4	9.3	-1.0	23.9	4+	- 3.9	13	0	8			353	217	98	15	5	T	T	3.9		13.4	W	9	11	3	17	6.4	45
MISSOURI																																
COLUMBIA	237	988.5	1018.2	2.8	- 5.6	- 1.4	-2.1	20.0	3	-17.8	13	0	24	- 5.0	76	41	- 11	14	10	0	175	102	5.2	WNW	14.8	W	22	9	4	18	6.9	39
KANSAS CITY	226	983.0	1019.5	2.8	- 6.7	- 1.9	-2.9	20.0	3	-18.3	13	0	26	- 6.7	71	50	12	20	8	0	422	229	3.7	NW	16.5	NW	22	6	6	19	7.0	41
ST JOSEPH	247	982.6		0.6	-11.1	- 5.4	-4.9	18.3	3	-24.4	13	0	30			34	- 2	10	8	0	396	229	4.9	N	19.7*	NW	22	8	5	18	6.7	
ST LOUIS	163	997.7	1019.1	4.4	- 4.4	0.0	-1.7	21.1	3	-17.8	28	0	25	- 5.0	71	50	- 4	12	8	0	94	102	5.5	WNW	13.4	W	12	8	4	19	7.0	33
ST LOUIS RFC	142			4.4	- 2.8	0.8	-1.5	21.1	3	-17.2	28	0	23			55	- 7	15	9	0	119	76										
SPRINGFIELD	386	969.9	1019.1	5.0	- 3.9	0.6	-1.5	20.0	3	-15.6	13	0	24	- 3.3	77	72	17	22	13	0	71	25	5.0	SSE	17.0	W	22	5	7	19	7.1	42
MONTANA																																
BILLINGS	1087	888.9	1017.1	0.6	- 8.9	- 4.2	-1.5	12.2	1	-27.2	11	0	29	-12.2	56	6	- 9	3	5	0	69	51	6.4	WSW	19.7	NW	25	6	5	20	7.0	50
GLASGOW	694	940.4		- 6.1	-17.8	-12.0	-3.0	10.0	1	-30.0	19	0	31	-15.0	82	5	- 9	2	7	0	48	51						5	13	13	6.3	
GREAT FALLS	1116	885.9	1016.9	- 1.1	-12.2	- 6.5	-3.4	8.9	24	-28.9	10	0	29	-11.1	67	8	- 10	4	7	0	76	51	5.9	SW	18.3	SW	21+	5	9	17	7.0	36
HAVRE	787	925.2		- 5.0	-18.3	-11.7	-5.2	6.7	24	-37.2	12+	0	30			7	- 7	5	4	0	114	102	4.2	SW#	16.5	SW	21	7	3	21	6.9	52
HELENA	1187	871.7	1019.3	0.0	-10.0	- 5.2	-0.1	9.4	1	-30.0	11	0	29	-11.1	65	14	- 2	4	11	1	107	51	3.9	W	18.3	W	21	4	11	16	7.4	35
KALISPELL	904	911.3		- 1.7	-10.6	- 6.2	-2.2	5.6	24	-25.6	11+	0	31			56	17	13	21	0	762	559	2.5					1	6	24	8.7	
MILES CITY	801			- 2.2	-13.9	- 8.0	-1.7	10.6	1	-26.7	12	0	31	-12.2	73	7	- 6	3	5	0	76	25	4.4	NW	17.9*	NW	21	7	14	10	6.1	
MISSOULA	972	902.5	1021.1	- 2.2	- 9.4	- 5.8	-1.2	7.8	20	-26.1	11	0	31	- 8.9	79	30	4	6	19	0	287	127	2.7	NW	17.0	W	24	1	4	26	8.9	24
NEBRASKA																																
GRAND ISLAND	561	949.9		- 0.6	-12.8	- 6.8	-4.1	17.8	2+	-24.4	15+	0	30	- 1.7	71	26	12	14	6	0	429	381	4.8	NNW				13	4	14	5.4	
LINCOLN U	351			- 1.1	-10.6	- 5.8	-4.2	14.4	3	-22.2	13	0	29			24	3	15	7	0	310	203	4.0	S#	13.4	NW	22	9	4	18	6.7	45
NORFOLK	471	960.2		- 1.7	-13.9	- 7.9	-3.3	17.8	1	-28.3	13	0	30			26	6	11	6	0	262	229						11	6	14	5.8	
NORTH PLATTE	847	915.1	1018.3	1.7	-12.2	- 5.3	-2.6	16.7	3	-28.9	12	0	31	-11.1	67	11	1	6	7	0	185	127	4.5	NNW	23.2	NW	22	9	8	14	5.8	59
OMAHA	298	977.5	1019.7	- 1.7	-11.1	- 6.6	-4.1	14.4	3	-23.3	13	0	28	- 9.4	80	38	18	15	11	0	498	254	5.4	NW	17.9	NW	22	9	3	19	6.8	39
OMAHA N OMAHA AP	403	968.8		- 2.8	-12.2	- 7.6	-3.9	12.8	3	-25.6	13	0	28			30	9	12	11	0	396	254						8	4	19	6.9	
SCOTTSBLUFF	1204	877.3	1018.4	3.9	-10.6	- 3.6	-0.8	13.9	25+	-23.3	12	0	31	-10.6	64	5	- 6	1	7	0	81	25	5.6	NW	17.9*	W	21	11	12	8	5.5	
VALENTINE	789	923.3		1.7	-13.3	- 5.8	-2.0	18.9	3	-23.9	19+	0	31	-10.6	73	3	- 9	1	5	0	46	25	4.7	NW#	7.0	N	22+	12	6	13	5.3	68
NEVADA																																
ELKO	1547	845.9	1021.5	2.2	- 8.3	- 2.9	-0.1	10.0	20	-24.4	11	0	29	- 6.1	77	25	- 2	10	12	0	218	76	2.9	SW	12.5*	W	17	7	6	18	6.9	
ELY	1907	808.7	1021.2	3.3	-11.1	- 3.8	-1.0	11.1	24	-26.1	11	0	31	- 9.4	71	12	- 10	6	5	0	140	76	3.3	S	7.0	N	10	8	10	13	6.2	71
LAS VEGAS	659	952.6	1019.6	11.7	0.0	5.8	-2.4	16.1	30+	- 6.1	13+	0	15	- 3.3	57	12	- 3	7	4	0	T	0	3.0	WSW	11.6*	N	11	19	3	9	4.0	76
RENO	1342	864.2	1022.4	7.8	- 8.3	- 0.2	-0.8	16.1	20	-22.8	11	0	29	- 5.6	73	5	- 19	3	3	0	18	25	2.1	SW	26.4	NW	17	12	5	14	6.0	67
WINNEMUCCA	1310	870.0		5.6	- 7.2	- 1.1	0.1	13.9	20	-26.7	11	0	28	- 4.4	79	27	2	10	10	0	102	51	2.8	S	16.5	SW	17	8	5	18	7.0	45
NEW HAMPSHIRE																																
CONCORD	103	1003.8	1015.5	1.7	- 7.2	- 2.8	1.7	12.2	5	-21.7	31	0	30	- 7.2	61	73	2	19	11	0	500	483	2.5	NW	13.9	NW	15	8	11	12	6.3	54
MT WASHINGTON OBS	1909	794.4		- 7.2	-15.6	-11.4	1.4	1.7	5	-27.8	15	0	31		89	118	- 31	25	17	0	1044	330	15.5	W	48.3Y	W	5	6	4	21	7.6	30
NEW JERSEY																																
ATLANTIC CITY	18	1015.7	1018.0	6.7	- 2.8	1.7	-0.9	15.6	5	-11.7	31	0	25	- 3.3	73	86	8	24	12	0	25	25	5.7	WNW	19.2	ENE	23	8	11	12	6.2	48
ATLANTIC CITY U	3			7.2	0.6	3.9	0.4	13.9	5	- 5.0	16	0	15			83	- 2	22	11				5.4		14.3	NW	5					
NEWARK	3	1016.0	1017.2	4.4	- 2.2	1.0	-0.1	13.3	5	-10.6	16	0	23	- 5.6	65	93	14	26	10	0	335	229	4.8	WNW	17.4	WNW	5	9	9	13	5.8	
TRENTON U	17	1011.3		4.4	- 2.2	1.1	-0.6	15.0	5	-10.0	16	0	23			86	15	24	13	0	201	127	4.1	W#	19.2	NW	5	10	9	12	5.9	59
NEW MEXICO																																
ALBUQUERQUE	1618	848.3	1018.2	6.7	- 4.4	1.2	-1.1	15.6	1	-13.9	12	0	27	- 7.2	59	17	2	8	5	0	61	25	3.4	N	15.2	S	10+	15	5	11	4.5	80
CLAYTON	1515	843.6		7.2	- 7.2	0.1	-1.7	19.4	25+	-19.4	12	0	29			3	- 7	2	3	0	30	25						18	3	10	4.0	
RATON	1944	802.6		5.0	-11.1	- 2.9	-1.5	16.7	2	-28.9	12	0	31			10	1	3	6	0	160	127						15	7	9	4.1	
ROSWELL	1101	893.0		13.9	- 5.0	4.4	-0.4	22.2	1	-12.2	25	0	28	- 3.9	64	7	- 6	5	5	0	8	T	3.9		19.2	W	18	15	7	9	4.4	
SILVER CITY	1638	833.4		11.1	- 1.1	4.9		19.4	1	- 5.0	31+	0	23			28		13	8	0	5	T						15	5	11	4.5	
NEW YORK																																
ALBANY	84	1009.1	1016.3	1.1	- 6.1	- 2.4	0.7	10.0	5	-18.9	30	0	30	- 6.1	72	50	- 5	14	13	0	366	178	3.8	WNW	15.2	NW	5	3	7	21	8.3	34

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No. of days: 25 mm or more	No. of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No. of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C.	C.		C.				C.	%	Mm.	Mm.	Mm			Mm.	Mm	M.p.s.		M.p.s.							%
NEW YORK																																
BINGHAMTON	485	954.6	1015.6	- 1.1	- 6.7	- 3.8	-0.2	7.8	5	-18.3	30+	0	30	- 6.1	80	39	- 27	10	16	0	368	178	4.8	WNW	17.0	N	24+	1	6	24	8.8	20
BUFFALO	215	987.7	1016.6	2.2	- 5.0	- 1.3	0.4	15.6	4	-15.6	16	0	26	- 5.6	74	67	- 8	18	19	0	767	660	5.3	W	17.0	W	14+	0	4	27	9.1	17
NEW YORK U	40	1004.6		5.0	- 1.1	1.9	-0.2	14.4	5	-10.0	16	0	20	- 4.4	65	77	- 4	27	9		196	152	4.5		18.8	NW	5	13	9	9	5.2	59
NEW YORK	6	1015.1	1017.0	4.4	- 0.6	1.9	-0.2	14.4	5	- 8.9	16	0	18	- 3.9	67	89	13	33	9	1	132	76	7.3	WNW	19.2	W	5	7	13	11	6.0	
ROCHESTER	166	996.7	1016.6	2.2	- 4.4	- 1.3	0.8	13.9	4	-16.1	16	0	27	- 5.0	78	31	- 30	11	12	0	152	51	5.8	WSW	22.4	W	5	2	4	25	8.7	30
SCHENECTADY	66			1.7	- 5.0	- 1.8	1.6	9.4	5	-17.2	31	0	28			53	- 9	12	10		366	203						9	12	10	5.5	
SYRACUSE	129	993.5	1016.5	1.7	- 5.0	- 1.6	0.0	12.8	5	-16.7	16	0	30	- 5.6	76	62	- 7	13	17	0	566	203	5.1	WSW	18.8	SW	5	2	4	25	8.6	17
NORTH CAROLINA																																
ASHEVILLE U	671	938.0		9.4	- 0.6	4.3	-0.3	19.4	18	-11.7	29	0	18			155	80	60	17	0	30	25	4.0	NW#	12.1	NW	19+	8	8	15	6.4	36
CAPE HATTERAS R	2	1018.0	1018.7	14.4	5.0	9.7	-0.1	22.2	18+	- 3.3	31+	0	6	5.0	75	61	- 68	41	9	2	0	0	4.6	NW	13.9	SSE	23	8	9	14	6.2	55
CHARLOTTE	224	990.3	1019.3	11.7	0.6	5.9	-0.2	22.2	18	- 9.4	30	0	15	0.0	68	153	57	53	12	0	T	0	2.6	SW	13.9	SW	5	9	7	15	6.0	51
GREENSBORO	272	986.3	1019.3	9.4	- 1.1	4.2	-0.3	18.3	18	-10.6	30	0	23	- 1.7	70	135	56	51	10	0	T	T	3.4	SW	12.5	NW	24	9	7	15	6.4	48
RALEIGH	132	1004.8	1019.1	10.6	- 0.6	5.2	-0.6	22.8	18	- 9.4	30	0	20	- 1.1	68	121	37	30	10	1	T	T	3.3	SSW	10.3*	NNW	28	7	8	16	6.5	47
WILMINGTON	9	1016.7	1019.6	15.6	3.3	9.3	0.1	24.4	12	- 6.7	30	0	12	4.4	76	20	- 68	6	12	0	0	0	3.9	WSW	18.3	SW	18	11	7	13	5.8	57
WINSTON SALEM	295	982.9	1019.3	9.4	0.0	4.6	-0.2	17.2	18	- 7.8	30	0	18	- 2.8	62	164	82	63	12	1	R	T	3.9	NW	13.0	NW	24	8	7	16	6.3	
NORTH DAKOTA																																
BISMARCK	502	954.7	1018.7	- 5.6	-18.9	-12.2	-3.1	14.4	1	-28.3	29+	0	31	-17.2	70	22	12	11	10	0	147	76	4.0	NW	16.5	NW	6	12	4	15	5.7	60
DEVILS LAKE U	448	961.2		-10.0	-20.0	-15.2	-3.6	8.3	1	-27.8	12	0	31			28	16	12	12	0	343	254	4.0	NW#	10.3	NW	25+	10	5	16	6.3	56
FARGO	274	982.2	1018.8	- 7.2	-16.1	-11.8	-1.2	5.0	3	-29.4	20	0	30	-15.6	74	14	- 1	6	9	0	165	127	5.4	NNW	15.6	SE	21+	4	7	20	7.6	32
WILLISTON U	572	947.2		- 6.7	-18.9	-12.8	-3.7	12.2	1	-31.7	19	0	31			13	- 1	4	8	0	147	102	2.9	W#	10.3	NW	22+	9	9	13	6.0	44
OHIO																																
AKRON	369	978.6	1018.6	2.2	- 5.6	- 1.7	-0.6	15.6	4	-20.6	29	0	25	- 5.0	74	40	- 25	14	17	0	196	102	6.8	WSW	21.0	W	5	0	7	24	8.5	
CINCINNATI OBS	232			5.0	- 3.3	0.8	-0.9	18.9	4	-16.7	29+	0	23			86	14	27	14		206	102	3.0	W#	10.7	W	5					30
CINCINNATI	169	995.0		6.1	- 2.2	1.9	-0.7	20.0	4	-15.6	29+	0	21			85	13	23	14		152											
CLEVELAND	237	989.7	1017.7	2.8	- 5.0	- 1.3	-0.7	15.6	4	-20.0	29	0	27	- 6.1	61	47	- 11	24	12	0	109	51	5.7	WSW	15.6	SW	5	0	5	26	8.7	21
COLUMBUS	247	987.8	1019.1	2.8	- 5.6	- 1.3	-1.1	17.8	4	-18.3	29	0	25	- 5.0	71	61	- 2	17	12	0	224	102	4.2	W	14.8	W	5	2	5	24	8.5	18
COLUMBUS U	221			3.3	- 4.4	- 0.3	-1.1	18.3	4	-17.8	29	0	23			52	- 10	14	10		224	127										
DAYTON	305	980.7	1018.5	2.8	- 5.6	- 1.3	-1.2	17.2	4	-19.4	28	0	27	- 5.0	78	66	3	23	12	0	213	102	4.9	WNW	18.3	W	5	3	7	21	8.0	35
MANSFIELD	395			1.7	- 6.7	- 2.4		16.7	4	-21.7	29	0	28			60		25	13	0	147	102						0	10	21	8.5	
SANDUSKY U	184	994.6		2.8	- 4.4	- 0.8	-0.5	15.6	4	-18.9	29	0	24			44	- 10	24	9	0	69	25	4.7		20.1	W	7	2	10	19	7.7	47
TOLEDO	206	991.8	1018.2	1.1	- 7.2	- 3.1	-1.3	15.6	4	-21.1	28	0	30	- 6.1	75	33	- 25	12	13	0	226	102	4.8	WSW	16.5	W	7	2	5	24	8.3	40
YOUNGSTOWN	359	973.6	1017.8	1.7	- 6.1	- 2.4	-1.3	15.6	4	-20.6	29	0	27	- 5.6	73	25	- 50	6	20	0	274	127	5.1	WSW	13.0	WSW	5	1	7	23	8.6	
OKLAHOMA																																
OKLAHOMA CITY	390	974.9	1019.9	7.2	- 2.2	2.6	-1.9	19.4	3	-13.9	12	0	23	- 2.8	72	26	- 11	12	8	1	20	25	5.5	N	25.0	NW	22	13	4	14	5.6	56
TULSA	198	994.3	1019.7	6.7	- 3.3	1.7	-3.2	19.4	4	-14.4	13	0	23	- 3.3	74	55	12	22	9	1	51	51	4.8	SSE	15.6	W	22	12	3	16	6.2	50
OREGON																																
ASTORIA	2	1017.6	1018.2	8.9	2.8	5.7	-0.2	12.2	30+	- 3.9	11	0	7	3.3	86	264	- 71	47	25	0	T	0	4.7	ESE	23.2*	WSW	17	0	3	28	9.2	
BURNS U	1265	874.4		1.7	- 8.3	- 3.2	-0.8	6.7	31	-20.6	11	0	31	- 6.1	79	57	20	17	14	0	478	305						3	6	22	8.0	
EUGENE	110	1006.8		8.9	2.2	5.6	0.8	13.9	27+	- 6.7	11	0	8			187	35	43	17	1	0	0	3.7		17.9*	WSW	20	1	4	26	9.0	
MEACHAM	1234			0.0	- 5.6	- 2.7	-1.1	6.1	29	-21.1	11+	0	28			131	20	44	25	0	556	457						2	2	27	9.1	
MEDFORD	396	973.6	1022.6	5.6	- 1.1	2.0	-1.6	14.4	20	- 9.4	11	0	21	0.6	90	66	- 13	18	15	1	91	51	0.9	N	11.2*	WSW	17	0	3	28	9.2	
PENDLETON	452	964.8	1019.6	6.1	- 0.6	2.7	0.9	15.6	20	-17.2	11	0	14	- 1.7	76	32	- 11	9	18	0	142	102	4.4	W	25.9*	WSW	17	2	4	25	8.5	
PORTLAND	6	1013.9	1019.6	7.8	2.2	4.9	0.1	15.0	19	- 6.1	11	0	10	2.2	81	151	- 6	35	20	0	25	25	3.8	SE	23.7	SW	16	0	5	26	8.9	19
PORTLAND U	9			8.3	3.3	5.9	0.2	15.0	19	- 5.6	11	0	6			171	- 9	31	21		38	25										
ROSEBURG	154	1002.0		9.4	2.2	5.8	0.7	15.6	28	- 7.2	11	0	10			113	- 12	29	19	1	0	0	1.5	N#	9.8	SW	20	1	3	27	9.1	22
SALEM	59	1012.5	1019.5	8.3	1.7	5.0	0.0	13.3	19+	- 9.4	11	0	10	1.7	79	169	- 12	44	21	0	T	T	4.1	S	19.2*	SSE	16	0	5	26	9.1	
SEXTON SUMMIT R	1169	884.9		4.4	- 1.1	1.8	-0.8	14.4	23	- 8.3	11	0	23			113	- 7	27	16	0	259	127	5.4	S				3	6	22	8.2	
PACIFIC AREA																																
CANTON ISLAND	2	1008.3	1009.7	31.7	26.1	28.8	0.4	32.2	23+	23.9	12	10	0	21.7	70	9	- 15	5	5	0	0	0	5.2	ENE	10.3*	ENE	19	11	18	2	4.4	
ENIWETOK	4	1008.8		30.0	26.1	28.1		31.1	3	24.4	17+	0	0	22.8	74	37		16	17	0	0	0	8.4									
JOHNSTON	2	1012.2		27.2	22.2	24.8		30.0	7	18.3	3	0	0	21.1	78	44		19	13	0	0	0	6.6		15.2	S	2	13	15	3	4.3	72
KOROR R	29	1005.4	1008.0	30.0	24.4	27.1	-0.1	31.7	13+	23.3	29+	0	0	23.9	87	336	- 8	47	26	0	0	0	3.3	ENE	13.0	E	23	0	0	31	9.8	39
KWAJALEIN	2	1007.7	1008.6	29.4	25.0	27.1		30.6	24+	22.8	20	0	0	23.3	79	216		46	21	1	0	0	7.6	ENE	17.9*	ESE	20	4	7	20	7.7	
MAJURO	3	1008.2	1008.5	29.4	25.0	27.2		30.6	3+	23.3	27	0	0	23.9	81	430		82	25	4	0	0	4.5	ENE	16.1	E	20	1	5	25	9.0	48
PONAPE R	37	1003.1	1007.7	30.0	23.9	27.0	-0.2	31.7	31+	22.2	6	0	0	23.9	84	418	- 18	63	27	3	0	0	2.9	NE	9.8	NE	20	0	8	23	9.0	50
TAGUAC GUAM R	110			28.9	23.3	25.9	0.3	29.4	19+	18.3	29	0	0			110	- 14	27	23	0	0	0	3.8	NE#	12.1	NE	28					56
TRUK MOEN ISLAND	2	1007.2	1007.5	29.4	25.0	27.1	-0.2	31.7	8	23.3	20+	0	0	24.4	85	387	78	64	26	4	0	0	3.2	NNE	8.5	SE	4	0	5	26	9.3	75

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

DECEMBER 1961

State and Station	Elevation (ground)	Pressure: Station ♀	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 °C or lower	Temperature: Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: .25 mm or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	No of days: Partly cloudy, 4-7	No of days: Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M	Mb.	Mb	C.	C.	C	C	C.		C.				C.	%	Mm.	Mm.	Mm.			Mm	Mm.	M.p.s		M.p.s							%
PACIFIC AREA																																
WAKE ISLAND	3	1012.8	1013.2	28.3	22.8	25.6	-0.5	30.0	31	20.0	17	0	0	19.4	70	19	- 33	11	6	0	0	0	5.0	ENE	12.5*	ENE	14	17	10	4	3.7	
YAP R	17	1005.9	1007.9	29.4	24.4	27.1	-0.2	31.1	7+	22.8	29+	0	0	24.4	85	286	28	70	24	0	0	0	5.1	NE	13.4	NE	17	0	0	31	10.0	44
PENNSYLVANIA																																
ALLENTOWN	115	1002.8	1017.7	2.8	- 5.6	- 1.2	-0.7	12.2	5	-15.0	30+	0	27	- 5.0	75	98	21	29	12	0	338	152	5.0	WSW	20.6*	WSW	5	9	7	15	6.4	
ERIE	223	989.8	1016.8	2.8	- 3.9	- 0.6	0.1	16.1	4	-17.8	29	0	23	- 4.4	70	72	11	27	18	2	302	102	6.2	SW	15.4*	WSW	5	1	4	26	9.1	
HARRISBURG	102	1004.1	1018.3	3.9	- 5.0	- 0.5	-1.6	15.0	5	-16.1	30	0	28	- 5.6	70	87	22	28	13	0	478	305	3.9	WNW	14.5	W	5	9	5	17	6.5	47
PHILADELPHIA	2	1013.0	1017.6	3.9	- 5.0	- 0.6	-2.7	12.8	5	-12.2	31	0	27	- 5.0	72	71	3	21	12	0	132	76	4.1	WNW	17.0	W	5	7	9	15	6.5	55
PHILADELPHIA U	11			6.1	- 0.6	2.6	-0.4	14.4	5	- 8.9	16	0	18																			
PITTSBURGH	351	987.0	1018.4	3.3	- 4.4	- 0.4	0.2	17.2	4	-15.6	29	0	25	- 4.4	74	43	- 20	11	18	0	142	51	4.5	WSW	14.3*	W	5	1	6	24	8.5	37
PITTSBURGH U	228			5.0	- 2.8	1.2	-0.6	18.3	4	-13.9	29	0	22			42	- 23	10	17		140											18
READING U	81	1005.6	1018.2	4.4	- 2.2	1.0	-0.6	14.4	5	-10.0	16	0	21			82	10	25	14	0	251	178	4.6	W	23.2	W	5	8	8	15	6.5	51
SCRANTON	287	982.1	1017.6	2.2	- 5.0	- 1.3	0.0	10.6	5	-17.8	30	0	27	- 5.6	75	64	4	24	16	0	325	178	3.9	SW	15.2	W	5	4	7	20	7.6	34
WILLIAMSPORT	161	998.5	1018.2	3.3	- 5.0	- 0.9	-0.3	11.7	5	-17.8	30	0	27	- 5.6	71	64	- 4	16	14	0	287	152	3.8	W	13.9*	W	5	4	10	17	7.4	
RHODE ISLAND																																
BLOCK ISLAND	34	1010.6	1015.0	4.4	- 1.7	1.4	-0.3	12.8	5	-10.6	16	0	21			105	20	27	9	0	107	51						5	10	16	6.7	
PROVIDENCE	17	1009.2	1015.4	3.9	- 3.3	0.1	0.3	12.8	5	-12.2	16	0	27	- 5.6	64	80	- 7	28	10	0	234	102	5.0	NNW	13.4*	NNW	15+	9	7	15	6.3	47
SOUTH CAROLINA																																
CHARLESTON	12	1017.8	1019.9	17.2	3.9	10.6	0.3	25.6	12	- 6.1	31	0	11	4.4	71	36	- 33	18	11	0	0	0	3.6	WNW	17.0	S	18+	12	7	12	5.2	69
CHARLESTON U	3			16.1	7.8	11.9	0.7	23.9	11	- 2.8	30	0	3			34	- 35	15	8		0	0	4.4		11.6	NW	28+					
COLUMBIA	66	1006.8	1020.1	15.0	2.2	8.3	0.0	24.4	18	- 6.7	30	0	11	2.2	72	82	- 10	32	14	0	0	0	2.7	WSW	10.3*	SSW	18	11	6	14	5.4	57
FLORENCE	45	1013.3	1019.3	15.0	2.8	8.7	0.7	23.3	18	- 7.2	30	0	11	2.2	69	36	- 46	14	13	0	0	0	3.3	S	8.5*	SSW	18	12	6	13	5.4	
GREENVILLE	308	980.8	1019.1	11.7	1.1	6.4	-0.3	21.1	18+	- 7.8	29	0	12	0.6	70	257	142	88	15	1	T	T	3.5	WSW	11.6	SW	19	10	6	15	6.0	48
SPARTANBURG	244	988.7	1019.4	11.1	1.1	6.1	-0.6	21.1	18	- 7.2	30	0	14	0.0	70	245	144	92	13	1	T	T	3.4	SW	14.3*	NW	24	11	4	16	5.8	
SOUTH DAKOTA																																
HURON	391	969.1	1019.0	- 3.9	-16.7	-10.3	-3.4	14.4	2	-28.3	13	0	30	-13.3	79	7	- 4	4	7	0	130	76	5.2	NW	19.2	NW	6	9	4	18	6.7	48
RAPID CITY	965	899.4	1017.8	1.1	-11.1	- 5.0	-1.5	16.1	3	-22.8	11	0	31	-11.7	64	13	4	4	8	0	140	51	5.1	NNW	21.0	NW	22	13	4	14	5.5	58
SIOUX FALLS	433	964.2	1018.4	- 3.3	-14.4	- 8.9	-1.9	13.3	2	-26.7	20	0	30	-13.9	68	20	3	10	8	0	196	178	3.6	NW	11.2*	NW	27+	8	6	17	6.8	
TENNESSEE																																
BRISTOL	459	963.2	1019.1	8.3	0.0	4.0	0.3	21.1	4	-12.2	29	0	17	- 1.1	71	171	84	43	15	0	81	76	3.2	NE	14.8*	SW	19	5	3	23	7.7	
CHATTANOOGA	204	991.8	1020.3	10.0	1.1	5.6	0.0	22.2	4	-10.0	29	0	14	0.6	73	347	213	123	14	1	46	51	3.4	S	13.0	S	9+	3	12	16	7.1	38
KNOXVILLE	290	983.7	1020.0	8.9	0.0	4.4	-0.6	20.0	4	-12.8	29	0	16	0.0	75	296	187	74	14	0	114	51	3.7	NE	21.9	S	4	7	5	19	7.3	32
MEMPHIS	80	1004.5	1019.8	10.0	1.7	5.8	-0.5	23.3	3	- 7.8	13	0	12	0.6	74	217	88	63	16	2	T	T	4.1	S	13.0	N	27	7	4	20	7.4	32
MEMPHIS U	83			9.4	2.8	6.1	-0.8	21.7	3	- 7.8	13	0	11			235	113	89	13		T	T										
NASHVILLE	176	998.8	1019.3	10.0	0.6	5.1	-0.3	22.8	3	-12.2	29	0	16	0.6	75	164	60	62	13	0	51	25	3.7	S	13.9	NW	5	3	7	21	7.8	32
OAK RIDGE	276	984.9		9.4	0.0	4.7	0.4	19.4	4	-12.2	29	0	16			250	107	60	14	0	142	76	2.9		13.9Y		19	6	4	21	7.5	
TEXAS																																
ABILENE	536	956.0	1018.6	13.3	1.1	7.2	-0.5	23.3	3	- 8.9	12	0	13	0.0	66	8	- 27	3	7	0	0	0	4.1	S	14.3	S	3	16	3	12	4.9	58
AMARILLO	1099	888.4	1017.2	9.4	- 4.4	2.5	-0.4	23.3	2	-19.4	12	0	27	- 5.6	64	4	- 13	2	5	1	13	25	5.8	SSW	15.2	SW	16	12	9	10	4.8	70
AUSTIN	182	996.7	1019.2	16.7	6.1	11.2	0.0	26.1	9	- 4.4	13	0	4	5.0	70	23	- 46	13	9	2	0	0	4.0	NNE	17.9	N	27	12	5	14	5.7	43
BROWNSVILLE	5	1014.6	1017.5	22.8	12.2	17.7	0.8	30.0	9	3.3	13	0	0	13.9	82	20	- 35	13	9	1	0	0	4.9	SE	13.4	S	9	4	11	16	6.5	53
CORPUS CHRISTI	13	1016.9	1018.3	21.1	10.0	15.3	0.4	29.4	9	0.6	28+	0	0	10.0	74	13	- 44	8	5	1	0	0	5.3	NNE	16.1	N	12	8	6	17	6.3	59
DALLAS	147	1000.1	1019.6	12.8	2.8	7.9	-1.1	23.3	26	- 6.7	13+	0	9	2.2	72	81	14	34	10	3	0	T	5.1	S	13.4	N	22	13	3	15	5.4	56
DEL RIO U	292			17.8	6.1	12.1	0.3	25.0	18	- 2.2	28	0	6			7	- 15	4	7	0	0	0										
EL PASO	1194	886.6	1016.6	14.4	1.7	7.9	0.8	21.1	2+	- 4.4	30+	0	15	- 2.2	54	16	4	14	4	0	T	T	3.2	NNE	21.9	W	15+	14	10	7	4.1	79
FORT WORTH	166	997.7	1019.3	13.3	2.2	7.7	-1.3	23.3	26	- 7.2	13+	0	12	1.7	72	54	- 9	21	10	4	0	0	6.2	S	16.5*	N	22	13	4	14	5.2	
GALVESTON U	2			17.8	11.7	14.6	0.7	23.3	5	0.6	13	0	0			77	- 31	32	7		0	0	5.6		14.3	N	12					57
GALVESTON	2	1016.5	1019.0	17.8	11.1	14.6	0.9	24.4	5	1.1	13	0	0	9.4	75	64	- 59	25	8	3	0	0	4.9	SE				12	4	15	5.5	
HOUSTON U	12			19.4	10.6	15.1	1.8	27.2	5	1.1	13	0	0			38	- 80	20	7		0	0										
HOUSTON	15	1016.2	1019.4	19.4	7.8	13.5	0.6	27.2	5+	- 1.1	29+	0	4	8.3	77	84	- 29	31	8	2	T	0	4.9	NNW				9	5	17	6.4	51
LAREDO	152	1002.2	1017.9	20.6	9.4	14.8	-0.3	27.8	4	1.1	29	0	0	7.2	68	13	- 24	8	8	0	0	0	3.7	SE	0.3*	NNE	12	10	6	15	5.9	
LUBBOCK	988	904.3	1018.6	11.1	- 3.3	4.1	-0.7	24.4	1	-14.4	12	0	26	- 3.3	67	9	- 8	5	6	2	18	25	6.2	W	19.7*	W	18	17	6	8	4.2	
MIDLAND	870	916.4	1017.1	13.3	0.6	7.0	-0.4	24.4	1	- 7.2	13	0	16	- 1.1	64	8	- 11	3	6	1	T	0	4.2	S	12.1*	N	22	16	4	11	4.4	
PORT ARTHUR	5	1016.9	1018.6	19.4	7.2	13.2	0.9	27.2	5	- 3.3	29	0	7	8.9	81	121	- 18	37	13	6	0	0	4.4	ENE	4.3	N	27+	10	5	16	6.2	44
SAN ANGELO	580	949.7	1018.5	15.0	1.1	7.9	-1.4	23.3	26+	- 6.7	29+	0	13	0.6	67	3	- 26	1	7	0	0	0	3.8	ENE	12.5*	NW	18	15	5	11	4.7	
SAN ANTONIO	241	992.9	1018.5	17.8	6.7	12.3	0.6	26.1	9+	- 2.8	29	0	5	6.1	71	18	- 31	5	8	1	0	0	4.2	NE	15.2	N	31	11	5	15	5.7	49
VICTORIA	32	1013.9		19.4	7.8	13.7	-0.1	27.8	5	- 1.7	28	0	3			14	- 64	5	5	1	0	0	4.9		19.7Y	N	12	11	6	14	5.7	
WACO	152	997.8	1019.4	15.0	4.4	9.6	-0.6	23.9	26+	- 5.6	13	0	10	3.9	74	29	- 41	6	9	3	T	T	5.8	NNW	16.5*	NNW	22	14	6	11	5.1	

See footnotes at end of table

CLIMATOLOGICAL DATA

METRIC UNITS

DECEMBER 1961

State and Station	Elevation (ground)	Pressure: Station O	Pressure: Sea level	Temperature: Average maximum	Temperature: Average minimum	Temperature: Average	Temperature: Departure from normal	Temperature: Highest	Temperature: Date	Temperature: Lowest	Temperature: Date	No. of days: Max 32.2 °C or above	No. of days: Min. 0 C or lower	Average dew point	Average relative humidity	Precipitation: Total	Precipitation: Departure from normal	Precipitation: Greatest in 24 hours	No of days: .25 mm. or more	No of days: With thunderstorms	Snow, Sleet: Total	Snow, Sleet: Maximum depth on ground	Wind: Average speed	Wind: Prevailing direction	Fastest mile (1.6 kilometers): Speed	Fastest mile: Direction	Fastest mile: Date	No of days (sunrise to sunset): Clear, 0-3	Partly cloudy, 4-7	Cloudy, 8-10	Sky cover, tenths (sunrise to sunset)	Possible sunshine
	M.	Mb.	Mb.	C.	C.	C.	C	C		C.				C.	%	Mm.	Mm.	Mm			Mm	Mm	M p.s.		M.p.s.							%
TEXAS																																
WICHITA FALLS	303	981.7	1019.1	11.1	- 0.6	5.3	-1.3	22.2	3	- 9.4	12	0	17	- 0.6	71	26	- 11	14	10	1	T	T	4.6	S	13.0*	N	22	16	5	10	4.7	
UTAH																																
MILFORD	1533	844.9		5.0	- 8.9	- 2.0	0.2	13.3	25	-24.4	12	0	29			12	- 7	7	7	0	64	51						13	4	14	5.3	
SALT LAKE CITY	1286	869.6	1022.5	2.2	- 6.7	- 2.1	-1.8	12.2	1	-23.3	10	0	29	- 5.0	80	22	- 12	6	10	0	216	152	3.7	SSE	17.0	S	17	5	5	21	7.4	47
WENDOVER	1291	872.7		2.8	- 5.6	- 1.4		10.6	21+	-15.6	11	0	27			6		2	6	0	97	51						8	8	15	5.8	
VERMONT																																
BURLINGTON	101	999.8	1015.2	- 1.1	- 7.8	- 4.5	0.6	8.3	5	-18.3	29	0	30	- 7.2	71	44	- 3	16	14	0	536	356	3.8	SSW	17.0	NW	15	2	5	24	8.4	33
VIRGINIA																																
LYNCHBURG	289	993.5		7.2	- 1.1	3.1	-0.8	15.6	3	-10.0	30	0	20			124	44	38	12	0	53	25	3.6		15.2	SW	13	9	4	18	6.5	45
NORFOLK	8	1017.8	1019.2	10.0	0.6	5.3	-0.7	21.7	18	- 7.2	30	0	14	- 0.6	69	95	22	35	11	1	T	T	4.4	SW	13.4	W	24	6	9	16	6.8	56
RICHMOND	49	1013.1	1019.7	7.8	- 2.2	2.8	-1.3	17.8	5	- 8.9	31+	0	25	- 2.8	71	128	55	35	10	0	23	T	3.2	SSW	13.4	NW	5	5	9	17	6.9	44
ROANOKE	358	975.6	1019.2	6.7	- 1.1	2.9	-1.0	16.7	4	- 8.9	29+	0	21	- 3.9	64	129	49	30	11	0	114	51	4.0	WNW	16.5	WNW	24	8	7	16	6.5	
WASHINGTON																																
OLYMPIA	58	1011.2	1018.4	6.7	0.6	3.7	-0.4	11.7	28+	- 8.3	10	0	15	1.7	87	210	- 10	37	23	0	43	25	3.5	SW	13.4*	SW	17	0	3	28	9.2	
SEATTLE TACOMA	122	1003.1	1017.2	6.7	1.7	4.1	-0.3	11.7	1	- 5.0	11	0	7	1.1	82	135	- 9	29	19	0	23	25	5.0	S	17.9*	SSW	20	2	5	24	8.7	
SEATTLE	4		1017.6											2.2	81								2.9	SSE								
SEATTLE U	4			7.8	3.9	5.8	-0.4	12.2	19+	- 2.2	11+	0	2			142	6	43	21		5	T				SW	21					15
SPOKANE	718	948.2	1018.8	0.0	- 6.1	- 3.0	-1.4	7.8	1	-21.1	10	0	30	- 5.6	79	99	43	24	18	0	665	305	3.8	SW	21.0	SW	21	2	5	24	8.3	22
STAMPEDE PASS R	1206	877.4		- 1.7	- 6.1	- 4.0	-0.8	5.6	23	-15.6	11+	0	30			468	96	66	25	0	2814	261						1	1	29	9.4	
TATOOSH ISLAND	31	1012.9	1016.0	7.8	3.9	5.7	-1.1	11.7	31	- 1.7	10	0	2	3.3	83	302	- 4	53	24	1	8	T	8.9	ENE	26.8	SW	4	0	4	27	9.4	17
WALLA WALLA U	289	982.1		6.1	0.0	2.9	0.6	16.7	20	-14.4	11	0	13			61	15	23	16	0	229	152	2.7	W#	21.0	W	21	2	3	26	8.8	16
YAKIMA	323	979.7	1020.0	4.4	- 5.0	- 0.3	0.4	13.3	4	-11.1	11	0	31	- 4.4	77	32	4	12	9	0	274	229	3.0	WNW	16.1*	NNW	17	6	7	18	7.1	
WEST INDIES																																
SAN JUAN P.R. U	14			27.8	21.7	24.7	0.0	30.6	24	20.6	26+	0	0			242	119	115	19	2	0	0										
SAN JUAN P.R.	5	1013.5	1016.4	28.9	21.7	25.1	0.8	30.6	29+	17.8	29+	0	0	21.1	81	254	102	90	21	0	0	0	3.3	ENE	15.2	E	5	5	19	7	5.9	54
SWAN ISLAND	9	1013.0		28.9	23.3	26.0	0.2	29.4	13+	19.4	3	0	0			123	6	50	19		0	0						0	19	12	6.8	
WEST VIRGINIA																																
CHARLESTON	286	982.6	1019.4	7.8	- 1.7	2.9	-0.5	20.0	4	-12.8	29	0	21	- 2.8	71	120	45	28	17	1	142	51	2.9	WSW	13.0*	WSW	19	3	5	23	8.3	
HUNTINGTON U	173			7.8	- 1.1	3.4	-0.6	20.6	4	-15.0	29	0	23			113	32	36	18		137	76										
PARKERSBURG U	189			6.7	- 2.8	1.7	-0.6	20.0	4	-13.9	29	0	23			86	13	22	16	1	178	76	3.0		13.4	W	19					22
WISCONSIN																																
GREEN BAY	208	994.3	1017.1	- 3.3	-13.9	- 8.4	-1.8	14.4	4	-27.2	15	0	29	-10.6	80	32	0	14	6	0	427	305	4.2	W	13.4	W	5+	7	9	15	6.8	35
LA CROSSE	199	992.1		- 3.3	-12.2	- 7.6	-1.2	16.1	4+	-25.0	15	0	28	-10.6	77	25	- 6	10	7	0	378	229	4.4	S	17.9*	WNW	6	5	5	21	7.7	
MADISON	262	980.1	1017.5	- 2.2	-12.2	- 7.3	-2.3	15.0	4	-26.1	15	0	30	-10.0	78	26	- 10	14	6	0	305	229	4.2	W	16.1	W	6	5	3	23	7.7	28
MILWAUKEE	204	992.0	1018.1	- 0.6	- 9.4	- 5.1	-1.6	15.6	4+	-22.2	28	0	31	- 8.3	77	26	- 12	9	11	0	196	102	5.1	W	13.9	W	5+	6	7	18	7.3	33
WYOMING																																
CASPER	1621	834.1	1017.5	- 0.6	-11.1	- 5.8	-2.2	10.0	3+	-27.8	10	0	31	-10.6	68	16	- 1	6	10	0	297	127	6.8	SW	17.4*	SSW	21	5	14	12	6.2	
CHEYENNE	1867	808.7	1017.4	1.1	-10.6	- 4.8	-2.9	11.7	25	-27.2	10	0	31	-12.8	54	2	- 11	1	5	0	38	25	7.2	WNW	23.2	NW	22	10	10	11	5.5	60
LANDER	1696	832.4		- 1.7	-13.9	- 7.9	-1.5	8.3	25+	-29.4	11	0	31	-15.0	59	5	- 7	4	2	0	84	127	2.8	SE#	29.1	W	5	9	10	12	5.7	72
SHERIDAN	1202	882.5	1013.6	0.0	-12.2	- 6.2	-1.7	11.7	1	-27.2	11	0	30	-11.1	69	19	2	8	9	0	150	51	3.5	NW	26.4	NW	21	6	9	16	6.4	59

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.
A Maximum hourly average.
\+ And also on an earlier date or dates.
O Station pressures apply to elevations shown in the "Elevations - Station Pressure" table of the annual issue of this publication.
B Number of days maximum 21.1°C. or above for Alaskan Stations.
\# Wind direction to 8 compass points only.
Y Peak Gust.
Z Sun continuously below horizon.

Data in this table is obtained by conversion from data in the English Units table.

HEATING DEGREE DAYS

(Base 65°F.)

DECEMBER 1961

State and station	Current season: This month	Current season: Period July through this month	Normals: July through this month
ALABAMA			
Birmingham	556	953	1130
Huntsville	647	1191	
Mobile	339	574	623
Montgomery	453	813	864
ALASKA			
Anchorage	1884	5474	4807
Annette	937	2997	3022
Barrow	2521	8604	8392
Barter Island	2618	8877	
Bethel	2176	6143	5559
Cold Bay	1192	4291	4150
Cordova	1459	4725	4190
Fairbanks	2759	7285	6374
Juneau	1246	4145	3966
King Salmon	1813	5563	4927
Kotzebue	2463	7016	6630
McGrath	2678	7233	6378
Nome	2186	6505	5967
St. Paul	1320	4855	4556
Shemya	995	4252	
Yakutat	1230	4295	4071
ARIZONA			
Flagstaff	1203	3151	2967
Phoenix (U)	388	617	555
Phoenix	388	672	645
Prescott	890	1875	1720
Tucson	444	817	649
Winslow	1305	2312	1903
Yuma	266	402	364
ARKANSAS			
Ft. Smith	769	1362	1273
Little Rock	719	1274	1179
Texarkana	611	1076	913
CALIFORNIA			
Bakersfield	607	1038	819
Bishop	834	1792	1675
Blue Canyon	784	2019	2006
Burbank	304	587	580
Eureka (U)	567	2168	2033
Fresno	654	1162	1011
Long Beach	357	533	
Los Angeles (U)	243	438	451
Los Angeles	331	567	697
Mt. Shasta (R)	950	2342	2326
Oakland	540	1145	1238
Point Arguello (R)	430	1514	
Red Bluff	609	1088	942
Sacramento (U)	597	1063	980
Sacramento	640	1146	1072
Sandberg (R)	754	1734	1403
San Diego	269	454	496
San Francisco (U)	456	1243	1247
San Francisco	542	1220	1360
San Jose (U)	494	905	861
Santa Maria	421	1154	1113
COLORADO			
Alamosa	1644	3868	3621
Colorado Springs	1246	3002	2391
Denver	1150	2798	2364
Grand Junction	1290	2662	2293
Pueblo	1230	2611	2279
CONNECTICUT			
Bridgeport	982	1858	2059
Hartford	1110	2229	2280
Middletown	657	1692	
New Haven	1001	1910	2163
DELAWARE			
Wilmington	976	1815	1841
DIST. OF COLUMBIA			
Washington (U)	831	1417	1604
Washington	882	1538	1630
FLORIDA			
Apalachicola (U)	253	383	475
Daytona Beach	192	233	288
Fort Myers	97	100	126
Jacksonville	268	398	473
Key West	20	20	18
Lakeland (U)	146	169	227
Miami	64	64	60
Miami Beach	38	38	37
Orlando	149	170	222
Pensacola (U)	296	482	529
Tallahassee	337	566	606
Tampa	137	157	223
West Palm Beach	80	84	69
GEORGIA			
Athens	650	1069	1109
Atlanta	658	1130	1125
Augusta	519	911	835
Columbus	501	833	951
Macon	479	783	824
Rome	697	1278	1256
Savannah	414	700	675
Thomasville (U)	340	529	569
IDAHO			
Boise	1052	2609	2340
Idaho Falls 46W (R)	1390	3565	3463
IDAHO (Cont'd.)			
Idaho Falls 42NW(R)	1548	3787	3605
Lewiston	954	2463	2247
Pocatello	1181	3041	2727
ILLINOIS			
Cairo (U)	810	1496	1465
Chicago (Midway)	1204	2297	2352
Chicago (O'Hare)	1223	2482	
Moline	1297	2450	2434
Peoria	1262	2488	2323
Rockford	1300	2613	
Springfield	1150	2173	2193
INDIANA			
Evansville	948	1783	1715
Ft. Wayne	1222	2393	2382
Indianapolis	1108	2131	2141
South Bend	1178	2351	2442
IOWA			
Burlington	1254	2416	2334
Des Moines	1434	2753	2472
Dubuque	1419	2858	2801
Sioux City	1491	2853	2733
Waterloo	1436	2802	2758
KANSAS			
Concordia (U)	1262	2372	2048
Dodge City	1065	2216	1951
Goodland	1215	2774	2461
Topeka	1234	2326	2027
Wichita	1097	2057	1763
KENTUCKY			
Lexington	907	1753	1884
Louisville	877	1732	1733
LOUISIANA			
Alexandria	474	896	
Baton Rouge	362	657	615
Lake Charles	331	568	593
New Orleans (U)	255	400	429
New Orleans	306	505	484
Shreveport	518	910	848
MAINE			
Caribou	1343	3181	3918
Greenville (U)	1364	3225	
Portland	1196	2597	2847
MARYLAND			
Baltimore (U)	867	1483	1537
Baltimore	975	1768	1818
Frederick	1023	1938	1841
MASSACHUSETTS			
Blue Hill Obs. (R)	1093	2201	
Boston	991	1901	2015
Nantucket	883	1823	2078
Pittsfield	1227	2648	2933
Worcester	1175	2456	
MICHIGAN			
Alpena	1251	2948	2962
Detroit (City AP)	1108	2159	2333
Detroit (M. Wayne Co.)	1124	2272	
Detroit (Willow Run)	1165	2393	2383
Escanaba (U)	1337	2987	3213
Flint	1183	2498	2668
Grand Rapids	1158	2380	2640
Lansing	1194	2501	
Marquette (U)	1313	3000	3167
Muskegon	1126	2290	2593
S. Ste. Marie	1362	3152	3575
MINNESOTA			
Duluth	1612	3712	3842
Internat. Falls	1707	3976	4223
Minneapolis	1536	3119	3015
Rochester	1540	3229	3144
St. Cloud	1618	3441	3483
MISSISSIPPI			
Jackson	516	938	882
Meridian	513	966	956
Vicksburg (U)	500	910	775
MISSOURI			
Columbia	1099	2065	1973
Kansas City	1124	2047	1875
St. Joseph	1316	2422	2048
St. Louis (RFC)	969	1735	1703
St. Louis	1015	1901	1805
Springfield	984	1904	1841
MONTANA			
Billings	1249	3184	2767
Butte	1498	4227	4029
Glasgow	1691	3851	3458
Great Falls	1378	3449	2959
Havre	1672	3875	3298
Helena	1311	3556	3349
Kalispell	1365	3772	3334
Miles City	1465	3452	3068
Missoula	1343	3669	3270
NEBRASKA			
Grand Island	1399	2812	2459
Lincoln (U)	1337	2585	2250
Norfolk	1455	2955	2744
North Platte	1312	2995	2581
Omaha	1384	2650	2373
Omaha N. Omaha AP	1442	2822	
Scottsbluff	1211	2965	2638
Valentine	1338	3028	2730
NEVADA			
Elko	1177	3111	2905
Ely	1230	3313	2930
Las Vegas	693	1267	969
Reno	1024	2625	2426
Tonopah	1051	2495	2241
Winnemucca	1072	2799	2612
NEW HAMPSHIRE			
Concord	1172	2449	2907
Mt. Washington Obs. (R)	1657	5313	
NEW JERSEY			
Atlantic City	920	1700	
Atlantic City (U)	762	1362	1597
Newark	960	1707	1912
Trenton (U)	957	1749	1852
NEW MEXICO			
Albuquerque	951	1973	1757
Clayton	1013	2356	1991
Raton	1180	2756	2534
Roswell	768	1713	1415
Silver City	741	1600	
NEW YORK			
Albany	1152	2356	2583
Binghamton	1228	2607	2851
Buffalo	1089	2257	2470
New York (U)	907	1585	1771
New York (LaGuardia)	910	1614	1732
Rochester	1092	2252	2516
Schenectady	1115	2311	2616
Syracuse	1107	2220	2369
NORTH CAROLINA			
Asheville (U)	778	1557	1633
Cape Hatteras (R)	477	882	788
Charlotte	685	1149	1274
Greensboro	783	1436	1513
Raleigh	730	1349	1304
Wilmington	499	921	869
Winston-Salem	755	1353	1458
NORTH DAKOTA			
Bismarck	1701	3641	3524
Devils Lake (U)	1869	4003	3903
Fargo	1681	3559	3604
Grand Forks CAA	1776	3690	
Pembina	1911	3911	
Williston (U)	1732	3753	3566
OHIO			
Akron	1109	2212	2298
Cincinnati (U)	914	1685	1711
Cincinnati	909	1743	1999
Cincinnati Obs.	973	1850	1861
Cleveland	1085	2107	2181
Columbus	1087	2137	2139
Columbus (U)	1037	1950	1995
Dayton	1088	2116	2128
Mansfield	1149	2285	
Sandusky (U)	1061	1999	2116
Toledo	1188	2433	2376
Youngstown	1150	2325	2274
OKLAHOMA			
Oklahoma City	868	1561	1417
Tulsa	918	1647	1382
OREGON			
Astoria	697	2226	1961
Burns (U)	1195	3087	2829
Eugene	708	2036	1939
Meacham	1168	3327	3105
Medford	905	2124	1849
Pendleton	863	2343	2095
Portland (U)	684	1708	1627
Portland	740	1939	1817
Roseburg	692	1935	1812
Salem	737	2059	1815
Sexton Summit (R)	914	2647	2373
PENNSYLVANIA			
Allentown	1184	2154	2205
Erie	1051	2074	2327
Harrisburg	1042	1898	1971
Philadelphia (U)	871	1511	1624
Philadelphia	1049	1970	1791
Pittsburgh (U)	949	1813	1890
Pittsburgh	1039	2097	2268
Reading (U)	958	1739	1871
Scranton	1092	2295	2272
Williamsport	1069	2121	2250
RHODE ISLAND			
Block Island	932	1816	1963
RHODE ISLAND (Cont'd.)			
Providence	1013	1985	2221
SOUTH CAROLINA			
Charleston (U)	363	595	658
Charleston	443	789	778
Columbia	550	952	978
Florence	529	933	1015
Greenville	659	1081	1200
Spartanburg	679	1145	1211
SOUTH DAKOTA			
Huron	1592	3293	3029
Pierre	1447	3043	
Rapid City	1295	2991	2858
Sioux Falls	1512	3118	3062
TENNESSEE			
Bristol	795	1533	1688
Chattanooga	703	1262	1380
Knoxville	771	1413	1454
Memphis (U)	676	1247	1142
Memphis	690	1313	1248
Nashville	734	1414	1372
Oak Ridge	755	1449	1669
TEXAS			
Abilene	618	1158	1048
Amarillo	879	1833	1730
Austin	404	695	646
Brownsville	138	176	218
Corpus Christi	220	347	365
Dallas	573	1005	870
Del Rio (U)	347	603	
El Paso	575	1170	1086
Ft. Worth	590	1021	890
Galveston (U)	231	386	402
Galveston	233	379	418
Houston (U)	219	357	465
Houston	287	487	509
Laredo	224	355	306
Lubbock	790	1566	1444
Midland	625	1184	1060
Port Arthur	306	537	587
San Angelo	575	1086	854
San Antonio	351	593	600
Victoria	287	470	408
Waco	489	852	754
Wichita Falls	723	1288	1181
UTAH			
Milford	1126	2813	2551
Salt Lake City	1132	2681	2279
Wendover	1093	2595	
VERMONT			
Burlington	1266	2768	2925
VIRGINIA			
Lynchburg	846	1569	1625
Norfolk	722	1252	1257
Richmond	860	1564	1532
Roanoke	856	1588	1632
WASHINGTON			
Olympia	816	2442	2254
Seattle (U)	698	1809	1776
Seattle	726	1949	1950
Seattle-Tacoma	789	2143	2163
Spokane	1180	3078	2750
Stampede Pass (R)	1240	4066	3831
Tatoosh Island	701	2617	2480
Walla Walla	895	2319	
Walla Walla (U)	852	2182	1966
Yakima	1032	2698	2476
WEST VIRGINIA			
Charleston	853	1747	1720
Huntington (U)	828	1611	1597
Parkersburg (U)	921	1774	1824
WISCONSIN			
Green Bay	1484	3065	3125
La Crosse	1440	2895	2931
Madison	1426	2963	2846
Milwaukee	1303	2701	2663
WYOMING			
Casper	1341	3429	3021
Cheyenne	1285	3314	2912
Lander	1457	3837	3339
Sheridan	1361	2571	3113

Data from airport unless otherwise specified.
U indicates Urban, R indicates Rural, sites.

STORM SUMMARY

DECEMBER 1961

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS	DEATHS	INJURIES	PROPERTY	CROPS
Alabama	9	3	0	15	5					0	0	4	0													0	0	5	5
Alaska *																													
Arizona										0	0	4	0					0	0	4	0								
Arkansas *																													
California																										0	0	4	0
Colorado										0	4	4	0																
Connecticut *																													
Delaware																		0	S	4	0								
Florida *																													
Georgia	3	3	0	0	4																								
Hawaii *																													
Idaho											2	4							12	5									
Illinois N																													
Indiana *																													
Iowa																		3	0	5	0								
Kansas *																													
Kentucky *																													
Louisiana	1	1	0	3	4																								
Maine																		0	0	4	0								
Maryland																		0	S	5	0								
Massachusetts																		0	0	4	0	0	0	5	0				
Michigan *																													
Minnesota *																													
Mississippi	2	2	0	0	4																								
Missouri												5																	
Montana										0	9	3	0	0	0	2	0												
Nebraska *																													
Nevada												4																	
New Hampshire																		0	0	4	0								
New Jersey										1	1	4	0																
New Mexico																						0	0	4	0				
New York												4						3		4									
North Carolina																										0	0	4	0
North Dakota *																													
Ohio *																													
Oklahoma										0	1	4	0	0	1	3	0												
Oregon										5	4	5	3					0	0	G	G	0	0	G	G	0	0	G	G
Pennsylvania										0	0	4	0																
Puerto Rico																										2	0		
Rhode Island *																													
South Carolina																										0	0	4	0
South Dakota												5						6	1	3									
Tennessee																										0	0	5	0
Texas										0	2	3	0									0	4	4	0				
Utah N																													
Vermont																		0	0	3	0	0	0	4	0				
U. S. Virgin Is. *																													
Virginia *																													
Washington												5																	
West Virginia *																													
Wisconsin *																													
Wyoming										0	1	3	0																

* No occurence of storms or unusual weather phenomena.
‡ Includes heavy sleet storm.
\# Freezing drizzle and freezing rain, commonly known as glaze.
ø For breakdown of "All Others", and for detailed listing of other storms, see the U. S. Weather Bureau monthly publication STORM DATA.
N No report received by printing deadline.
S Several
G Negligible

† Storm damages are placed in categories varying from 1 to 9 as follows:
1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

DECEMBER 1961

Severe flooding occurred in the Tombigbee, Pearl, and Pascagoula Basins in Mississippi, Alabama, and Louisiana during December 1961. Record to near record stages were reported. Two to three thousand persons were evacuated from flooded areas along the Pearl River in the Jackson, Miss., area. Considerable damage resulted from flooding of small streams in Autauga, Clark, Chilton, Dallas, Elmore, and Wilcox Counties in Alabama. Some heavy flooding was reported in the Lower Mississippi Basin on the Big Black River in Mississippi. Flooding reported elsewhere was mostly light except for scattered flash flooding which in some cases was quite severe.

ATLANTIC SLOPE DRAINAGE

Minor flooding occurred on the James River at Richmond, Va., (Westham Station) between the 19th and 21st. This rise was due to rainfall averaging 1 to 1.25 inches on the 17th and 18th. No damage resulted.

Heavy rains (1 to 4 inches) from the 11th to the 13th resulted in sharp rises in streams in southeastern Virginia and in eastern North Carolina. Flood stages were exceeded 3 to 5 feet on the upper Roanoke River in Virginia between the 12th and 14th. Near bankfull stages were reached on the Dan River in Virginia on the 13th. Additional rainfall (1 to 2 inches) from the 16th to the 18th resulted in light flooding on the upper Roanoke and near bankfull stage on the upper Neuse River in Virginia. No damage was reported.

A period of almost continuous rainfall from the 9th to the 13th resulted in light to moderate flooding on the Broad and Saluda Rivers in South Carolina. The Saluda River reached flood stage at Pelzer, S. C., on the 11th and continued above flood stage until the 15th. The highest stage observed was 13.0 feet on the 13th, 7 feet above flood stage. The Broad River exceeded flood stage at Gaffney on the 12th and 13th and at Blair between the 13th and 16th and 18th and 20th. Near flood stage was reached on the Congaree River at Columbia on the 14th. The heaviest rainfall was over extreme upstate South Carolina and adjacent North Carolina where amounts of 5 inches to over 7 inches were measured. Another period of rain, with amounts exceeding 2 inches occurred on the 16th-18th. Flood losses in the Saluda and Broad Rivers were light. In the lowlands and swamplands below Columbia and Camden, S. C., there was considerable loss due to pasture damage and interruption to logging industry.

Minor flooding occurred on the Ocmulgee River at Macon, Ga., on the 15th from heavy rainfall (5.4 inches) from the 10th to the 15th. No damage resulted.

EAST GULF OF MEXICO DRAINAGE

The light flooding on the Chattahoochee River at West Point, Ga., on the 13th was due to heavy rains from the 10th to the 13th. Rainfall totals of more than 11 inches was reported in the headwaters of the Chattahoochee diminishing downstream gradually to about 4 inches in middle areas and to less than 3 inches in lower portions. A 24-hour maximum rainfall of 7.26 inches was recorded at Robertstown, Ga., where the Chattahoochee rises. The crest at West Point, Ga., was only a little above flood stage, causing no damages of consequence but creating anxiety and some nuisance to residents. The flooding on the Apalachicola River at Blountstown, Fla., was due to the same storm which was followed by additional rain from the 15th to the 18th. The crest at Blountstown rose to about 6-1/2 feet above flood stage with only timberland inundated and no damages to property resulting. The high water caused cessation of some logging operations, but made it possible to shift to other operations so that little or no losses from wages were involved. The Apalachicola was in flood at Blountstown from the 15th to the 26th.

December 1961 proved to be the wettest December of record over most of Alabama. At Montgomery, it was the wettest December in some 90 years of record, 1872-1961, with a monthly total of 11.35 inches, or 250 percent of normal. The previous wettest December was in 1941 when 10.32 inches were recorded. At Millbrook, just across the Alabama River north of Montgomery, an unofficial but authentic total of 23.54 inches occurred during the month. At Birmingham, the December total was 13.98 inches, or 266 percent of normal, making it the wettest December of record, 1895-1961. Previous wettest December at Birmingham was in 1932 when 13.85 inches were recorded. Flash flooding occurred on the 11th and 17th, but was not as severe as the flooding of February 1961. At Mobile, 13 consecutive days of rainfall during mid-December caused local and regional flooding with minor damage. The monthly total of 10.92 inches was 202 percent of normal. Heavy rains of 6 to more than 10 inches in less than 24 hours on the 9th and 10th in Autauga, Clark, Chilton, Dallas, Elmore, and Wilcox Counties caused rapid flooding of small streams and lowland areas. Considerable damage occurred to county roads and bridges. Some residences were flooded. The Arlington and Kimbrough communities in Wilcox County were flooded. Local flooding occurred in many of the north-central counties from heavy rains of 4 to 6 inches on the 11th and 12th and in the north and central counties again on the 17th and 18th. Double crests occurred on the Etoway, Oostanaula, Coosa, and Cahaba Rivers and on the Alabama River at Montgomery. The first crests were highest on the Etowah and upper Oostanaula Rivers, but the second crests were highest elsewhere. An interesting phase of the flood was that additional game wardens were called in to patrol the flooded areas to prevent people from slaughtering wildlife driven from the lowlands by the flood waters. Many deer, quail, doves, snakes, etc., were forced to seek higher ground.

Unusually heavy rains that began during the night of the 9th and 10th and continued to the 19th resulted in severe flooding on the Tombigbee in Mississippi and Alabama except in the upper reaches. Near record maxima occurred on the middle and lower Tombigbee at most stations, while at Gainesville, Ala., the crest of 53.7 feet was the highest crest of record. The highest previous record was 53.67 feet on January 11, 1949. The heaviest concentration of rainfall occurred on the lower Tombigbee where Jackson Lock and Dam, Ala., reported a fall of 10.18 inches in 24 hours. Rainfall on the 18th averaged about 3 inches. Damage was extensive. Reports from agricultural interests indicate that oats and pastureland showed the greatest losses. In Columbus, Miss., several hundred families were evacuated from lowlands.

Heavy rains from the 4th to the 17th produced severe flooding in the Pearl and Pascagoula River Basins in Mississippi and Louisiana. The flooding began on the 10th and

was still in progress on the Pearl at the end of the month. The most extensive and dangerous flooding occurred in the Jackson area of the Pearl where the greatest flood of record (crest 27.29 feet) occurred. Heavy additional rains on the 18th and 19th, averaging 3.6 inches over the Pearl, produced rapid runoff to increase the existing flood. Two to three thousand persons were evacuated or voluntarily removed from flooded areas prior to and during the flood in Jackson, Miss. Factory sites east of Jackson were protected by sand bag additions to the dikes surrounding these areas, in anticipation of the on-coming rise.

MISSISSIPPI SYSTEM

Upper Mississippi Basin.--Flooding occurred on the lower Rock River in the area between Joslin, Ill., and Moline Bridge from the 16th to the 28th. The flooding was due to an ice jam at the site of a new Interstate Highway 74 bridge being constructed over Rock River about 1,000 feet above the present Moline Bridge. Although water entered the yards of many cottages and homes above the new bridge, damage was confined to flooded farmlands and the resultant destruction of unharvested corn and soybean crops.

Minor flooding occurred along the Illinois River at Meredosia, Ill., from November 22 to December 3. No damage resulted from the flooding.

Ohio Basin.--Minor flooding occurred on the Saline River near Harrisburg, Ill., on three different occasions. The first rise was due to a 1-inch rain early on the 5th, the second to 1- to 2-inch rains on the 9th and 10th and the 3d to a 1-inch rain on the 17th and 18th. No losses were reported.

Heavy rains of 3 to 5 inches over the Tennessee Basin during the weekend of the 16th-18th caused flash flooding in some areas in east Tennessee, flooding on the Elk River and Chicamauga Creek, and near flood stages on the Duck River. The Elk River crested 2.7 feet above flood stage at Fayetteville, Tenn., on the 18th. Only bottom lands along the lower end of Norris Creek was affected. Flash flooding occurred on First Creek in Knoxville, Tenn., on the 17th. A few families were evacuated for a short period. Little Pigeon River at Sevierville, Tenn., crested 5.6 feet above flood stage. Many houses and business places were flooded. About 75 families were evacuated in the early morning hours of the 18th. Considerable damage was done to houses and a few stores. Flash flooding occurred on the East Fork of Little Pigeon River at Gatlinburg, Tenn., with lowlands being flooded. Little or no damage was reported. Flash flooding occurred for several hours on the Little River at Walland and Townsend, Tenn. Some schools were closed and one car at Townsend was swept from a bridge into the river. Flooding occurred on Chickamauga Creek at Chattanooga on the 15th and again from the 17th through the 21st.

Red Basin.--Moderate to heavy rains from the 8th to the 12th caused a sharp rise on the Ouachita River to above flood stage at Camden, Ark., on the 13th. Additional rain from the 15th to the 18th caused a second rise with a crest of 31.3 feet on the 21st, 3.5 feet higher than the first crest of 27.8 feet on the 15th (flood stage 26 feet). Damage from the flooding was negligible.

These same storms caused light flooding on the Little River at Wilton, Ark., and on the Sulphur River at Hagansport and Naples, Tex. Sand and gravel operations and some grazing of herds were interrupted. No significant damage was otherwise reported.

Lower Mississippi Basin.--Heavy flooding occurred on the Big Black River in Mississippi from the 11th to the end of the month. A record high stage of 40.62 feet was reported at Bovina, Miss., on the 21st. Moderate flooding occurred on the lower Yazoo during the latter 20 days of the month. Light flooding occurred on the Bogue Phalia, lower Sunflower, Coldwater, and Tallahatchie Rivers. This flooding was due to heavy rains during the period from the 5th to the 18th. December 1961 was the wettest December of record in the Vicksburg area, with a total of 13.91 inches. The previous record was 13.77 inches in 1911. Heavy damages occurred on the Big Black, particularly in the lower reaches. Some cotton was lost in the fields in the lower Big Black. Considerable damages were reported to cables and machinery at the USE Test Site, a unit of the USE Experiment Station. Farmlands and pasturelands were mainly affected along the Bogue Phalia, Tallahatchie, Coldwater, and lower Yazoo Rivers in Mississippi and damages are believed to be light to moderate.

WEST GULF OF MEXICO DRAINAGE

Frequent rains from the 3d through the 17th caused the Calcasieu River in Louisiana and the Sabine River in Texas to rise slowly to above flood stage on the 12th and 14th. The crest of 39.05 feet at Milam, Tex., on the Sabine was the highest stage observed at this station since May 1958. Few homes in the vicinity of Milam, Tex., and near the Calcasieu River from Old Town Bay to Oakdale, La., were affected by the water. Several roads in the lowlands were also flooded. No damages resulted.

Rains from the 14th to the 18th averaging 1.85 inches over the lower Trinity caused slight flooding in the lowlands near Liberty, Tex., from the 19th to the 22d. Heavy rains preceded this rise in the upper Trinity on the 9th, causing a sharp rise at Long Lake, Tex., from the 11th to the 14th. No damage resulted from this slight flooding.

PACIFIC SLOPE DRAINAGE

The only significant rise during the month in the Sacramento Basin in California resulted from heavy rain over the upper Sacramento River Basin on November 30 and the first day of December. The only overflow was at Colusa Weir and Tisdale Weir, Calif., between the 2d and 4th.

Light flooding occurred on the Coquille River at Myrtle Point, Oreg., on the 20th and 21st due to rains from the 13th to the 20th. The rainfall averaged 3 to 5 inches on the coast range with lesser amounts farther inland. Flood damage was negligible.

The Willamette River and its tributaries in Oregon experienced the second significant rise of the early winter season from the 19th to the 23d. The freshet was almost identical to the one of less than a month ago. Double crest stages were recorded during this rise at tributary locations and on the upper Willamette. Flood stage was exceeded at only two locations, Harrisburg, Oreg., twice, and above and below the falls at Oregon City, Oreg. Flood stage was exceeded on the Santiam River at Jefferson, Oreg., the Tualatin River near Dilley, Oreg., and the Pudding River at Aurora, Oreg. Little if any damage can be attributed to actual inundation by the flooded streams.

FLOOD STAGE DATA

(All dates in December unless otherwise sepcified)

River and station	Flood stage	Above flood stages -dates From-	Above flood stages -dates To-	Crest* Stage	Crest* Date
	Ft.			Ft.	
ATLANTIC SLOPE DRAINAGE					
James: Richmond (Westham), Va.	12	19	21	12.5	21
Roanoke: Alta Vista, Va.	18	12	13	21.35	12
Randolph, Va.	21	12 19	14 20	23.7 22.0	13 19
Saluda: Pelzer, S. C.	6	11	15	13.0	13
Broad: Gaffney, S. C.	10	12	13	10.8	13
Blair, S. C.	14	13 18	16 20	21.2 19.0	14 19
Ocmulgee: Macon, Ga.	18	15	15	18.4	15
EAST GULF OF MEXICO DRAINAGE					
Chattahoochee: West Point, Ga.	19	13	13	19.5	13
Apalachicola: Blountstown, Fla.	15	15	26	20.6	19
Oostanaula: Resaca, Ga.	22	13	23	29.4 29.4	14 20
Rome, Ga.	25	13 18	13 20	26.0 27.9	13 19
Etowah: Canton, Ga.	17	12 18	14 19	24.9 19.7	13 19
Coosa: Gadsden, Ala.	20	13	27	24.5 26.4 21.2	15 20 27
Childersburg, Ala.	20	13 18	15 20	21.4 23.1	14 19
Wetumpka, Ala.	45	18	21	#47.9	18
Cahaba: Centreville, Ala.	23	12 18	15 20	27.5 28.6	13 19
Suttle, Ala.	32	15	21	38.0 38.5	16 20
Marion Junction, Ala.	36	16 20	18 22	36.4 37.3	17 21
Alabama: Montgomery, Ala.	35	13	25	44.0 48.4	16 20
Selma, Ala.	45	15	25	51.6	22
Millers Ferry, Ala.	40	12	31	52.9	23
Claiborne, Ala.	40	13	Jan. 2	48.9	25
Black Warrior: Tuscaloosa Lock & Dam, Ala.	47	13	21	59.95	18
Warrior Lock & Dam, Ala.	30	13	27	42.0	22
Tombigbee: Amory, Miss.	20	11	22	30.0	19
Fulton, Miss.	16	12	21	18.85	19
Tupelo, Miss.	21		18	24.4	18
Macon, Miss.	20	12	25	31.1	19
Tibbie, Miss.	23	12	22	29.8	18
Aberdeen, Miss.	34	13	23	43.1	19
Columbus, Miss.	29	15	26	38.4	19
Gainesville, Ala.	36	15	2	53.7	23
Demopolis, Ala.	48	14	4	67.1	26
Jackson Lock & Dam, Ala.	43	12	1/	60.6	30
Chickasawhay: Enterprise, Miss.	20	13	21	33.7	19
Shubuta, Miss.	30	16	24	41.3	21
Waynesboro, Miss.	35	18	25	42.35	22
Leaf: Hattiesburg, Miss.	22	16	21	25.9	20
Beaumont, Miss.	20	13	25	27.1	21
Pascagoula: Merill, Miss.	22	12	28	25.8	22
Bogue Chitto: Franklinton, La.	11	16	21	16.7	18
Pearl: Edinburg, Miss.	20	13	25	26.2	21
Jackson, Miss.	18	11	1/	37.3	21
Monticello, Miss.	19	13	1/	30.0	25
Columbia, Miss.	17	14	1/	25.2	27
Bogalusa, La.	25	Nov. 13 10	1 1/	19.75 20.9	Nov. 14 29
Pearl River, La.	12	Nov. 15 12	1 1/	16.5 17.25	17 21

River and station	Flood stage	Above flood stages -dates From-	Above flood stages -dates To-	Crest* Stage	Crest* Date
	Ft.			Ft.	
MISSISSIPPI SYSTEM					
Upper Mississippi Basin					
Rock: Joslin, Ill.	10	16	28	12.7	19
Illinois: Meredosia, Ill.	10	Nov. 6 Nov. 22	Nov. 11 3	10.7 10.8	8 25
Ohio Basin					
Saline: Harrisburg, Ill.	13	5 10 18	5 12 20		
Little Pigeon: Sevierville, Tenn.	[illegible]	18	18	14.6	18
First Creek: Knoxville, Tenn.	6	11 17 18	11 17 18	6.5 6.5 6.8	11 17 18
South Chickamauga Creek: Chickamauga nr., Tenn.	10	11 17	15 21	17.2 18.7	13 19
Elk: Fayetteville, Tenn.	18	18	20	18.7	19
Tennessee: Whitesburg, Tenn.	560	12 17	16 24	577.1 581.4	14 20
Florence, Ala.	419	13 17	15 23	437.5 442.3	14 20
Savannah, Tenn.	380	18	25	384.8	22
Gilbertsville, Ky.	320	17	28	360.1	24
Red Basin					
Ouachita: Camden, Ark.	26	13	25	27.8 31.3	15 21
Little: Wilton, Ark.	25	11	14	27.25	12
Sulphur: Hagansport, Tex.	38	10 17	13 19	42.4 42.0	10 17
Naples, Tex.	22	Nov. 28 14	2 25	23.7 25.7	Nov. 30 17
WEST GULF OF MEXICO DRAINAGE					
Calcasieu: Hineston, La.	12	12	23	15.4	19
Oakdale, La.	12	18	21	13.85	18
Kinder, La.	16	16	24	18.1	21
Old Town Bay, La.	4	20			
Sabine: Logansport, La.	25	18	23	26.8	21
Milam, Tex.	35	17	25	39.05	20
Bon Wier, Tex.	17	14	30	20.1	21
Deweyville, Tex.	14	15		15.5	21
Trinity: Liberty, Tex.	24	19	22	24.45	21
PACIFIC SLOPE DRAINAGE					
Sacramento: Colusa Wier, Calif.	62	2	4	64.4	3
Tisdale Weir, Calif.	45	2	4	47.6	3
Coquille: Myrtle Point, Oreg.	35	20	21	36.05	21
Santiam: Jefferson, Oreg.	15	20 21	20 21	16.8 16.9	20 21
Pudding: Aurora, Oreg.	20	20	27	23.55	22
Tualatin: Dilley, Oreg.	12	19	23	12.9	21
Willamette: Oregon City, Oreg. (upper)	12	22	23	12.2	22
Oregon City, Oreg. (lower)	25	21	23	26.0	23
Snoqualmie: Carnation, Wash.	51	24	25	E53.3	24
Snohomish: Snohomish, Wash.	23	24	25	24.5	24

* Provisional
\# Highest stage observed
E Estimated
1/ Continued at end of month

RAWINSONDE DATA

Average monthly values

ALBANY, N. Y. (1006 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	86	- 4.2	81	271	3.5
1,000	31	129			270	4.7
950	31	532	- 4.6	76	280	10.3
900	31	959	- 5.8	76	291	16.3
850	31	1,406	- 7.0	76	289	18.5
800	31	1,878	- 7.7	69	281	21.4
750	31	2,381	- 9.0	60	274	26.0
700	31	2,913	-10.7	56	268	29.7
650	31	3,478	-13.4	56	263	32.8
600	31	4,087	-16.5	52	260	37.7
550	31	4,733	-20.1	49	263	40.0
500	31	5,438	-24.5	41	265	44.3
450	31	6,193	-29.5		265	51.7
400	31	7,031	-35.4		267	58.3
350	31	7,949	-41.2		266	61.8
300	31	8,982	-47.6		267	73.1
250	30	10,171	-53.1		264	77.7
200	30	11,598	-56.1		262	68.6
175	30	12,446	-56.5		261	68.6
150	30	13,425	-56.6		264	61.2
125	30	14,582	-56.8		267	53.8
100	30	15,992	-58.1		266	50.7
80	30	17,395	-58.8		267	44.5
70	30	18,234	-59.0		266	42.2
60	30	19,200	-59.3		264	39.1
50	30	20,339	-59.9		266	39.1
40	30	21,732	-60.2		269	42.0
30	29	23,528	-60.1		265	44.1
25	28	24,665	-59.7		262	48.8
20	26	26,051	-60.2		263	58.5
15	17	27,905	-56.6			

ALBUQUERQUE, N. MEX. (838 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,619	- 2.5	71	357	2.9
1,000	31	190				
950	31	605				
900	31	1,042				
850	31	1,501				
800	31	1,986	- .4	56	295	6.2
750	31	2,496	- 2.5	55	288	12.8
700	31	3,047	- 4.7	52	285	19.2
650	31	3,621	- 7.8	51	286	23.7
600	31	4,247	-11.0	47	282	28.2
550	31	4,906	-14.6	41	281	34.2
500	31	5,628	-18.9		280	39.4
450	31	6,397	-24.5		278	43.3
400	31	7,253	-30.8		276	44.7
350	31	8,187	-37.5		280	47.4
300	31	9,234	-45.1		283	48.4
250	31	10,429	-53.4		287	52.8
200	31	11,846	-58.5		277	61.6
175	31	12,683	-59.7		279	59.1
150	31	13,645	-60.8		277	55.2
125	31	14,772	-63.6		276	53.6
100	31	16,141	-64.0		277	48.6
80	31	17,508	-63.4		280	37.9
70	31	18,334	-61.7		279	31.9
60	30	19,285	-60.9		280	23.9
50	30	20,418	-60.6		275	21.0
40	30	21,812	-58.5		276	22.7
30	29	23,632	-56.4		288	22.3
25	27	24,795	-55.2		289	20.4
20	21	26,214	-53.8		275	31.9
15	12	28,057	-52.3			

AMARILLO, TEXAS (891 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,095	- 1.7	75	260	4.1
1,000	31	169				
950	31	581				
900	31	1,018				
850	31	1,477	2.1	50	274	8.0
800	31	1,966	1.7	46	267	12.0
750	31	2,483	- .6	42	270	18.5
700	31	3,033	- 3.3	42	268	24.7
650	31	3,613	- 6.6	41	266	28.4
600	31	4,237	- 9.9	37	268	31.3
550	31	4,900	-13.6		263	35.2
500	31	5,622	-18.5		270	39.8
450	31	6,395	-24.1		267	45.1
400	31	7,248	-30.2		266	51.7
350	31	8,184	-37.3		265	59.1
300	31	9,232	-44.8		265	66.5
250	31	10,429	-52.9		265	74.4
200	31	11,848	-58.5		267	77.9
175	31	12,686	-59.0		267	77.5
150	31	13,650	-60.2		266	72.5
125	30	14,786	-62.4		266	60.6
100	29	16,163	-63.7		266	50.9
80	27	17,526	-62.5		266	42.2
70	26	18,358	-61.7		267	34.4
60	25	19,305	-60.9		268	29.9
50	25	20,443	-59.8		271	22.5
40	21	21,839	-57.4		272	19.6
30	18	23,662	-55.8		277	20.8
25	13	24,828	-53.9		287	25.6
20	11	26,264	-53.5			
15	7	28,155	-50.9			

ANCHORAGE, ALASKA (1004 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	29	-15.6	62	348	3.3
1,000	31	58			348	4.5
950	31	449	-12.6	58	13	7.6
900	31	861	-12.7	59	48	6.2
850	31	1,297	-13.0	57	54	3.9
800	31	1,758	-14.2	57	335	2.9
750	31	2,245	-16.0	54	278	4.9
700	31	2,763	-18.1	52	254	6.0
650	31	3,311	-21.2	52	247	9.3
600	31	3,900	-24.8	52	250	13.6
550	31	4,521	-28.6	48	252	17.1
500	31	5,205	-32.7		253	18.1
450	31	5,936	-37.3		255	19.6
400	31	6,744	-42.4		251	26.8
350	31	7,637	-47.3		253	31.1
300	31	8,646	-51.3		255	29.9
250	31	9,824	-53.4		263	31.7
200	31	11,260	-53.5		265	35.6
175	31	12,118	-53.4		268	36.3
150	30	13,093	-52.9		270	36.7
125	29	14,275	-53.1		273	40.6
100	29	15,710	-53.9		274	44.9
80	29	17,138	-55.1		276	49.4
70	29	17,992	-55.9		283	55.4
60	29	18,963	-56.7		283	53.2
50	29	20,116	-57.6		285	59.7
40	28	21,528	-58.9		290	62.2
30	26	23,331	-59.5		295	75.2
25	23	24,446	-60.3		297	80.8
20	18	25,906	-59.7		301	84.5
15	10	27,893	-58.0			

ANNETTE, ALASKA (1004 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	37	1.4	89	138	5.8
1,000	31	69			146	5.6
950	31	481	.8	82	167	13.4
900	31	912	2.9	80	192	16.3
850	31	1,363	- 5.2	78	212	16.5
800	31	1,835	- 7.7	76	231	15.9
750	31	2,335	-10.4	73	245	17.7
700	31	2,864	-13.6	66	250	21.2
650	31	3,420	-17.0	61	255	24.1
600	31	4,021	-20.8	55	264	26.8
550	31	4,657	-24.6	53	269	31.3
500	31	5,348	-29.0	52	271	37.5
450	31	6,089	-33.8	49	275	43.1
400	31	6,911	-39.4		279	48.4
350	31	7,813	-45.4		276	46.8
300	31	8,826	-51.6		277	48.2
250	31	9,996	-55.8		288	51.5
200	31	11,410	-56.8		288	51.1
175	31	12,256	-56.7		290	50.1
150	31	13,234	-56.3		291	46.4
125	31	14,391	-56.4		292	46.4
100	30	15,816	-56.5		295	49.7
80	27	17,236	-57.6		298	50.5
70	26	18,073	-58.2		295	49.2
60	26	19,040	-58.3		300	48.4
50	24	20,181	-59.2		300	50.5
40	20	21,578	-60.1		300	53.2
30	14	23,385	-61.8			
25	8	24,553	-61.8			
20						
15						

ATHENS, GA. (990 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	246	3.3	84	350	3.3
1,000	31	167				
950	31	586	5.7	66	278	7.2
900	31	1,031	5.5	61	264	14.8
850	31	1,497	4.3	57	264	17.7
800	31	1,990	2.3	56	262	21.2
750	31	2,508	.2	54	263	27.4
700	31	3,061	- 2.2	51	264	30.9
650	31	3,643	- 5.4	50	262	38.3
600	31	4,272	- 8.4	49	263	47.2
550	31	4,936	-12.2	44	262	47.2
500	31	5,665	-16.9		262	52.5
450	31	6,444	-21.9		263	59.1
400	31	7,307	-27.9	40	263	61.4
350	31	8,252	-34.9		263	72.[illegible]
300	31	9,311	-42.7		263	76.6
250	31	10,521	-50.5		262	83.9
200	31	11,954	-57.3		261	84.9
175	31	12,793	-59.8		261	87.[illegible]
150	31	13,750	-62.6		263	80.8
125	30	14,872	-64.1		263	75.0
100	30	16,234	-65.7		263	63.5
80	30	17,585	-66.2		261	49.4
70	29	18,397	-64.6		262	43.3
60	28	19,335	-63.2		264	38.5
50	28	20,461	-61.2		266	32.8
40	25	21,853	-58.6		265	27.0
30	22	23,666	-55.6		268	27.8
25	20	24,835	-52.9		269	33.4
20	15	26,264	-50.8		269	33.2
15	10	28,162	-46.9			

BARROW, ALASKA (1022 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	8	-26.3	59	315	1.4
1,000	31	165	-24.2	62	343	3.7
950	31	542	-23.0	66	7	5.1
900	31	938	-21.6	65	7	5.4
850	31	1,358	-21.3	61	346	4.1
800	31	1,805	-21.7	58	334	3.7
750	31	2,280	-22.9	53	343	5.1
700	31	2,783	-25.4	52	342	5.8
650	31	3,318	-28.1	50	339	4.5
600	31	3,889	-31.2	47	338	3.9
550	31	4,501	-34.7		345	6.0
500	31	5,162	-38.5		351	8.0
450	31	5,881	-42.9		345	9.1
400	31	6,667	-47.8		336	10.3
350	31	7,539	-52.5		323	13.6
300	30	8,515	-57.2		325	11.7
250	30	9,661	-59.4		315	14.2
200	30	11,060	-58.4		304	17.5
175	30	11,900	-58.3		298	19.4
150	30	12,870	-58.6		296	22.7
125	30	14,014	-59.4		285	25.8
100	30	15,408	-60.4		288	31.1
80	27	16,771	-62.6		286	35.4
70	26	17,592	-63.6		282	35.0
60	22	18,561	-63.9		281	39.2
50	19	19,702	-64.6		276	45.7
40	16	21,100	-65.1		277	55.8
30	13	22,892	-66.3			
25	7	24,035	-65.2			
20						
15						

BARTER IS., ALASKA (1021 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	15	-28.6	67	246	9.3
1,000	30	162	-26.9	58	273	11.1
950	30	537	-24.8	65	293	9.9
900	30	932	-22.1	66	293	8.2
850	30	1,352	-22.2	66	290	5.8
800	30	1,797	-23.[illegible]	66	324	5.4
750	30	2,269	-24.5	64	343	6.4
700	30	2,770	-25.8	60	345	6.8
650	30	3,298	-28.2	54	350	7.6
600	30	3,876	-31.0	52	348	8.5
550	30	4,481	-34.5		348	8.0
500	30	5,150	-38.7		344	8.0
450	30	5,860	-43.3		339	8.0
400	30	6,653	-48.1		334	10.5
350	30	7,522	-53.0		322	9.9
300	30	8,505	-57.3		315	12.2
250	30	9,652	-59.0		304	16.7
200	30	11,052	-58.3		294	22.2
175	28	11,894	-58.1		291	24.5
150	28	12,864	-58.6		293	25.8
125	27	13,991	-59.7		289	28.8
100	26	15,378	-61.3		289	33.8
80	26	16,756	-63.4		288	38.5
70	26	17,569	-64.7		293	39.6
60	23	18,549	-65.3		294	42.2
50	20	19,697	-66.0		299	50.3
40	13	21,163	-65.8		301	58.1
30	6	22,910	-68.0			
25						
20						
15						

BETHEL, ALASKA (1008 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	39	-20.2	63	16	11.1
1,000	31	97			23	17.9
950	31	483	-15.4	59	42	15.7
900	31	891	-14.5	56	38	11.3
850	31	1,325	-14.4	52	22	8.9
800	31	1,784	-15.6	48	4	8.4
750	31	2,265	-17.2	46	340	8.4
700	31	2,785	-19.9	45	324	9.5
650	31	3,325	-22.9	45	311	10.7
600	31	3,915	-26.2	44	312	12.8
550	31	4,535	-30.0	41	299	14.0
500	31	5,214	-34.2		283	15.3
450	31	5,943	-38.4		280	22.0
400	31	6,748	-43.0		276	28.6
350	31	7,640	-47.6		271	32.1
300	31	8,648	-51.9		267	32.8
250	31	9,824	-53.6		261	33.8
200	30	11,264	-53.0		264	32.4
175	30	12,125	-52.7		263	33.8
150	29	13,125	-52.2		264	35.2
125	28	14,292	-52.3		270	34.4
100	28	15,734	-53.1		267	38.7
80	28	17,169	-53.6		271	41.2
70	27	18,024	-54.2		271	43.9
60	27	19,015	-55.1		273	47.0
50	26	20,174	-56.1		275	53.2
40	21	21,647	-56.2		282	53.6
30	17	23,528	-56.8		289	60.0
25	12	24,738	-56.1		292	61.6
20	8	26,044	-58.9			
15						

BISMARCK, N. DAK. (955 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	505	-14.6	72	319	3.7
1,000	31	157				
950	31	549			313	6.8
900	31	959	-11.1	64	306	14.0
850	31	1,402	- 8.3	57	308	18.5
800	31	1,872	- 9.4	52	308	20.4
750	31	2,364	-11.5	55	309	22.7
700	31	2,896	-14.4	55	302	23.3
650	31	3,448	-17.7	53	297	24.3
600	31	4,050	-21.1	47	295	27.4
550	31	4,682	-25.2	43	292	30.5
500	31	5,375	-29.6	44	291	30.5
450	31	6,110	-34.7		289	33.6
400	31	6,933	-40.5		289	37.9
350	31	7,831	-46.5		286	40.0
300	31	8,841	-52.3		286	45.7
250	31	10,008	-56.2		286	48.4
200	30	11,430	-56.0		287	47.0
175	30	12,280	-55.0		281	47.2
150	28	13,269	-54.4		281	47.6
125	27	14,438	-55.5		275	44.5
100	26	15,853	-56.1		280	44.5
80	26	17,270	-57.0		283	42.4
70	25	18,118	-57.2		281	40.8
60	24	19,094	-58.3		279	39.1
50	23	20,250	-59.4		281	41.0
40	20	21,644	-60.0		283	42.0
30	19	23,445	-61.1		283	46.8
25	14	24,598	-61.7		288	53.0
20	11	25,962	-62.3			
15						

BOISE, IDAHO (919 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	868	- 1.7	70	138	4.9
1,000	31	191				
950	31	602				
900	31	1,036	- .6	64	160	2.3
850	31	1,492	- 2.2	63	266	5.2
800	31	1,971	- 5.1	67	279	11.7
750	31	2,478	- 7.7	66	287	17.5
700	31	3,011	- 9.8	60	293	20.6
650	31	3,577	-13.1	56	294	25.3
600	31	4,186	-16.6	53	291	30.3
550	31	4,835	-20.3	51	294	35.9
500	31	5,536	-24.4	50	294	41.2
450	31	6,290	-29.[illegible]	45	300	45.3
400	31	7,127	-35.5	41	303	48.4
350	31	8,044	-42.2		301	51.1
300	31	9,070	-49.6		306	54.0
250	31	10,246	-56.3		305	55.4
200	31	11,649	-60.1		301	51.7
175	30	12,486	-59.[illegible]		298	51.5
150	30	13,454	-58.[illegible]		295	46.[illegible]
125	30	14,601	-58.9		294	40.4
100	30	16,002	-58.[illegible]		297	36.7
80	29	17,401	-59.2		299	29.9
70	28	18,243	-59.3		298	27.0
60	27	19,206	-59.0		298	24.3
50	26	20,347	-59.4		292	21.8
40	22	21,754	-59.0		296	26.0
30	17	23,539	-59.0		290	26.0
25	13	24,695	-59.1			
20	8	26,118	-59.0			
15						

BROWNSVILLE, TEXAS (1016 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	7	14.7	93	183	0.6
1,000	31	142	16.6	81	142	5.1
950	31	577	16.1	73	157	11.9
900	31	1,039	14.3	67	183	13.4
850	31	1,521	12.6	57	205	12.2
800	31	2,028	10.5	46	226	10.3
750	31	2,560	8.1	42	245	11.3
700	31	3,130	5.2	35	246	15.9
650	31	3,726	1.[illegible]		255	18.5
600	31	4,373	- 2.6		261	20.0
550	31	5,046	- 6.7		257	22.7
500	30	5,796	-11.5		258	26.0
450	30	6,586	-17.1		256	29.9
400	30	7,469	-23.3		264	37.7
350	30	8,431	-30.3		259	45.1
300	30	9,508	-38.6		262	52.8
250	30	10,734	-48.3		261	56.0
200	30	12,169	-58.2		258	[illegible].7
175	30	13,001	-62.5		259	58.9
150	30	13,943	-66.4		255	54.6
125	30	15,042	-68.6		254	47.8
100	30	16,371	-70.9		257	41.2
80	24	17,685	-70.7		270	32.3
70	19	18,480	-68.4		269	21.4
60	18	19,410	-65.8		262	16.9
50	16	20,528	-61.3		260	12.2
40	15	21,925	-56.6		277	10.1
30	15	23,769	-51.9		261	13.2
25	14	24,962	-49.1		275	8.0
20	7	26,430	-46.1			
15						

BUFFALO, N. Y. (990 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	218	- 2.3	78	244	5.1
1,000	31	139				
950	31	542	- 3.8	78	241	10.1
900	31	972	- 5.9	78	253	14.8
850	31	1,419	- 6.8	70	262	17.3
800	31	1,891	- 8.6	63	269	18.3
750	31	2,388	-10.2	60	269	21.0
700	31	2,920	-12.3	60	272	26.0
650	31	3,483	-14.9	57	270	31.1
600	31	4,086	-17.6	52	268	33.6
550	31	4,731	-20.9	46	267	34.2
500	31	5,432	-25.3	43	263	39.6
450	31	6,183	-30.3		262	45.1
400	31	7,019	-36.0		264	51.3
350	31	7,935	-41.8		262	58.3
300	31	8,966	-47.8		260	65.5
250	31	10,156	-52.8		259	71.3
200	31	11,586	-55.8		262	69.8
175	31	12,436	-55.9		262	64.7
150	31	13,418	-55.8		261	57.5
125	30	14,576	-56.8		261	50.7
100	25	15,986	-56.6		261	43.5
80	23	17,404	-57.3		265	34.0
70	22	18,246	-58.6		263	33.4
60	19	19,207	-59.2		265	34.2
50	17	20,357	-59.9		259	29.9
40	16	21,747	-60.4		262	33.0
30	15	23,552	-59.8		268	38.3
25	13	24,687	-59.5		266	37.9
20	11	26,098	-58.8			
15	5	27,916	-56.5			

BURRWOOD, LA. (1019 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	3	14.6	86	58	3.7
1,000	31	160	15.7	77	79	2.3
950	31	592	13.2	73	188	4.5
900	31	1,048	11.4	65	223	9.9
850	31	1,525	9.5	62	238	14.2
800	31	2,027	7.4	56	245	16.9
750	31	2,554	5.1	44	248	20.6
700	31	3,117	2.4	38	255	23.7
650	31	3,711	- .6	33	260	27.0
600	31	4,349	- 4.2	34	260	30.9
550	31	5,021	- 8.3		258	32.3
500	31	5,764	-13.0		262	36.3
450	31	6,552	-18.1		258	37.9
400	31	7,430	-24.5		261	40.4
350	31	8,389	-31.7		260	48.8
300	31	9,460	-40.1		261	55.2
250	31	10,681	-48.9		262	68.4
200	31	12,115	-58.1		262	70.1
175	31	12,948	-62.2		261	69.0
150	31	13,895	-64.6		259	67.6
125	31	15,003	-67.0		257	58.7
100	28	16,339	-69.8		261	49.4
80	25	17,669	-68.9		258	33.0
70	22	18,485	-67.8		266	26.2
60	22	19,409	-64.6		266	21.2
50	21	20,535	-60.9		260	14.0
40	19	21,933	-57.6		260	13.0
30	18	23,779	-53.2		269	17.9
25	18	24,962	-49.9		270	18.5
20	13	26,446	-46.2		281	20.8
15	5	28,375	-42.4			

CAPE HATTERAS, N. C. (1018 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	8.5	82	308	3.3
1,000	31	147	9.2	72	288	5.2
950	31	570	7.6	64	268	12.0
900	31	1,016	5.9	59	263	19.0
850	31	1,483	4.1	52	260	25.6
800	31	1,975	2.4	46	260	30.9
750	31	2,498	.4	44	260	33.8
700	31	3,046	- 2.0	39	260	36.7
650	31	3,632	- 5.0	35	263	41.6
600	31	4,259	- 8.3		263	43.7
550	31	4,925	-12.1	39	263	49.2
500	31	5,652	-16.7	38	260	53.2
450	31	6,432	-21.9	37	26[illegible]	57.5
400	31	7,293	-28.1	37	261	64.1
350	31	8,239	-35.0	39	262	70.5
300	31	9,297	-42.6		261	72.7
250	31	10,506	-51.1		261	80.8
200	31	11,933	-58.2		266	86.9
175	31	12,768	-60.4		266	85.5
150	31	13,725	-61.9		266	79.9
125	31	14,852	-62.8		264	70.1
100	31	16,218	-64.9		264	61.2
80	30	17,577	-63.8		264	46.6
70	30	18,401	-62.9		267	34.6
60	29	19,351	-61.6		267	31.5
50	28	20,485	-59.7		265	27.6
40	26	21,891	-57.4		263	26.2
30	23	23,722	-54.8		270	28.8
25	18	24,895	-52.0		265	32.1
20	13	26,347	-48.9		270	35.6
15	6	28,314	-43.0			

See reference note at end of table

RAWINSONDE DATA

Average monthly values

DECEMBER 1961

Standard pressure surface mb	CARIBOU, ME. (988 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	CHARLESTON, S. C. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	191	- 7.3	85	276	5.8	31	13	6.2	83	283	2.9
1,000--	31	96					31	163	9.5	73	277	5.4
950----	31	494	- 7.5	80	293	9.7	31	582	9.7	66	257	11.3
900----	31	917	- 8.4	75	306	12.8	31	1,038	8.5	54	257	18.3
850----	31	1,360	- 9.1	70	302	15.0	31	1,510	6.7	51	256	22.3
800----	31	1,828	-10.2	64	293	15.3	31	2,006	4.7	43	258	22.7
750----	31	2,323	-11.9	60	290	17.9	31	2,527	2.5	42	264	24.1
700----	31	2,851	-13.7	56	287	22.2	31	3,086	- .1	39	262	27.8
650----	31	3,409	-16.2	55	279	23.1	31	3,676	- 3.0	36	262	36.1
600----	31	4,011	-19.6	49	276	24.9	31	4,307	- 6.8	37	262	38.7
550----	31	4,646	-23.8	47	275	28.0	31	4,977	-10.9	36	262	42.9
500----	31	5,343	-28.2	44	275	32.8	31	5,708	-15.5	32	262	46.4
450----	31	6,086	-33.0	41	275	35.2	31	6,490	-20.6	34	261	53.0
400----	31	6,912	-38.7		274	39.8	31	7,358	-26.6		260	60.0
350----	31	7,817	-44.7		275	39.2	31	8,308	-33.8		260	63.3
300----	31	8,836	-50.4		273	42.7	31	9,371	-41.7		261	68.0
250----	31	10,015	-53.5		272	49.7	31	10,584	-50.2		261	75.4
200----	31	11,445	-54.7		271	48.0	31	12,016	-57.8		264	82.0
175----	31	12,300	-54.6		271	43.7	31	12,852	-60.7		263	79.5
150----	31	13,287	-54.8		272	37.1	31	13,807	-63.0		265	70.3
125----	31	14,431	-54.8		267	39.1	31	14,926	-64.5		263	65.9
100----	30	15,883	-56.1		266	34.8	31	16,282	-66.7		258	57.3
80-----	30	17,296	-57.8		271	33.2	31	17,630	-66.5		258	42.2
70-----	30	18,135	-58.5		268	34.6	31	18,445	-64.7		259	35.8
60-----	30	19,104	-59.9		266	33.4	31	19,388	-62.7		261	28.2
50-----	30	20,241	-60.5		266	37.5	31	20,520	-60.0		263	24.1
40-----	30	21,627	-61.6		268	42.6	30	21,920	-57.5		270	23.1
30-----	26	23,405	-62.5		269	48.8	28	23,750	-53.9		269	28.2
25-----	24	24,534	-62.2		268	54.0	26	24,921	-51.8		270	33.4
20-----	20	25,913	-61.8		269	63.9	25	26,375	-48.7		271	41.2
15-----	14	27,733	-60.8				22	28,275	-45.6		272	63.7
10-----							6	31,024	-42.4			

Standard pressure surface mb	COLD BAY, ALASKA (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	COLUMBIA, MO. (989 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DAYTON, OHIO (982 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	30	- 2.5	80	359	4.3	31	238	- 2.9	79	252	2.7	31	297	- 2.6	79	233	1.7
1,000--	31	64			344	9.9	31	146					31	154				
950----	31	470	- 5.0	73	340	1.6	31	554	- 2.8	72	265	8.9	31	561	- 2.7	77	244	6.4
900----	31	892	- 7.0	69	262	2.9	31	982	- 3.2	69	274	15.0	31	990	- 3.2	72	258	14.8
850----	31	1,337	- 8.2	61	271	4.5	31	1,434	- 3.3	62	280	18.5	31	1,442	- 4.0	68	264	19.6
800----	31	1,807	- 9.6	55	231	5.2	31	1,914	- 3.7	52	277	21.2	31	1,920	- 5.2	60	262	23.3
750----	31	2,304	-10.7	51	263	9.3	31	2,422	- 5.2	47	277	24.5	31	2,426	- 6.9	52	263	27.8
700----	31	2,830	-14.0	47	265	10.5	31	2,962	- 7.6	46	282	24.9	31	2,963	- 8.6	49	265	31.1
650----	31	3,387	-16.9	46	259	12.4	31	3,531	-10.5	41	276	30.3	31	3,534	-11.2	49	265	35.9
600----	31	3,987	-20.3	45	263	15.5	31	4,148	-13.8	38	271	37.9	31	4,146	-14.8	48	268	41.2
550----	31	4,629	-24.3		249	19.8	31	4,801	-17.6	35	268	43.3	31	4,795	-18.7	44	266	45.5
500----	31	5,316	-28.2	41	255	26.6	31	5,512	-22.2	34	264	47.8	31	5,505	-23.4	42	267	49.7
450----	31	6,058	-33.2	44	248	28.8	31	6,272	-27.7	35	266	51.1	31	6,263	-28.6		265	55.2
400----	31	6,883	-38.9		247	29.7	31	7,116	-33.6		265	59.5	31	7,104	-34.2		263	61.0
350----	31	7,786	-44.9		243	31.3	31	8,041	-39.6		269	66.5	31	8,031	-40.2		260	72.1
300----	31	8,805	-50.4		237	38.3	31	9,080	-46.3		270	71.1	31	9,066	-46.5		258	78.5
250----	31	9,981	-54.9		238	41.4	31	10,272	-53.1		271	77.9	31	10,259	-52.6		258	86.3
200----	31	11,408	-54.2		240	41.8	30	11,692	-56.7		273	75.4	31	11,687	-56.4		265	78.7
175----	31	12,265	-53.5		238	38.1	30	12,537	-57.5		272	72.3	31	12,533	-57.6		264	76.6
150----	30	13,256	-52.7		242	35.4	30	13,510	-57.8		271	66.1	31	13,506	-57.8		263	64.9
125----	30	14,436	-51.7		242	35.9	30	14,657	-58.9		270	57.7	30	14,651	-58.2		263	64.1
100----	30	15,881	-51.8		249	35.9	30	16,056	-59.1		272	48.4	28	16,044	-58.8		263	49.2
80-----	28	17,316	-52.6		252	36.7	28	17,443	-60.0		271	38.1	28	17,442	-60.0		262	37.3
70-----	28	18,181	-53.1		257	33.2	28	18,277	-59.9		270	34.0	27	18,272	-59.8		262	36.7
60-----	27	19,162	-53.7		258	36.7	27	19,241	-59.6		271	31.1	25	19,224	-59.7		265	36.1
50-----	27	20,333	-53.9		262	40.2	25	20,375	-59.5		275	26.8	23	20,358	-59.7		265	31.3
40-----	26	21,774	-54.9		267	41.6	19	21,782	-59.2		280	28.6	19	21,746	-59.4		262	31.9
30-----	24	23,619	-56.0		277	44.9	12	23,576	-57.3		276	31.3	15	23,553	-58.0		262	31.7
25-----	20	24,791	-55.8		290	45.7	8	24,738	-55.2				11	24,707	-57.2		269	33.0
20-----	14	26,324	-53.7		303	48.2							9	26,116	-57.3			
15-----	6	28,406	-47.8										7	27,934	-57.8			
10-----																		

Standard pressure surface mb	DENVER, COLO. (835 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	DODGE CITY, KANS. (925 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,611	- 6.2	61	232	4.3	31	792	- 4.4	80	304	3.1
1,000--	31	177					31	171				
950----	31	585					31	580				
900----	31	1,018					31	1,009	- 1.1	59	299	5.1
850----	31	1,469					31	1,466	- .1	49	292	7.8
800----	31	1,948	- 2.3	42	277	9.1	31	1,950	- 1.6	46	287	11.9
750----	31	2,459	- 5.0	38	287	14.6	31	2,460	- 3.8	44	281	17.5
700----	31	2,998	- 8.0	39	291	18.8	31	3,004	- 7.1	43	277	21.8
650----	31	3,568	-12.0	40	292	22.7	31	3,577	-10.3	41	279	24.9
600----	31	4,178	-16.0	42	293	27.4	31	4,192	-13.6	36	273	29.9
550----	31	4,827	-19.8	38	293	32.3	31	4,848	-17.3		270	34.4
500----	31	5,530	-24.4	34	291	35.8	31	5,558	-21.8		267	39.2
450----	31	6,288	-29.2		286	39.8	31	6,324	-26.7		264	46.2
400----	31	7,124	-34.8		286	47.0	31	7,168	-32.8		264	49.7
350----	31	8,044	-41.2		282	52.7	31	8,095	-39.8		262	55.4
300----	31	9,075	-48.2		278	57.1	31	9,134	-46.9		264	61.0
250----	31	10,257	-54.8		280	60.6	31	10,323	-53.9		265	65.3
200----	31	11,669	-58.1		278	62.4	30	11,740	-57.7		268	67.2
175----	30	12,505	-58.3		274	62.0	30	12,580	-58.6		269	70.7
150----	30	13,475	-58.6		273	55.8	30	13,548	-58.8		267	61.0
125----	29	14,620	-59.1		275	49.5	30	14,691	-59.7		268	54.2
100----	29	16,018	-58.8		277	40.0	28	16,083	-61.5		272	43.1
80-----	27	17,417	-59.5		274	34.2	27	17,469	-61.4		276	35.0
70-----	27	18,259	-59.4		274	29.0	27	18,305	-61.2		269	32.1
60-----	27	19,216	-60.1		275	24.7	27	19,255	-60.9		273	26.2
50-----	27	20,358	-59.1		276	24.9	26	20,389	-59.6		279	24.5
40-----	26	21,753	-59.1		277	25.5	26	21,788	-58.3		279	21.8
30-----	24	23,552	-57.9		275	28.8	24	23,599	-57.8		279	26.8
25-----	23	24,711	-58.1		275	36.1	19	24,744	-57.4		279	32.4
20-----	19	26,133	-56.7		284	36.7	18	26,158	-55.7		274	36.9
15-----	12	27,976	-55.9				14	27,976	-55.3			

Standard pressure surface mb	EL PASO, TEXAS (883 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ELY, NEV. (809 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FAIRBANKS, ALASKA (1000 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	1,193	4.2	66	335	2.1	31	1,908	- 8.1	78	191	7.2	31	135	-30.9	70	14	1.6
1,000--	31	166					31	229					31	135			38	3.1
950----	31	590					31	640					31	510	-23.1	50	70	7.0
900----	31	1,039					31	1,067					31	905	-20.8	51	86	9.3
850----	31	1,509	6.8	49	294	2.7	31	1,519					31	1,328	-19.8	55	77	8.5
800----	31	2,002	4.5	47	271	8.2	31	1,996	- 3.4	68	208	5.1	31	1,778	-20.6	57	70	8.2
750----	31	2,525	1.8	47	265	16.9	31	2,505	- 4.1	57	254	3.7	31	2,251	-21.5	56	52	5.8
700----	31	3,081	- 1.1	42	261	20.4	31	3,048	- 6.4	52	295	11.1	31	2,762	-22.8	51	17	3.7
650----	31	3,665	- 4.8	42	263	24.7	31	3,618	- 9.4	51	304	20.6	31	3,298	-25.5	49	306	2.5
600----	31	4,295	- 8.1	42	267	29.0	31	4,239	-12.9	48	305	26.6	31	3,880	-28.2	49	273	3.9
550----	31	4,958	-12.1		266	31.9	31	4,892	-16.4	43	305	28.8	31	4,491	-31.7	48	272	6.0
500----	31	5,690	-16.8		265	38.7	31	5,608	-21.1	40	305	32.1	31	5,168	-35.7		266	9.9
450----	31	6,469	-21.7		263	42.9	31	6,369	-26.4	36	305	35.9	31	5,884	-40.2		263	14.0
400----	31	7,335	-28.1		264	46.0	31	7,218	-32.9		301	33.0	31	6,690	-45.0		262	17.5
350----	31	8,280	-35.3		265	49.0	31	8,143	-40.1		302	35.8	31	7,573	-49.7		260	21.4
300----	31	9,337	-43.2		264	55.6	31	9,178	-47.8		301	39.4	31	8,572	-53.6		259	27.8
250----	31	10,543	-51.6		262	63.7	31	10,362	-54.9		301	41.0	31	9,740	-55.0		268	30.9
200----	31	11,967	-59.1		261	76.6	31	11,769	-60.1		294	42.0	31	11,166	-55.2		270	32.4
175----	31	12,800	-61.4		261	73.4	31	12,602	-60.2		292	42.9	30	12,021	-55.2		274	32.3
150----	31	13,752	-63.2		262	70.3	30	13,565	-59.3		289	42.7	30	13,006	-55.2		276	34.2
125----	31	14,870	-64.7		263	60.4	29	14,700	-60.2		291	37.5	29	14,174	-55.8		280	36.5
100----	31	16,228	-66.6		264	52.8	29	16,090	-60.7		292	30.1	27	15,613	-56.4		280	43.1
80-----	31	17,577	-66.2		263	38.9	29	17,478	-60.4		292	25.3	27	17,024	-57.9		283	46.6
70-----	30	18,386	-65.3		262	33.8	29	18,317	-60.0		295	21.0	26	17,868	-58.2		285	53.2
60-----	30	19,326	-63.9		260	30.9	29	19,275	-59.7		295	17.3	25	18,835	-58.9		288	55.0
50-----	30	20,448	-61.8		265	24.7	28	20,423	-59.1		298	18.3	21	20,033	-59.6		286	57.5
40-----	28	21,835	-58.5		263	23.9	26	21,825	-58.0		306	15.9	16	21,488	-60.1		288	64.1
30-----	27	23,656	-55.4		277	22.2	23	23,642	-57.1		292	24.1	10	23,347	-59.4			
25-----	24	24,827	-54.2		265	20.4	16	24,821	-55.7		284	29.0	6	24,521	-58.3			
20-----	18	26,260	-51.0		265	33.0	7	26,248	-56.1									
15-----	10	28,154	-47.4															

Standard pressure surface mb	FLINT, MICH. (988 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	FORT WORTH, TEXAS (988 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	234	- 4.0	82	235	4.3	31	180	4.6	79	303	1.4
1,000--	31	137					31	162			352	3.7
950----	31	545	- 5.0	73	247	9.1	31	583	5.2	63	285	5.6
900----	31	966	- 6.1	70	258	13.0	31	1,023	6.8	56	283	10.5
850----	31	1,413	- 7.2	64	264	16.1	31	1,493	6.0	52	271	13.0
800----	31	1,885	- 8.1	58	265	18.7	31	1,988	3.9	50	273	15.7
750----	31	2,389	- 9.4	53	267	21.8	31	2,510	1.6	47	265	20.6
700----	31	2,917	-11.8	50	267	25.1	31	3,064	- 7	41	266	25.5
650----	31	3,482	-14.7	50	269	28.2	31	3,651	- 4.2	38	265	29.5
600----	31	4,085	-17.9	45	270	30.9	31	4,279	- 7.9	33	264	35.4
550----	31	4,729	-21.9	44	268	34.8	31	4,945	-12.0		266	38.5
500----	31	5,426	-26.5	43	266	39.1	31	5,674	-16.4		263	43.7
450----	31	6,177	-31.3		268	43.9	31	6,454	-21.7		260	48.2
400----	31	7,006	-36.5		269	45.5	31	7,315	-28.0		259	52.3
350----	31	7,919	-42.9		267	52.8	31	8,261	-35.0		263	57.3
300----	31	8,946	-48.8		265	54.8	31	9,318	-42.9		262	65.1
250----	31	10,130	-53.5		263	61.8	31	10,526	-51.0		266	71.3
200----	31	11,558	-55.2		265	59.5	31	11,950	-58.7		269	74.6
175----	31	12,409	-55.7		268	55.2	31	12,784	-61.0		268	69.8
150----	31	13,392	-55.4		267	51.7	31	13,737	-62.8		273	65.5
125----	31	14,552	-56.1		268	46.4	31	14,855	-64.6		273	59.5
100----	31	15,965	-57.3		266	41.4	31	16,214	-65.7		273	50.7
80-----	31	17,374	-58.1		265	37.5	31	17,566	-66.3		271	40.2
70-----	31	18,218	-58.2		265	35.8	30	18,385	-64.1		266	33.6
60-----	30	19,182	-59.2		266	35.8	29	19,325	-62.9		265	29.1
50-----	30	20,323	-59.8		268	36.3	28	20,450	-61.4		268	24.1
40-----	29	21,720	-59.9		267	34.4	27	21,844	-58.4		268	25.5
30-----	29	23,518	-60.0		271	41.0	24	23,668	-55.7		270	26.8
25-----	27	24,665	-59.7		270	49.0	22	24,833	-53.1		269	30.3
20-----	24	26,066	-59.4		270	53.1	20	26,275	-52.0		268	40.0
15-----	20	27,864	-58.1		268	65.9	12	28,155	-48.7			
10-----	14	30,442	-53.9									

Standard pressure surface mb	GLASGOW, MONT. (933 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GRAND JUNCTION, COLO. (854 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREAT FALLS, MONT. (884 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	696	-14.0	83	83	0.6	30	1,474	- 7.0	78	69	2.1	31	1,123	- 6.7	70	223	8.0
1,000--	31	163					30	227					31	150				
950----	31	551					30	633					31	555				
900----	31	970	- 9.9	71	268	5.4	30	1,061					31	983				
850----	31	1,414	- 6.8	63	287	17.7	30	1,511			110	2.7	31	1,431	- 4.7	50	244	22.0
800----	31	1,886	- 8.3	60	295	21.6	30	1,987	- 5.4	62	201	1.6	31	1,906	- 7.3	54	261	22.5
750----	31	2,379	-10.7	56	296	22.9	30	2,487	- 7.3	63	227	5.4	31	2,403	-10.1	59	269	22.3
700----	31	2,912	-14.0	60	299	24.5	30	3,028	- 9.9	65	263	11.7	31	2,935	-12.9	58	284	26.0
650----	31	3,464	-17.2	57	295	24.7	30	3,591	-12.8	60	278	16.9	31	3,492	-16.2	56	290	29.0
600----	31	4,067	-20.9	57	293	26.0	30	4,204	-15.5	50	292	23.5	31	4,096	-19.6	52	293	29.7
550----	31	4,698	-25.2	52	298	26.4	30	4,855	-18.9	43	291	29.9	31	4,733	-23.7	51	294	32.6
500----	31	5,390	-29.5	48	302	29.1	30	5,562	-23.2	41	287	34.4	31	5,427	-28.4	47	294	35.0
450----	31	6,124	-34.7	46	298	30.1	30	6,320	-28.4		284	39.8	31	6,168	-33.8	46	294	36.7
400----	31	6,948	-40.4		301	31.7	30	7,161	-34.3		287	45.9	31	6,990	-39.9		296	39.1
350----	31	7,846	-46.6		303	33.8	30	8,082	-41.0		287	49.7	31	7,891	-46.0		296	43.5
300----	31	8,855	-52.8		305	39.1	30	9,115	-48.1		289	55.0	31	8,903	-52.2		296	47.8
250----	31	10,018	-56.9		301	41.4	30	10,296	-55.4		289	59.5	31	10,071	-56.4		299	50.5
200----	31	11,432	-56.4		300	40.0	30	11,706	-58.1		285	56.9	31	11,481	-57.7		298	46.0
175----	31	12,282	-56.0		292	38.7	30	12,547	-58.4		288	52.7	31	12,327	-56.6		296	44.5
150----	31	13,264	-55.3		296	40.4	30	13,515	-59.0		284	47.8	30	13,301	-55.7		296	42.7
125----	31	14,428	-55.3		291	36.9	30	14,656	-59.8		284	45.7	30	14,463	-55.8		295	40.4
100----	31	15,852	-55.8		290	36.7	30	16,048	-60.5		283	36.3	29	15,882	-56.2		296	37.7
80-----	30	17,268	-57.0		290	35.6	30	17,434	-61.2		283	33.4	27	17,291	-57.5		295	34.2
70-----	30	18,110	-57.8		290	34.2	30	18,269	-60.6		280	29.3	26	18,139	-58.4		295	31.5
60-----	28	19,086	-58.2		292	35.0	28	19,224	-59.3		279	26.4	22	19,099	-59.0		289	30.7
50-----	28	20,231	-59.0		290	34.8	28	20,365	-59.7		279	27.4	20	20,246	-58.6		291	32.4
40-----	28	21,625	-60.3		290	37.1	28	21,763	-59.0		282	22.7	20	21,646	-59.0		293	33.0
30-----	22	23,396	-62.1		292	41.4	25	23,583	-58.2		292	26.8	14	23,454	-60.3		298	34.4
25-----	17	24,529	-62.2		291	39.2	20	24,743	-57.8		283	31.9	8	24,613	-62.9			
20-----	8	25,943	-64.0				15	26,150	-57.3		288	36.5						
15-----							8	28,004	-55.8									
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

DECEMBER 1961

Standard pressure surface (mb.)	GREEN BAY, WIS. (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	GREENSBORO, N. C. (986 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	210	- 9.0	79	274	3.9	31	273	1.3	79	290	2.7
1,000--	31	128					31	160				
950----	31	526	- 7.6	72	276	8.5	31	579	3.9	60	272	8.0
900----	31	947	- 8.1	68	284	10.5	31	1,016	3.2	60	270	15.9
850----	31	1,391	- 8.6	56	282	13.6	31	1,478	2.1	57	277	20.6
800----	31	1,860	- 9.4	52	277	15.7	31	1,967	.7	51	270	25.1
750----	31	2,355	-11.1	50	277	18.5	31	2,483	- 1.3	51	266	29.9
700----	31	2,885	-13.4	48	276	21.0	31	3,031	- 3.9	50	262	33.6
650----	31	3,443	-16.1	46	272	23.9	31	3,612	- 6.7	47	262	40.2
600----	31	4,045	-19.4	43	270	24.9	31	4,235	-10.0	46	261	43.5
550----	31	4,683	-23.5	41	269	28.0	31	4,897	-13.7	42	261	50.3
500----	31	5,377	-28.0	38	269	31.3	31	5,621	-18.2	41	261	54.8
450----	31	6,124	-33.1		268	36.5	31	6,393	-23.2	41	260	60.8
400----	31	6,945	-38.6		270	42.6	31	7,254	-29.0	40	260	64.7
350----	31	7,851	-44.3		269	51.7	31	8,196	-35.8		262	71.9
300----	31	8,871	-50.3		266	57.5	31	9,250	-43.6		261	74.6
250----	31	10,045	-55.2		263	58.5	31	10,454	-51.3		263	78.1
200----	31	11,467	-55.5		264	60.8	31	11,883	-57.5		265	87.[illegible]
175----	31	12,319	-54.9		266	56.5	31	12,722	-59.7		267	89.2
150----	31	13,304	-55.0		267	52.5	30	13,675	-61.3		266	83.9
125----	31	14,468	-55.5		268	48.8	30	14,805	-62.3		266	64.5
100----	31	15,885	-56.8		268	42.9	30	16,177	-64.3		264	54.2
80-----	31	17,295	-57.9		270	40.4	30	17,543	-63.5		261	46.0
70-----	31	18,134	-58.8		269	37.9	29	18,367	-62.8		262	43.7
60-----	31	19,102	-59.3		268	35.8	29	19,313	-62.2		268	32.6
50-----	29	20,247	-59.7		271	34.8	28	20,444	-60.9		269	31.3
40-----	28	21,643	-61.2		270	39.8	27	21,838	-59.2		265	25.6
30-----	26	23,437	-61.2		270	47.4	26	23,652	-56.1		273	30.5
25-----	22	24,570	-61.6		269	52.1	24	24,804	-55.5		267	33.2
20-----	14	25,978	-61.3		274	53.4	22	26,399	-53.6		271	40.8
15-----							19	28,088	-50.9		273	56.3
10-----							[illegible]	30,737	-47.6			

Standard pressure surface (mb.)	HILO, HAWAII (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	HUNTINGTON W. VA. (988 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	11	19.3	89	232	5.2	26	246	0.7	79	216	2.3
1,000--	31	152	20.6	80	213	4.9	26	146				
950----	31	594	17.8	83	135	8.4	26	557	- .3	73	246	9.5
900----	31	1,056	14.7	85	129	9.1	26	990	- 2.1	78	257	16.5
850----	31	1,537	11.6	86	140	8.0	26	1,444	- 2.7	72	260	20.6
800----	31	2,043	9.5	72	131	8.4	26	1,924	- 3.8	65	263	24.5
750----	31	2,583	8.1	55	113	8.5	26	2,432	- 5.2	63	264	29.0
700----	31	3,146	5.6		104	7.2	26	2,973	- 7.6	56	267	32.8
650----	31	3,746	2.9		92	6.2	26	3,543	-10.2	52	265	37.1
600----	31	4,394	- .6		75	6.0	26	4,160	-13.9	48	269	37.3
550----	31	5,081	- 4.7		23	3.9	26	4,811	-17.6		267	43.3
500----	30	5,829	- 9.9		25	4.9	25	5,524	-22.3		268	43.5
450----	30	6,629	-15.5		352	6.6	25	6,285	-27.3		264	51.9
400----	30	7,513	-22.0		341	12.0	24	7,124	-33.0		264	55.2
350----	30	8,483	-28.6		334	18.1	24	8,051	-39.0		257	63.3
300----	30	9,568	-36.9		325	26.4	24	9,093	-46.1		257	65.9
250----	30	10,806	-45.6		317	37.9	24	10,288	-52.5		260	69.4
200----	30	12,262	-55.1		317	49.2	24	11,714	-57.0		263	68.0
175----	30	13,105	-59.9		315	50.3	24	12,558	-57.7		264	62.4
150----	30	14,056	-64.9		321	44.3	24	13,530	-58.4		262	57.7
125----	29	15,151	-70.2		319	34.2	23	14,669	-59.3		260	49.7
100----	29	16,460	-74.8		314	23.9	22	16,056	-60.2		257	43.1
80-----	28	17,754	-74.2		318	11.1	22	17,445	-60.5		261	40.8
70-----	26	18,535	-71.7		310	3.1	22	18,284	-60.5		265	33.6
60-----	23	19,446	-67.1		267	1.0	22	19,239	-60.0		268	30.5
50-----	22	20,561	-62.7		269	2.1	22	20,377	-59.7		264	33.2
40-----	21	21,950	-58.6		263	3.5	21	21,784	-58.1		266	33.8
30-----	21	23,773	-54.5		318	3.3	20	23,607	-56.5		268	35.9
25-----	20	24,950	-51.9		347	3.1	19	24,765	-56.7		266	37.7
20-----	20	26,406	-48.6		38	1.7	16	26,172	-55.4		265	45.3
15-----	16	28,308	-47.0		263	3.1	12	28,040	-52.2			
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Standard pressure surface (mb.)	INTERNAT. FALLS, MINN. (971 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	JACKSON, MISS. (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	360	-12.9	74	263	3.3	31	94	6.6	86	150	0.6
1,000--	30	132					31	155	6.7	77		.0
950----	30	523	-12.9	76	264	5.1	31	576	7.7	72	237	5.4
900----	30	936	-11.9	78	270	7.8	31	1,023	7.2	63	254	11.9
850----	30	1,374	-11.1	74	281	12.4	31	1,493	5.7	58	259	17.3
800----	30	1,840	-11.6	69	288	13.8	31	1,987	3.8	55	263	22.0
750----	30	2,333	[illegible]	59	288	14.8	31	2,510	1.8	49	266	25.3
700----	30	2,857	-15.3	53	288	16.3	31	3,064	- .3	46	264	29.0
650----	30	3,410	-18.3	52	287	18.1	31	3,652	- 3.5	42	266	31.3
600----	30	4,007	-21.8	51	284	19.2	31	4,283	- 6.8	41	265	35.4
550----	30	4,641	-25.8	48	287	21.2	31	4,952	-11.0	37	265	39.2
500----	30	5,327	-30.3	47	288	21.8	31	5,682	-15.5	37	262	44.1
450----	30	6,065	-35.3	47	284	22.9	31	6,465	-20.7	39	262	48.8
400----	30	6,882	-41.1		279	25.3	31	7,331	-26.8	37	262	56.3
350----	30	7,777	-47.2		271	25.3	31	8,281	-33.7		262	61.6
300----	30	9,949	-55.8		266	29.1	31	9,345	-41.6		261	63.7
250----	30	11,371	-54.9		269	36.7	31	10,559	-50.[illegible]		264	71.1
200----	30	12,226	-54.1		273	36.9	31	11,990	-57.8		260	78.3
175----	30	13,214	-54.6		272	38.7	29	12,826	-60.7		257	78.5
150----	30	14,380	-54.9		274	37.3	30	13,780	-63.2		257	80.1
125----	30	15,804	-55.8		271	36.7	27	14,896	-64.7		257	73.8
100----	29	17,223	-57.1		269	35.9	28	16,252	-66.7		259	57.1
80-----	28	18,066	-57.9		272	38.3	27	16,331	-69.3			
70-----	28	18,940	-58.8		271	37.7	26	17,674	-68.4			
60-----	27	20,189	-60.6		275	38.5	24	18,492	-67.4			
50-----	23	21,588	-61.8		277	40.4	24	19,421	-64.3			
40-----	20	23,364	-62.9		277	48.6	22	20,549	-60.8			
30-----	16	24,487	-63.4		282	48.8	22	21,949	-57.2			
25-----	5	25,839	-63.5				20	23,772	-52.9			
20-----							19	24,959	-49.6			
15-----							16	26,426	-46.5			
10-----												

Standard pressure surface (mb.)	JACKSONVILLE, FLA. (1020 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	JOHNSTON IS., PACIFIC AREA (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	9.0	89	302	2.5	30	3	24.9	80	89	10.7
1,000--	31	173	12.3	75	305	2.1	30	117	24.1	80	89	11.5
950----	31	600	11.2	67	239	5.4	30	560	20.8	80	93	13.0
900----	31	1,055	9.8	57	241	12.0	30	1,031	17.4	79	95	13.6
850----	31	1,528	8.1	47	253	15.9	30	1,518	14.4	73	103	10.[illegible]
800----	31	2,027	6.3	44	257	19.8	30	2,029	12.9	50	107	10.3
750----	31	2,553	4.6	36	263	20.8	30	2,571	11.6		97	8.4
700----	31	3,114	1.5	34	264	26.2	30	3,145	9.0		88	6.6
650----	31	3,702	- 1.8	33	263	29.5	30	3,749	5.7		74	5.6
600----	31	4,341	- 5.1		263	31.9	30	4,405	1.9		60	4.7
550----	31	5,010	- 8.7		263	36.3	30	5,089	- 2.5		17	4.5
500----	31	5,753	-13.0		263	43.3	30	5,850	- 7.3		343	4.1
450----	31	6,541	-18.5		262	47.0	30	6,654	-12.4		323	9.1
400----	31	7,416	-25.1		263	53.0	30	7,555	-18.2		304	14.6
350----	31	8,371	-32.1		260	58.3	30	8,539	-25.1		303	18.1
300----	31	9,442	-40.2		259	60.0	30	9,641	-33.0		298	27.2
250----	31	10,661	-49.3		263	68.4	30	10,899	-42.4		299	33.4
200----	29	12,092	-57.9		266	69.8	30	12,371	-53.4		300	36.9
175----	29	12,926	-61.3		267	67.0	30	13,218	-59.6		302	35.[illegible]
150----	28	13,872	-63.9		265	62.4	30	14,167	-66.2		303	30.9
125----	27	14,992	-66.8		263	59.3	26	15,256	-72.7		299	29.1
100----	27	16,331	-69.3		264	49.5	23	16,545	-78.6		304	22.7
80-----	26	17,674	-68.4		263	39.8	18	17,815	-79.1		307	12.0
70-----	24	18,492	-67.4		265	30.9	18	18,581	-74.6		291	8.4
60-----	24	19,421	-64.3		266	21.2	18	19,492	-68.3		277	7.0
50-----	22	20,549	-60.8		265	14.2	16	20,595	-63.1		288	5.8
40-----	22	21,949	-57.2		275	14.4	16	21,984	-58.5		271	4.1
30-----	20	23,772	-52.9		277	16.9	16	23,813	-54.0		307	3.7
25-----	19	24,959	-49.6		271	22.7	14	24,994	-51.4		60	3.7
20-----	16	26,426	-46.5		265	35.0	11	26,453	-47.3		88	7.4
15-----							10	28,363	-45.6			

Standard pressure surface (mb.)	KING SALMON, ALASKA (1007 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	KOTZEBUE, ALASKA (1020 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	15	-14.5	61	17	3.7	31	5	-25.8	78	72	5.2
1,000--	31	64			8	7.2	31	144	-21.5	56	46	7.0
950----	31	453	-13.0	58	9	8.2	31	528	-18.8	58	56	9.3
900----	31	868	-11.6	56	350	6.0	31	928	-18.4	56	49	7.2
850----	31	1,306	-11.5	52	322	7.4	31	1,354	-18.5	53	34	7.6
800----	31	1,770	-12.9	48	301	8.4	31	1,805	-19.3	55	16	10.7
750----	31	2,257	-14.7	45	300	12.6	31	2,283	-21.4	54	13	10.9
700----	31	2,780	-17.2	41	286	14.4	31	2,790	-23.5	49	6	10.3
650----	31	3,328	-20.2	40	276	17.7	31	3,326	-26.2	45	2	10.5
600----	31	3,922	-23.6	37	273	21.4	31	3,904	-29.7	44	345	9.5
550----	31	4,548	-27.2		273	23.5	31	4,515	-33.6	45	347	10.1
500----	31	5,235	-31.5		272	26.8	31	5,182	-37.7		349	9.9
450----	31	5,971	-36.1		273	30.9	31	5,897	-42.0		349	11.1
400----	31	6,784	-40.6		270	36.1	31	6,692	-46.6		332	8.5
350----	31	7,684	-45.7		266	40.4	31	7,568	-51.2		310	6.6
300----	31	8,699	-50.2		265	42.0	31	8,560	-55.2		285	9.3
250----	31	9,881	-53.5		263	42.6	31	9,720	-56.0		264	15.5
200----	31	11,299	-52.7		262	39.4	31	11,139	-55.8		272	21.0
175----	30	12,162	-52.3		263	39.2	31	11,989	-55.6		255	24.3
150----	30	13,159	-52.0		261	36.7	31	12,970	-55.8		258	27.8
125----	26	14,367	-51.6		267	34.8	31	14,130	-56.1		262	33.8
100----	25	15,816	-51.6		272	39.8	31	15,546	-56.8		263	39.1
80-----	25	17,262	-52.4		269	39.8	31	16,955	-58.0		266	46.4
70-----	23	18,107	-53.6		269	41.2	31	17,796	-58.7		264	50.9
60-----	22	19,106	-54.0		275	43.3	30	18,748	-59.6		269	52.1
50-----	20	20,308	-53.8		281	49.0	29	19,903	-60.0		272	56.9
40-----	18	21,736	-54.0		279	48.6	25	21,351	-60.2		274	68.8
30-----	17	23,590	-54.9		286	51.9	21	23,206	-59.8		277	73.6
25-----	13	24,724	-55.8		293	64.9	15	24,434	-60.3		279	85.1
20-----	9	26,170	-56.6				9	25,889	-59.5			
15-----												

Standard pressure surface (mb.)	LAKE CHARLES, LA. (1018 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LANDER, WYO. (825 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	5	9.2	87	58	3.7	31	1,696	- 9.2	59	253	3.9
1,000--	30	154	11.0	75	85	3.9	31	189				
950----	30	584	11.2	66	224	3.9	31	594				
900----	30	1,035	10.2	63	254	10.3	31	1,017				
850----	30	1,510	8.3	60	252	14.6	31	1,468				
800----	30	2,010	6.2	54	260	17.5	31	1,940	- 5.8	49	265	4.3
750----	30	2,543	4.0	45	257	20.2	31	2,444	- 7.5	44	288	8.2
700----	30	3,097	1.7	38	257	24.5	31	2,980	-10.5	42	290	15.2
650----	30	3,694	- 1.4		253	29.3	31	3,546	-13.5	41	294	24.5
600----	30	4,326	- 5.2		259	33.2	31	4,152	-17.0	39	300	13.3
550----	30	5,003	- 9.0		255	36.7	31	4,797	-21.4	39	304	32.1
500----	30	5,738	-13.7		257	41.6	31	5,497	-26.3	36	300	37.9
450----	30	6,531	-19.1		261	47.8	31	6,244	-31.6	34	296	37.9
400----	30	7,399	-25.2		263	51.7	31	7,076	-37.5		299	44.1
350----	30	8,355	-32.1		258	53.6	31	7,985	-44.1		296	52.3
300----	30	9,425	-40.2		261	60.8	31	9,005	-50.5		294	57.1
250----	29	10,646	-49.1		260	70.1	31	10,179	-55.8		292	63.1
200----	29	12,080	-58.0		263	75.2	31	11,591	-58.1		289	61.2
175----	29	12,913	-61.9		258	73.8	31	12,433	-58.0		286	58.1
150----	29	13,861	-64.4		257	70.1	31	13,406	-57.3		282	53.8
125----	27	14,969	-66.3		260	65.9	31	14,561	-56.7		282	43.5
100----	26	16,312	-68.1		260	57.7	31	15,973	-57.9		280	35.0
80-----	23	17,653	-68.1		263	40.6	31	17,375	-58.5		282	30.5
70-----	22	18,466	-66.9		262	34.6	31	18,209	-58.5		285	29.5
60-----	22	19,389	-64.8		267	28.0	30	19,179	-59.1		282	25.5
50-----	22	20,510	-61.9		267	21.8	30	20,319	-59.7		278	31.1
40-----	21	21,904	-58.2		266	18.5	29	21,720	-58.3		280	29.5
30-----	20	23,732	-54.1		267	19.8	23	23,523	-59.7		280	34.4
25-----	20	24,906	-52.3		269	26.4	18	24,665	-60.1		284	37.7
20-----	20	26,361	-48.5		267	31.7	10	26,071	-58.0			
15-----	14	28,277	-45.1		266	36.1						

Standard pressure surface (mb.)	LAS VEGAS, NEV. (942 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	LIHUE, HAWAII (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	660	2.1	67	277	4.7	31	36	21.9	81	76	6.6
1,000--	31	176					31	148	21.5	80	86	8.7
950----	31	592					31	591	17.9	81	97	11.3
900----	31	1,036	5.4	45	352	6.2	31	1,052	14.4	82	100	11.3
850----	31	1,502	3.7	43	4	7.8	31	1,533	11.5	77	105	10.5
800----	31	1,993	1.9	41	344	6.4	31	2,039	10.1	59	108	9.7
750----	31	2,511	.1	38	325	7.4	31	2,574	8.8	40	112	7.8
700----	31	3,062	- 2.4	37	305	7.6	31	3,144	6.7		117	4.1
650----	31	3,641	- 5.8	37	303	13.6	31	3,746	3.2		77	1.4
600----	31	4,270	- 9.8	33	302	18.7	31	4,393	- .6		347	1.0
550----	31	4,926	-14.1		301	20.4	31	5,077	- 5.2		320	2.5
500----	31	5,653	-19.1		299	23.7	31	5,826	-10.1		307	4.5
450----	31	6,420	-24.4		298	29.7	31	6,625	-15.7		302	6.2
400----	31	7,277	-30.9		294	33.6	31	7,509	-22.0		294	10.7
350----	31	8,210	-38.4		292	38.3	31	8,478	-29.1		301	15.2
300----	31	9,252	-46.4		291	41.2	31	9,562	-36.9		306	24.9
250----	31	10,444	-53.7		285	46.6	31	10,801	-45.3		303	34.2
200----	31	11,858	-59.4		275	55.8	31	12,261	-54.5		303	46.1
175----	31	12,698	-60.4		276	56.7	31	13,106	-59.9		302	44.3
150----	30	13,658	-60.9		277	51.5	30	14,056	-64.9		299	43.3
125----	30	14,787	-62.1		278	44.5	30	15,155	-69.9		302	37.5
100----	29	16,161	-63.3		280	38.5	30	16,467	-74.8		301	24.3
80-----	29	17,531	-63.2		279	29.1	28	17,762	-73.9		296	10.9
70-----	27	18,352	-62.2		285	25.3	26	18,545	-71.3		267	3.9
60-----	27	19,309	-60.7		291	22.2	26	19,165	-66.5		224	2.3
50-----	26	20,444	-59.8		292	17.7	25	20,580	-62.6		240	.8
40-----	25	21,842	-58.3		288	17.1	23	21,972	-58.0		319	2.1
30-----	22	23,664	-56.2		277	21.4	23	23,802	-54.3		335	1.6
25-----	11	24,804	-55.4		275	28.8	22	24,979	-51.8		318	4.1
20-----	5	26,196	-52.7				19	26,433	-49.3		340	4.5
15-----							14	28,339	-46.7		269	5.2
10-----												

Standard pressure surface (mb.)	LITTLE ROCK, ARK. (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	79	2.8	79	344	2.1
1,000--	31	161	2.9	70	305	2.1
950----	31	576	2.7	65	268	6.4
900----	31	1,015	2.6	66	267	11.7
850----	31	1,477	2.0	61	267	17.7
800----	31	1,966	1.1	55	263	22.7
750----	31	2,485	- .7	53	267	27.2
700----	30	3,031	- 3.5	49	268	30.9
650----	30	3,609	- 6.3	41	265	35.4
600----	30	4,236	- 9.7		265	40.0
550----	30	4,900	-13.2		263	43.5
500----	30	5,623	-17.9		262	48.8
450----	30	6,398	-23.3		260	53.4
400----	30	7,256	-29.2		255	58.9
350----	30	8,197	-36.1		256	68.2
300----	30	9,250	-44.1		253	77.3
250----	30	10,452	-51.7		250	87.2
200----	29	11,875	57.9		261	92.5
175----	28	12,713	59.5		263	83.9
150----	26	13,670	-60.5		266	76.0
125----	26	14,800	-62.7		266	65.7
100----	22	16,158	-63.9		271	54.6
80-----	19	17,532	-63.6		273	47.6
70-----	19	18,356	-62.9			
60-----	17	19,297	-61.6			
50-----	16	20,431	-60.9			
40-----	14	21,841	-58.9			
30-----	13	23,669	-56.3			
25-----	13	24,830	-55.0			
20-----	12	26,252	-53.3			
15-----						
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See reference note at end of table

RAWINSONDE DATA

Average monthly values

DECEMBER 1961

McGRATH, ALASKA (1003 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10[illegible]	[illegible]	66	339	1.7
1,000	31	120			355	3.7
950	31	499	-21.[illegible]	57	45	11.7
900	31	697	-18.5	58	62	15.5
850	31	1,321	-17.8	59	47	12.8
800	31	1,778	-18.2	59	41	13.0
750	31	2,250	-19.8	57	39	7.4
700	31	2,768	-21.8	54	26	4.5
650	31	3,303	-24.4	50	345	1.1
600	31	3,890	-27.5	47	301	3.7
550	31	4,503	-31.3		278	5.2
500	31	5,181	-35.4		279	8.9
450	31	5,903	-39.7		265	10.9
400	31	6,706	-44.3		274	13.6
350	31	7,592	-48.3		259	19.6
300	31	8,598	-51.9		260	22.9
250	31	9,774	-53.4		261	27.4
200	30	11,215	-53.5		265	30.7
175	30	12,073	-53.6		270	31.3
150	30	13,064	-53.7		267	35.4
125	30	14,235	-53.9		268	38.7
100	30	15,666	-54.5		273	43.5
80	29	17,068	-55.2		277	47.0
70	27	17,966	-55.5		279	49.2
60	27	18,947	-56.0		282	52.5
50	26	20,093	-56.9		281	57.9
40	23	21,550	-57.1		289	62.2
30	21	23,369	-58.2		290	73.6
25	19	24,524	-58.5		293	81.4
20	12	26,104	-54.8			
15	6	27,948	-56.3			
10						

MEDFORD, OREG. (974 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	401	0.8	94	280	0.[illegible]
1,000	30	188				
950	30	602	1.2	83	288	2.3
900	30	1,038	1.8	76	230	2.5
850	30	1,498	.8	68	236	5.8
800	30	1,984	- 1.1	62	271	10.7
750	30	2,497	- 3.2	53	282	16.3
700	30	3,041	- 5.6	49	296	22.5
650	30	3,616	- 8.5	48	300	26.2
600	30	4,236	-12.0	48	302	31.3
550	30	4,894	-15.7	42	305	37.1
500	30	5,611	-20.3	45	305	40.2
450	30	6,373	-25.8	44	305	40.2
400	30	7,226	-32.1	42	303	41.2
350	30	8,155	-39.5		304	42.4
300	30	9,193	-47.5		305	45.3
250	30	10,375	-55.9		307	45.9
200	30	11,775	-61.7		302	45.7
175	30	12,601	-61.7		295	42.2
150	30	13,559	-60.8		290	43.3
125	29	14,698	-60.8		295	36.7
100	29	16,088	-60.4		297	34.6
80	28	17,481	-60.6		301	26.6
70	27	18,320	-59.5		301	27.8
60	27	19,286	-58.7		304	22.5
50	26	20,431	-59.4		310	22.2
40	24	21,829	-58.9		309	19.[illegible]
30	23	23,642	-58.3		309	26.0
25	15	24,814	-58.0		295	26.6
20	14	26,229	-57.9			
15	6	28,064	-57.4			
10						

MIAMI, FLA. (1019 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	4	17.1	82	37	1.9
1,000	31	162	18.6	71	50	3.7
950	31	600	16.3	71	108	4.3
900	31	1,061	13.3	71	152	2.1
850	31	1,540	11.1	58	214	2.5
800	31	2,045	8.9	51	245	3.9
750	31	2,578	6.7	46	260	7.8
700	31	3,142	4.3	32	262	12.2
650	31	3,739	1.7		264	14.2
600	31	4,384	- 1.6		257	16.5
550	31	5,065	- 6.1		254	18.7
500	31	5,812	-11.0		258	22.5
450	31	6,609	-16.3		263	26.[illegible]
400	31	7,492	-22.5		262	32.1
350	31	8,458	-29.6		262	35.9
300	31	9,539	-38.0		261	42.4
250	31	10,768	-47.8		267	47.0
200	31	12,206	-58.2		265	47.4
175	31	13,038	-62.5		261	50.9
150	31	13,982	-65.5		263	48.6
125	30	15,078	-69.0		262	41.[illegible]
100	30	16,400	-72.4		260	37.5
80	29	17,705	-73.2		255	24.9
70	29	18,497	-71.2		251	15.9
60	29	19,408	-66.9		262	9.3
50	28	20,529	-61.3		277	5.6
40	27	21,925	-56.4		289	4.5
30	27	23,771	-51.6		285	8.9
25	26	24,962	-48.2		276	11.1
20	20	26,443	-45.7		286	14.4
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MIDLAND, TEXAS (917 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	874	0.9	79		0.0
1,000	31	173				
950	31	588				
900	31	1,024	4.7	62	233	2.9
850	31	1,492	6.6	46	262	7.4
800	31	1,989	5.2	40	267	12.0
750	31	2,513	2.5	40	264	15.7
700	31	3,069	- .4	39	263	21.8
650	31	3,657	- 3.7	36	259	27.8
600	31	4,287	- 7.4		260	32.4
550	31	4,957	-11.2		264	38.3
500	31	5,685	-16.0		264	42.6
450	31	6,463	-21.5		263	46.6
400	31	7,329	-27.8		261	53.8
350	31	8,274	-34.9		258	61.2
300	31	9,333	-42.5		258	72.5
250	31	10,542	-51.0		258	84.1
200	31	11,968	-58.6		259	86.7
175	30	12,807	-61.2		262	87.8
150	29	13,755	-62.5		264	79.1
125	29	14,875	-64.4		262	70.5
100	29	16,234	-65.9		263	61.6
80	29	17,588	-66.0		265	48.4
70	29	18,409	-65.1		264	39.8
60	29	19,342	-64.1		261	30.5
50	29	20,464	-61.5		255	24.9
40	26	21,857	-58.4		257	24.[illegible]
30	24	23,676	-55.5		264	25.5
25	23	24,844	-54.4		266	26.8
20	20	26,277	-52.7		264	37.1
15	12	28,164	-49.3			
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MONTGOMERY, ALA. (1013 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	61	7.4	85	35	0.6
1,000	31	168	8.1	77	127	1.7
950	31	587	8.2	68	224	9.3
900	31	1,039	7.3	63	253	13.4
850	31	1,509	6.4	59	253	16.7
800	31	2,005	4.2	54	259	20.2
750	31	2,525	1.8	50	261	26.2
700	31	3,082	- .5	44	263	31.1
650	31	3,666	- 3.1	40	262	36.1
600	31	4,302	- 6.5		263	40.2
550	31	4,968	-10.5		263	43.3
500	31	5,706	-15.0	32	264	49.0
450	31	6,493	-20.1		264	53.4
400	31	7,359	-26.5		263	60.2
350	31	8,311	-33.3		263	64.5
300	31	9,376	-41.3		263	72.7
250	31	10,592	-49.9		265	78.1
200	31	12,026	-57.1		264	79.7
175	30	12,858	-60.0		265	79.5
150	30	13,815	-62.4		264	78.7
125	30	14,937	-64.2		262	70.5
100	30	16,293	-66.6		263	56.9
80	28	17,635	-66.4		266	44.7
70	24	18,438	-64.8		269	39.8
60	24	19,377	-62.9		269	34.6
50	24	20,506	-60.2		268	24.3
40	24	21,905	-58.0		270	20.4
30	24	23,729	-55.4		270	24.1
25	24	24,899	-52.8		268	26.6
20	23	26,343	-50.3		268	30.5
15	23	28,232	-47.3		269	42.9
10	9	30,913	-42.7			

NANTUCKET, MASS. (1014 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	14	1.4	78	297	6.8
1,000	31	121	1.5	77	298	8.5
950	31	530	- .9	76	286	14.2
900	31	964	1.8	68	277	17.7
850	31	1,418	- 2.5	59	279	20.6
800	31	1,898	- 4.1	58	281	25.8
750	31	2,402	- 5.7	50	273	27.2
700	31	2,945	- 7.8	44	272	30.5
650	31	3,514	-10.9	42	270	34.4
600	31	4,130	-14.3	38	268	37.7
550	31	4,781	-18.2	39	267	42.9
500	31	5,491	-22.7	39	265	46.8
450	31	6,247	-27.7	38	267	51.9
400	31	7,094	-33.5	40	268	57.1
350	31	8,019	-39.9		267	63.9
300	31	9,057	-46.7		263	68.8
250	31	10,250	-52.8		263	69.2
200	31	11,674	-57.5		265	65.5
175	30	12,520	-57.5		265	56.2
150	30	13,495	-57.4		264	55.8
125	29	14,647	-58.5		261	47.2
100	29	16,047	-59.3		256	38.7
80	27	17,444	-59.5		260	35.2
70	27	18,275	-59.1		263	30.7
60	27	19,244	-59.5		258	27.0
50	27	20,384	-59.6		262	26.4
40	24	21,774	-58.6		269	31.3
30	23	23,590	-58.1		265	39.1
25	23	24,739	-57.7		267	48.8
20	18	26,171	-55.9		268	53.0
15	11	28,052	-52.6			
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NASHVILLE, TENN. (998 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	177	3.5	83	268	1.6
1,000	31	157			307	1.0
950	31	571	2.8	69	255	12.2
900	31	1,010	1.7	65	261	14.6
850	31	1,470	.3	63	267	18.8
800	31	1,956	- .9	60	263	22.9
750	31	2,469	- 3.1	54	266	27.0
700	31	3,013	- 5.7	47	267	32.4
650	31	3,590	- 8.2	40	267	37.5
600	31	4,210	-11.2	40	266	41.8
550	31	4,870	-14.9		264	50.7
500	31	5,590	-19.3		265	55.6
450	31	6,361	-24.4		268	61.0
400	31	7,215	-30.1	38	266	65.7
350	31	8,153	-36.8		268	70.1
300	31	9,203	-44.3		268	77.9
250	31	10,405	-51.6		273	78.1
200	31	11,834	-57.8		277	70.9
175	31	12,673	-59.6		274	73.1
150	31	13,635	-60.6		276	71.3
125	30	14,762	-61.7		277	56.5
100	29	16,134	-63.5		274	51.9
80	26	17,497	-62.9		277	40.4
70	25	18,323	-62.4		277	33.0
60	22	19,271	-61.0		276	29.1
50	22	20,406	-59.9		279	27.0
40	21	21,809	-58.0		274	28.8
30	21	23,628	-56.0		274	29.7
25	18	24,796	-54.5		272	34.8
20	15	26,220	-53.3			
15	12	28,055	-51.1			
10	5	30,742	-50.4			

N. Y. INT. AP, IDLEWILD (1017 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	5	0.3	69	301	6.8
1,000	31	140	- .1	67	304	9.5
950	31	552	- 1.8	65	305	13.2
900	31	978	- 3.1	62	297	15.2
850	31	1,431	- 3.2	58	283	20.0
800	31	1,910	- 4.5	54	279	23.1
750	31	2,417	- 6.2	50	276	27.6
700	31	2,954	- 8.4	48	271	33.8
650	31	3,527	-11.0	45	269	40.2
600	31	4,138	-14.3	40	269	42.9
550	31	4,788	-17.9		270	47.4
500	31	5,500	-22.3		269	53.2
450	31	6,261	-27.3		269	60.4
400	31	7,106	-33.0		271	68.8
350	31	8,033	-39.2		268	74.8
300	31	9,074	-46.0		265	81.0
250	31	10,271	-52.0		269	83.7
200	31	11,698	-57.1		269	81.6
175	31	12,541	-57.7		267	76.6
150	31	13,514	-57.6		267	72.9
125	30	14,660	-57.8		268	63.1
100	29	16,062	-59.2		266	51.7
80	29	17,459	-59.8		270	47.6
70	29	18,302	-59.5		269	43.3
60	26	19,270	-59.7		268	37.7
50	25	20,408	-59.5		268	34.2
40	23	21,798	-58.8		273	30.9
30	23	23,609	-57.9		273	35.2
25	21	24,758	-57.4		273	38.1
20	20	26,177	-56.6		272	40.6
15	15	28,034	-55.2		277	49.4
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NOME, ALASKA (1018 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	7	-20.8	62	32	5.4
1,000	31	137			23	7.0
950	31	525	-16.7	52	37	9.1
900	31	929	-17.4	50	39	9.9
850	31	1,357	-17.1	50	27	12.8
800	31	1,812	-17.9	46	16	13.2
750	31	2,293	-19.8	43	8	12.2
700	31	2,803	-22.2	41	2	13.0
650	31	3,343	-25.1	36	352	13.4
600	31	3,922	-28.5		340	13.0
550	31	4,536	-32.3		341	13.4
500	31	5,208	-36.4		341	14.0
450	31	5,928	-40.9		347	15.3
400	31	6,725	-45.7		340	15.5
350	30	7,609	-50.2		335	16.1
300	30	8,608	-53.3		318	15.5
250	30	9,778	-54.6		278	18.3
200	30	11,208	-53.8		274	22.9
175	29	12,075	-53.7		281	24.9
150	29	13,065	-53.9		271	27.6
125	29	14,237	-53.7		273	30.3
100	29	15,670	-53.9		274	38.3
80	29	17,102	-55.0		274	43.9
70	29	17,958	-55.6		272	47.0
60	29	18,935	-56.5		273	52.7
50	29	20,093	-57.1		276	57.7
40	28	21,516	-58.0		281	62.8
30	25	23,344	-58.7		279	69.2
25	24	24,517	-59.2		281	73.3
20	15	26,009	-59.0		287	76.9
15	8	27,924	-57.9			
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NORFOLK, VA. (1018 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	9	3.1	77	274	2.5
1,000	31	154	4.4	70	277	3.3
950	31	570	4.4	65	267	11.5
900	31	1,012	3.2	56	267	20.4
850	31	1,475	1.8	51	264	26.6
800	31	1,962	- .2	49	263	28.4
750	31	2,477	- 2.1	46	263	35.2
700	31	3,024	- 4.3	42	264	39.2
650	31	3,600	- 7.1	40	263	43.9
600	31	4,225	-10.3	38	265	49.0
550	31	4,887	-14.3	39	264	53.6
500	31	5,608	-18.7	40	263	59.7
450	31	6,379	-24.0	41	262	64.9
400	31	7,234	-29.9	42	260	68.0
350	31	8,173	-36.7	46	261	77.1
300	31	9,223	-44.3		263	72.7
250	31	10,424	-52.3		264	81.2
200	31	11,846	-58.3		264	82.8
175	31	12,684	-60.1		264	83.7
150	31	13,645	-60.7		265	79.5
125	31	14,776	-62.5		265	68.6
100	30	16,148	-63.0		261	53.4
80	30	17,520	-62.7		263	45.3
70	30	18,349	-62.1		264	39.2
60	29	19,303	-61.2		265	26.6
50	28	20,435	-59.7		271	23.1
40	28	21,835	-57.8		267	24.5
30	28	23,658	-55.9		269	29.0
25	27	24,820	-54.7		275	35.9
20	26	26,260	-51.7		267	46.0
15	21	28,128	-49.3		266	54.0
10	5	30,823	-45.3			

NORTH PLATTE, NEBR. (916 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	848	- 9.0	76	321	4.5
1,000	31	166				
950	31	567				
900	31	988	- 5.9	67	312	8.0
850	31	1,440	- 3.1	53	307	14.2
800	31	1,918	- 4.9	50	303	18.3
750	31	2,422	- 7.5	50	300	22.0
700	31	2,958	-10.5	50	295	25.5
650	31	3,525	-13.6	50	291	27.8
600	31	4,131	-17.1	46	286	30.3
550	31	4,778	-21.4	45	283	34.4
500	31	5,475	-25.9	44	281	37.7
450	31	6,225	-31.0	40	279	38.5
400	31	7,058	-36.6		277	43.5
350	31	7,972	-42.7		275	47.6
300	31	8,997	-49.3		275	54.2
250	31	10,177	-54.6		293	51.5
200	31	11,598	-56.4		283	49.0
175	31	12,445	-56.5		283	52.7
150	31	13,423	-56.4		281	52.1
125	31	14,577	-57.4		278	47.8
100	31	15,985	-58.2		276	35.6
80	30	17,388	-58.7		276	32.4
70	30	18,230	-59.3		282	26.6
60	29	19,190	-58.7		286	29.3
50	24	20,333	-59.6		288	27.2
40	23	21,737	-59.4		286	31.1
30	22	23,534	-58.9		280	32.3
25	14	24,706	-58.4			
20	10	26,121	-58.2			
15	6	27,886	-58.0			

OAKLAND, CALIF. (1019 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	6.6	83	101	2.9
1,000	31	163	7.6	71	80	3.1
950	31	585	8.1	56	37	4.9
900	31	1,032	7.6	49	9	6.0
850	31	1,502	5.7	48	343	7.4
800	31	1,996	3.9	39	329	9.1
750	31	2,518	1.7	37	323	10.3
700	31	3,072	- 1.2	35	318	13.4
650	31	3,657	- 4.6	36	317	17.5
600	31	4,285	- 8.8	36	316	19.0
550	31	4,948	-13.1	33	315	20.6
500	31	5,673	-18.0		314	24.9
450	31	6,442	-23.9		316	26.8
400	31	7,300	-30.6		319	22.2
350	31	8,234	-38.1		319	28.2
300	31	9,278	-46.2		322	33.6
250	31	10,467	-54.5		316	39.4
200	31	11,874	-60.7		305	42.4
175	31	12,703	-61.9		302	43.7
150	31	13,659	-61.0		295	41.8
125	31	14,790	-62.0		291	37.9
100	31	16,168	-63.0		294	33.0
80	30	17,546	-62.4		299	26.8
70	29	18,380	-61.5		299	23.3
60	29	19,332	-60.7		302	19.4
50	28	20,472	-60.0		303	19.2
40	27	21,869	-58.5		306	16.1
30	23	23,688	-57.1		305	16.1
25	20	24,840	-56.4		293	20.6
20	10	26,238	-55.5			
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OKLAHOMA CITY, OKLA. (972 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	392	0.0	80	18	1.9
1,000	31	164				
950	31	577	1.0	65	327	2.1
900	31	1,013	3.0	54	291	9.3
850	31	1,477	2.8	48	270	14.8
800	31	1,967	1.4	42	272	19.0
750	31	2,485	- .7	40	273	24.7
700	31	3,033	- 3.5	38	269	30.3
650	31	3,611	- 6.8	40	266	34.6
600	31	4,237	- 9.7	34	265	38.7
550	31	4,899	-13.6		263	42.4
500	31	5,623	-18.1		263	47.6
450	31	6,394	-23.7		263	51.5
400	31	7,252	-30.0		263	57.7
350	31	8,189	-37.0		261	67.6
300	31	9,238	-44.9		260	75.8
250	31	10,435	-52.9		259	83.7
200	31	11,856	-58.1		260	95.2
175	30	12,698	-58.8		263	87.4
150	28	13,660	-59.8		266	77.9
125	28	14,795	-61.9		265	68.6
100	25	16,169	-63.0		265	56.9
80	24	17,544	-63.0		268	44.7
70	23	18,377	-62.6		266	39.8
60	21	19,323	-61.3		266	33.0
50	19	20,457	-60.3		273	29.0
40	18	21,855	-58.4		270	29.3
30	13	23,663	-56.3		274	29.9
25	8	24,813	-55.3			
20	5	26,250	-53.7			
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OMAHA, NEBR. (969 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	403	- 9.0	81	298	2.9
1,000	31	155				
950	31	558	- 7.4	68	293	5.2
900	31	977	- 5.0	61	309	12.8
850	31	1,427	- 5.1	61	303	16.3
800	31	1,903	- 6.2	58	298	18.1
750	31	2,403	- 8.2	54	292	20.0
700	31	2,940	-11.0	55	291	23.3
650	31	3,501	-13.8	53	287	25.5
600	31	4,111	-17.0	48	281	30.7
550	31	4,753	-21.0	44	278	33.4
500	31	5,457	-25.7	40	271	38.1
450	31	6,204	-30.8		268	43.3
400	31	7,039	-36.7		268	49.0
350	31	7,952	-43.0		269	55.0
300	31	8,976	-49.9		268	61.4
250	30	10,150	-54.9		269	73.1
200	30	11,567	-56.7		271	74.6
175	30	12,413	-56.3		270	66.8
150	30	13,391	-56.8		269	62.2
125	30	14,543	-57.9		268	55.6
100	29	15,943	-58.3		267	45.5
80	29	17,343	-59.2		271	41.6
70	29	18,178	-59.3		269	40.0
60	28	19,143	-60.3		272	36.7
50	25	20,276	-60.4		272	35.2
40	21	21,667	-60.9		268	33.8
30	19	23,458	-60.6		267	35.8
25	15	24,614	-60.3		263	39.8
20	12	26,022	-60.3		271	42.2
15	5	27,855	-58.9			

PEORIA, ILL. (993 MB.)

Standard pressure surface (mb.)	Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	200	- 5.4	84	248	2.5
1,000	30	145				
950	30	550	- 4.4	71	261	9.1
900	30	975	- 4.7	69	269	12.8
850	30	1,425	- 5.0	61	273	17.5
800	30	1,902	- 5.6	57	274	20.4
750	30	2,407	- 7.2	52	273	23.3
700	30	2,943	- 9.4	45	273	26.6
650	30	3,511	-12.4	47	274	32.4
600	30	4,121	-16.0	45	271	37.3
550	30	4,771	-19.6	40	270	41.2
500	30	5,475	-23.9	36	269	46.6
450	30	6,232	-29.0		267	49.7
400	30	7,070	-34.9		266	57.3
350	30	7,988	-41.5		265	59.3
300	30	9,018	-48.3		265	68.4
250	30	10,203	-53.7		267	77.5
200	30	11,626	-56.0		269	70.5
175	30	12,475	-56.3		270	65.1
150	30	13,454	-56.3		270	58.3
125	30	14,607	-57.9		268	53.6
100	30	16,013	-57.9		270	45.3
80	30	17,415	-58.9		270	37.9
70	30	18,253	-59.5		270	34.8
60	30	19,215	-60.0		271	33.2
50	28	20,360	-59.9		273	31.7
40	27	21,759	-59.6		272	29.9
30	24	23,571	-59.5		270	35.8
25	22	24,719	-58.8		271	37.9
20	15	26,152	-57.4			
15						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	PITTSBURGH, PA. (975 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	POINT ARGUELLO, CALIF. (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	353	- 2.1	77	255	2.5	31	113	6.8	84	102	2.7
1,000--	31	153					31	148	8.9	74	55	3.1
950----	31	561	- 2.6	72	248	7.0	31	580	11.6	54	6	6.8
900----	31	989	- 3.7	72	257	15.9	31	1,027	10.4	46	357	6.4
850----	31	1,440	- 5.0	69	265	21.6	31	1,501	7.9	43	343	7.2
800----	31	1,915	- 6.6	69	267	24.3	31	1,999	5.7	37	339	8.9
750----	31	2,417	- 8.6	59	269	27.4	31	2,526	3.0	36	331	11.5
700----	31	2,952	-10.5	54	268	31.7	31	3,080	.0	34	321	10.7
650----	31	3,519	-12.9	46	268	38.1	31	3,667	- 3.4	34	319	12.2
600----	31	4,128	-15.5	48	270	42.4	31	4,298	- 7.6	32	311	14.8
550----	31	4,777	-19.4	45	269	47.0	31	4,965	-12.3	29	304	15.5
500----	30	5,494	-23.2		270	47.4	31	5,691	-17.5		305	18.1
450----	30	6,253	-28.4		268	55.2	31	6,465	-23.2		304	18.8
400----	30	7,093	-34.0		267	61.6	31	7,323	-29.9		300	21.8
350----	30	8,017	-39.8		258	63.7	31	8,260	-37.3		303	26.8
300----	30	9,056	-46.3		260	72.5	31	9,307	-45.3		301	29.5
250----	29	10,259	-52.6		256	78.1	31	10,502	-53.6		296	33.8
200----	29	11,684	-56.7		259	76.6	31	11,914	-59.9		287	41.0
175----	29	12,529	-57.5		265	72.5	31	12,745	-61.1		283	41.6
150----	27	13,503	-58.3		269	63.7	30	13,704	-61.9		281	41.2
125----	27	14,649	-59.3		269	54.6	29	14,829	-63.6		285	36.1
100----	27	16,042	-60.8		270	43.9	28	16,188	-64.3		286	30.5
80-----	26	17,429	-60.2		272	34.6	28	17,555	-63.5		290	22.3
70-----	25	18,263	-60.2		270	34.2	28	18,384	-62.7		287	19.8
60-----	24	19,222	-60.6		270	27.2	26	19,329	-61.8		288	15.9
50-----	21	20,357	-60.4		269	30.9	24	20,466	-60.2		290	14.0
40-----	19	21,750	-59.0		269	35.2	23	21,861	-58.1		291	12.2
30-----	17	23,575	-58.4		264	38.9	21	23,687	-55.6		285	12.8
25-----	12	24,718	-57.7				21	24,853	-53.9		281	15.7
20-----	9	26,130	-57.0				20	26,296	-51.8		279	24.5
15-----							18	28,169	-51.0		277	34.8
10-----							12	30,830	-48.7			

Standard pressure surface (mb.)	PORTLAND, ME. (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	RAPID CITY, S. DAK. (902 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	20	- 5.3	83	291	4.5	31	966	- 7.2	68	337	6.8
1,000--	31	114	- 4.2	70	303	6.2	31	156				
950----	31	521	- 3.8	67	300	9.1	31	559				
900----	31	945	- 5.2	66	297	10.9	31	985			332	11.3
850----	31	1,394	- 5.9	60	287	13.4	31	1,434	- 4.1	51	314	15.3
800----	31	1,868	- 7.1	54	279	18.7	31	1,910	- 6.4	51	311	20.4
750----	31	2,367	- 8.5	51	278	23.1	31	2,408	- 9.5	54	309	21.8
700----	31	2,903	-10.9	49	276	26.8	31	2,942	-12.7	55	308	23.1
650----	31	3,465	-13.7	50	272	31.1	31	3,499	-15.8	52	305	24.1
600----	31	4,075	-17.0	49	272	34.8	31	4,103	-19.5	51	298	25.5
550----	31	4,719	-20.9	48	271	41.2	31	4,740	-23.7	48	294	29.1
500----	31	5,421	-25.4	47	268	46.6	31	5,434	-28.3	47	289	31.5
450----	31	6,171	-30.6	41	268	53.6	30	6,174	-33.5	46	287	35.8
400----	30	7,006	-36.4	42	270	54.4	30	6,995	-39.4		284	37.5
350----	31	7,921	-42.4		271	56.2	30	7,896	-45.7		284	40.2
300----	31	8,948	-48.6		267	70.3	30	8,910	-51.3		286	47.8
250----	30	10,127	-53.1		267	73.3	30	10,082	-55.7		282	52.7
200----	30	11,556	-55.5		271	68.6	30	11,501	-56.2		284	53.2
175----	29	12,414	-56.2		270	64.1	30	12,350	-55.8		281	51.7
150----	28	13,395	-56.2		266	54.4	30	13,332	-55.3		279	45.5
125----	26	14,556	-56.7		267	47.6	29	14,495	-56.4		277	44.1
100----	26	15,967	-57.9		265	42.2	28	15,910	-57.3		277	40.6
80-----	26	17,371	-58.7		270	37.9	28	17,318	-57.8		279	37.5
70-----	26	18,207	-58.6		267	35.4	28	18,161	-58.2		281	35.8
60-----	24	19,181	-59.7		265	30.7	27	19,130	-58.5		280	33.8
50-----	24	20,320	-59.9		266	35.9	26	20,277	-58.9		281	32.3
40-----	23	21,709	-60.3		265	40.6	24	21,670	-59.9		279	33.0
30-----	19	23,502	-60.4		265	46.8	21	23,471	-59.9		280	36.9
25-----	17	24,657	-59.6		268	53.4	16	24,618	-60.2			
20-----	11	26,045	-58.5									
15-----	8	27,906	-55.3									
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Standard pressure surface (mb.)	ST. CLOUD, MINN. (978 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	ST. PAUL IS., ALASKA (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	316	-10.5	79	259	3.1	31	10	- 5.1	80	41	13.8
1,000--	31	142					31	85			42	18.8
950----	31	537	-10.2	78	270	4.7	31	485	- 8.7	78	40	16.3
900----	31	954	- 8.7	75	284	10.3	31	902	-10.4	71	39	15.5
850----	31	1,389	- 8.4	68	294	13.6	31	1,343	-11.5	57	36	13.0
800----	31	1,868	- 9.1	64	291	15.2	31	1,808	-12.5	49	34	11.5
750----	31	2,365	-11.0	56	290	16.3	31	2,297	-14.3	47	12	7.8
700----	31	2,893	-13.8	51	289	18.5	31	2,820	-16.7	43	359	6.4
650----	31	3,451	-16.6	47	291	20.8	31	3,371	-19.2	42	299	6.0
600----	31	4,050	-20.1	49	289	22.2	31	3,966	-22.6	43	286	8.0
550----	31	4,687	-24.0	49	285	26.0	31	4,593	-26.4		279	10.5
500----	31	5,361	-28.5	50	28.	28.0	31	5,283	-30.3		269	14.6
450----	31	6,122	-33.8	47	278	31.3	30	6,018	-35.0		268	16.7
400----	31	6,943	-39.8		275	32.3	30	6,837	-40.7		270	18.8
350----	31	7,844	-45.8		272	37.7	30	7,734	-46.5		271	19.4
300----	31	8,856	-52.0		269	40.8	30	8,744	-52.2		269	21.4
250----	31	10,025	-55.9		270	45.7	30	9,912	-56.0		258	24.5
200----	31	11,447	-55.0		273	45.5	29	11,337	-54.3		255	24.9
175----	31	12,300	-54.8		27.	46.4	29	12,195	-53.1		258	29.5
150----	31	13,286	-54.8		270	43.9	29	13,190	-52.1		258	27.0
125----	31	14,449	-55.7		269	40.8	29	14,371	-51.6		258	29.3
100----	31	15,869	-56.3		272	41.8	29	15,820	-51.2		258	29.3
80-----	31	17,284	-57.6		275	38.1	29	17,271	-51.4		255	32.3
70-----	31	18,128	-58.0		273	37.1	29	18,137	-51.7		264	32.4
60-----	31	19,097	-58.6		272	35.2	29	19,137	-52.4		265	33.8
50-----	31	20,240	-59.9		273	37.9	29	20,357	-52.6		268	35.4
40-----	30	21,634	-60.8		277	40.2	27	21,750	-53.4		275	39.1
30-----	25	23,433	-61.8		278	41.0	21	23,747	-51.6		283	42.7
25-----	15	24,595	-61.1		273	45.1	20	24,958	-51.7		286	45.3
20-----							19	26,416	-52.1		297	45.7
15-----							5	28,342	-52.7			
10-----												

Standard pressure surface (mb.)	SALEM, OREG. (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SALT LAKE CITY, UTAH (874 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	61	4.4	80	185	5.2	31	1,288	- 3.3	84	183	5.8
1,000--	30	160	4.3	77	194	7.0	31	210				
950----	30	574	3.8	77	218	12.6	31	619				
900----	30	1,015	1.4	76	234	17.3	31	1,054				
850----	30	1,474	- .8	76	251	19.4	31	1,508	- 1.6	60	177	7.0
800----	30	1,957	- 3.4	71	261	20.0	31	1,990	- 3.4	59	210	7.6
750----	30	2,463	- 5.5	63	271	22.7	31	2,494	- 6.7	63	263	9.1
700----	30	3,005	- 7.8	57	282	26.0	31	3,033	-10.1	65	285	13.6
650----	30	3,573	-10.7	48	291	30.5	31	3,599	-12.7	57	294	19.4
600----	30	4,191	-13.8	49	299	35.2	31	4,209	-16.0	55	296	23.9
550----	31	4,843	-17.6	47	303	39.4	31	4,861	-19.8	53	295	28.6
500----	30	5,556	-22.0	52	301	45.9	31	5,561	-24.1	48	294	33.8
450----	31	6,317	-27.3	53	303	49.2	31	6,322	-28.9	41	296	39.1
400----	30	7,163	-33.3	46	302	52.8	31	7,156	-34.5	37	299	43.5
350----	30	8,088	-40.2		304	59.8	31	8,076	-41.0		299	45.9
300----	30	9,122	-48.0		299	63.3	31	9,108	-47.9		298	49.8
250----	30	10,303	-55.9		301	61.6	31	10,291	-54.9		289	51.1
200----	30	11,704	-61.1		301	60.6	31	11,701	-58.7		286	52.3
175----	30	12,536	-60.3		302	52.5	31	12,539	-58.2		286	50.9
150----	30	13,499	-59.4		298	48.4	31	13,509	-58.4		285	47.2
125----	29	14,642	-59.6		296	41.0	31	14,656	-58.1		285	42.9
100----	29	15,820	-59.7		291	36.7	30	16,058	-59.9		287	37.9
80-----	29	17,271	-58.7		294	31.9	29	17,450	-59.1		282	33.6
70-----	29	18,137	-58.7		294	30.3	29	18,297	-59.0		285	29.7
60-----	29	19,137	-58.4		299	29.7	26	19,261	-58.9		288	26.8
50-----	27	20,340	-58.6		301	21.6	24	20,403	-58.9		290	22.7
40-----	26	21,781	-53.2		304	22.3	19	21,806	-58.1		286	20.4
30-----	21	23,747	-51.6		300	27.0	12	23,592	-57.8		291	27.6
25-----	20	24,958	-51.7		298	29.1	8	24,750	-55.1			
20-----	19	26,416	-52.1				8	26,174	-56.0			
15-----	5	28,342	-52.7									

Standard pressure surface (mb.)	SAN ANTONIO, TEXAS (990 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SAN DIEGO, CALIF. (1002 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	243	8.9	82	360	3.7	31	124	8.4	89	92	1.4
1,000--	31	155					31	144			82	1.4
950----	31	583	9.6	72	206	1.0	31	570	12.1	54	275	.8
900----	31	1,031	9.8	65	212	7.8	31	1,025	10.1	49	281	2.5
850----	31	1,506	8.7	61	225	12.0	31	1,498	7.8	48	287	3.9
800----	31	2,007	7.1	51	239	13.2	31	1,995	5.1	42	289	6.0
750----	31	2,535	4.7	42	246	16.9	31	2,515	3.0	35	287	9.3
700----	31	3,097	1.9	37	253	21.4	31	3,077	.4		298	13.0
650----	31	3,687	- 1.3		257	25.1	31	3,660	- 3.2		305	13.2
600----	31	4,326	- 5.1		255	30.7	31	4,297	- 7.2		303	15.3
550----	31	5,002	- 9.2		254	34.6	31	4,961	-11.6		298	16.5
500----	31	5,738	-13.9		261	35.9	31	5,695	-16.6		292	19.0
450----	31	6,527	-19.3		258	44.5	31	6,464	-22.5		292	18.7
400----	31	7,397	-25.6		258	49.4	31	7,332	-29.3		285	24.5
350----	31	8,351	-32.5		257	55.8	31	8,273	-36.3		287	27.6
300----	31	9,419	-40.6		259	66.6	31	9,325	-44.6		279	35.4
250----	31	10,637	-49.7		258	70.7	31	10,525	-52.4		278	43.3
200----	31	12,066	-58.7		259	77.5	31	11,946	-59.1		273	51.7
175----	30	12,897	-62.5		259	77.3	31	12,779	-61.3		273	49.4
150----	30	13,844	-64.6		260	74.2	31	13,734	-62.1		274	44.9
125----	30	14,954	-66.2		260	64.1	31	14,856	-64.4		275	40.2
100----	26	16,299	-68.4		262	56.7	31	16,216	-65.2		276	36.3
80-----	21	17,629	-68.4		270	38.7	31	17,576	-64.5		275	25.6
70-----	19	18,433	-66.3		269	35.0	30	18,403	-63.6		275	20.0
60-----	16	19,366	-65.0		276	23.9	28	19,347	-62.2		281	15.5
50-----	16	20,484	-62.3		276	18.7	28	20,479	-59.9		285	12.8
40-----	15	21,875	-58.1		271	14.8	28	21,878	-57.8		281	11.9
30-----	15	23,704	-54.6		275	13.0	27	23,703	-55.1		279	13.2
25-----	14	24,876	-51.4		268	16.7	22	24,875	-53.8		274	18.3
20-----	11	26,321	-49.2				16	26,312	-51.3		270	30.5
15-----	5	28,222	-46.7									

Standard pressure surface (mb.)	SAN JUAN, P. R. (1016 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SANTA MONICA, CALIF. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	6	22.9	87	85	4.3	31	38	10.0	78	34	4.1
1,000--	31	142	23.1	81	87	12.8	31	146	11.6	64	42	4.3
950----	31	587	20.4	80	85	16.1	31	574	11.7	49	64	2.5
900----	31	1,054	17.4	79	89	15.5	31	1,026	10.1	41	153	1.8
850----	31	1,540	14.4	77	92	14.0	31	1,499	7.5	41	242	1.0
800----	31	2,051	11.8	67	97	13.2	31	1,996	4.8	37	310	3.7
750----	31	2,590	10.1	49	101	11.7	31	2,516	2.6	32	304	7.2
700----	31	3,161	7.3	45	103	13.0	31	3,075	.0		301	9.9
650----	31	3,765	4.3		111	9.9	31	3,660	- 3.6		305	12.6
600----	31	4,416	1.2		108	8.9	31	4,292	- 7.8		305	15.0
550----	31	5,105	- 2.7		121	6.0	31	4,957	-12.4		305	17.7
500----	31	5,860	- 7.1		130	4.7	31	5,685	-17.4		303	19.6
450----	31	6,669	-12.7		144	4.7	31	6,457	-23.2		302	22.5
400----	31	7,562	-18.9		172	3.9	31	7,317	-29.9		295	23.3
350----	31	8,541	-26.3		219	3.7	31	8,255	-37.2		304	27.0
300----	31	9,636	-34.8		273	8.2	31	8,303	-44.9		299	32.4
250----	31	10,882	-44.7		275	14.0	31	10,500	-52.9		290	38.3
200----	30	12,338	-55.4		277	22.7	31	11,916	-59.7		282	45.3
175----	30	13,180	-60.5		274	23.3	31	12,747	-61.4		282	45.5
150----	30	14,129	-65.8		276	23.1	31	13,701	-62.0		284	44.7
125----	30	15,228	-69.7		280	18.5	31	14,825	-63.5		280	40.4
100----	30	16,539	-75.2		302	9.1	31	16,189	-65.0		281	34.2
80-----	29	17,828	-76.4		34	6.0	30	17,543	-64.6		285	26.4
70-----	29	18,602	-74.6		47	6.8	29	18,361	-63.3		285	22.3
60-----	29	19,509	-69.5		58	4.9	29	19,309	-62.2		290	20.6
50-----	29	20,614	-62.9		41	1.4	29	20,439	-60.9		292	16.1
40-----	29	22,009	-57.4		354	2.7	28	21,834	-58.5		288	13.8
30-----	28	23,853	-52.4		54	4.3	26	23,655	-56.2		286	16.9
25-----	27	25,034	-49.8		70	7.6	24	24,816	-54.8		273	19.4
20-----	24	26,504	-46.4		78	11.1	24	26,247	-53.4		272	30.5
15-----	19	28,428	-43.5		90	14.6	8	28,098	-51.4			

Standard pressure surface (mb.)	SAULT STE. MARIE, MICH. (987 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SEATTLE, WASH. (1002 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	221	- 7.6	78	211	0.6	31	125	3.6	83	180	6.6
1,000--	31	116					31	141			175	7.4
950----	31	514	- 7.7	76	272	4.3	31	556	2.3	78	208	15.5
900----	31	935	- 9.1	74	259	7.0	31	992	- .2	80	229	16.7
850----	31	1,377	-10.1	69	264	10.1	31	1,448	- 2.8	81	247	16.9
800----	31	1,843	-11.5	64	269	13.2	31	1,927	- 5.4	78	257	16.3
750----	31	2,337	-12.5	62	270	16.9	31	2,431	- 7.8	75	270	18.5
700----	31	2,862	-14.5	56	271	20.6	31	2,966	-10.4	65	281	22.5
650----	31	3,420	-17.3	53	276	23.7	31	3,532	-13.1	58	288	29.1
600----	31	4,017	-20.6	46	276	24.9	31	4,140	-16.4	55	295	35.2
550----	31	4,653	-24.4	42	275	26.4	31	4,787	-20.1	54	300	40.6
500----	31	5,345	-28.8	42	278	30.3	31	5,491	-24.3	47	304	46.2
450----	31	6,090	-33.9	47	275	33.8	31	6,249	-29.2	46	306	51.7
400----	31	6,908	-39.5		274	39.2	31	7,085	-35.1	48	306	59.1
350----	31	7,810	-45.2		273	40.4	31	8,003	-41.9		306	64.3
300----	31	8,827	-50.8		270	48.2	31	9,029	-49.4		306	70.1
250----	31	10,002	-54.7		269	52.7	31	10,206	-55.8		305	74.2
200----	31	11,427	-54.8		267	51.9	30	11,603	-58.3		307	65.9
175----	31	12,282	-54.3		272	50.7	30	12,444	-57.9		307	55.6
150----	31	13,270	-54.5		270	46.0	30	13,417	-57.6		305	48.0
125----	31	14,437	-54.8		270	43.5	29	14,570	-58.5		303	44.5
100----	31	15,859	-56.2		269	42.4	27	15,971	-57.9		303	43.5
80-----	31	17,276	-56.9		269	39.4	25	17,380	-57.1		299	36.1
70-----	31	18,111	-57.7		271	38.9	23	18,231	-57.8		300	35.4
60-----	31	19,086	-58.9		269	40.8	22	19,203	-57.1		299	34.6
50-----	28	20,232	-60.3		270	43.5	16	20,370	-57.5		308	31.7
40-----	26	21,636	-60.6		269	46.0	13	21,783	-58.1		307	29.9
30-----	23	23,410	-61.7		272	52.8	9	23,622	-58.2			
25-----	21	24,535	-62.8		277	54.0						
20-----	13	25,899	-63.7									
15-----	8	27,655	-64.8									

Standard pressure surface (mb.)	SHEMYA, ALASKA (1004 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	38	0.6	77	52	17.3
1,000--	31	70			57	16.1
950----	31	475	- 3.0	79	67	23.7
900----	31	905	- 6.3	80	77	21.6
850----	31	1,349	- 9.4	79	85	18.8
800----	31	1,815	-12.3	70	83	17.1
750----	31	2,308	-14.2	49	80	15.9
700----	31	2,829	-16.6		78	15.3
650----	31	3,381	-19.3		73	11.9
600----	31	3,975	-22.1		68	9.3
550----	31	4,606	-25.8		73	7.0
500----	31	5,295	-30.0		103	2.7
450----	31	6,035	-34.8		178	.6
400----	31	6,851	-40.3		214	2.5
350----	31	7,750	-46.1		233	6.2
300----	31	8,761	-52.4		228	11.3
250----	31	9,924	-57.7		231	15.0
200----	31	11,333	-55.9		231	17.9
175----	30	12,184	-53.5		235	17.9
150----	30	13,179	-51.9		237	17.3
125----	30	14,362	-51.0		241	19.8
100----	29	15,819	-49.7		246	20.6
80-----	29	17,281	-49.5		245	23.1
70-----	29	18,157	-49.8		249	25.1
60-----	27	19,168	-49.8		253	26.4
50-----	26	20,362	-49.9		257	26.6
40-----	25	21,827	-49.9		259	27.6
30-----	25	23,709	-49.9		261	31.1
25-----	25	24,900	-50.5		264	31.3
20-----	20	26,383	-50.7		263	29.1
15-----	6	28,341	-51.4			
10-----						

See reference note at end of table

RAWINSONDE DATA

Average monthly values

Standard pressure surface (mb.)	SHREVEPORT, LA. (1010 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	SPOKANE, WASH. (933 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	79	6.6	88	306	0.8	30	722	- 3.5	81	194	4.3
1,000--	31	164	6.7	78		.0	30	168				
950----	31	587	7.1	63	253	5.4	30	577				
900----	31	1,031	6.8	57	268	11.9	30	1,005	- 3.0	78	207	9.5
850----	31	1,499	5.3	53	263	17.3	30	1,457	- 4.4	72	237	14.6
800----	31	1,993	3.8	53	268	20.6	30	1,933	- 6.5	70	252	16.7
750----	31	2,517	1.6	50	266	23.5	30	2,432	- 9.0	68	270	18.5
700----	31	3,071	- 1.2	45	269	28.4	30	2,967	-11.6	63	279	22.0
650----	31	3,658	- 3.9	39	264	30.9	30	3,525	-14.8	59	286	25.1
600----	31	4,288	- 7.2	34	260	34.8	30	4,133	-18.5	57	288	27.6
550----	31	4,956	-11.5		259	37.5	30	4,773	-22.6	54	288	30.3
500----	31	5,685	-16.1		258	43.9	30	5,471	-27.0	50	289	35.6
450----	31	6,466	-21.2		259	48.2	30	6,211	-32.4	47	293	39.1
400----	31	7,332	-27.2		260	53.8	30	7,044	-37.8	47	294	43.9
350----	31	8,281	-34.3		260	59.8	29	7,958	-43.5		304	50.7
300----	31	9,341	-42.2		262	65.5	29	8,980	-50.1		304	56.3
250----	31	10,551	-50.7		262	75.4	29	10,155	-55.9		308	59.7
200----	30	11,976	-58.2		263	79.5	29	11,566	-58.1		304	55.4
175----	30	12,812	-60.9		261	74.8	29	12,408	-57.3		303	50.7
150----	30	13,766	-63.0		260	71.3	29	13,384	-56.9		302	45.1
125----	30	14,884	-64.4		261	64.9	29	14,540	-56.5		297	41.4
100----	30	16,241	-66.6		263	54.8	28	15,959	-57.0		302	33.6
80-----	28	17,591	-66.2		263	45.7	28	17,363	-58.6		298	34.2
70-----	26	18,410	-64.9		262	39.2	28	18,206	-57.7		296	32.6
60-----	26	19,341	-63.2		261	34.8	26	19,182	-58.0		299	29.1
50-----	25	20,466	-61.4		263	26.8	25	20,329	-58.6		297	28.2
40-----	23	21,859	-58.5		263	25.5	21	21,729	-59.2		297	29.9
30-----	21	23,675	-55.4		270	24.9	12	23,564	-59.9		299	35.0
25-----	17	24,849	-53.6		269	28.6	7	24,689	-62.6			
20-----	12	26,303	-51.4									
15-----												

Standard pressure surface (mb.)	SWAN ISLAND, W. I. (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TAMPA, FLA. (1020 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TATOOSH IS., WASH. (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	10	25.6	81	63	8.0	31	8	13.7	79	63	4.7	31	31	5.6	85	146	5.8
1,000--	31	125	24.9	78	64	11.7	31	172	15.8	73	78	4.5	31	129	5.1	81	163	7.8
950----	31	573	21.6	78	74	14.8	31	609	14.4	71	158	3.7	31	542	2.8	80	216	11.1
900----	31	1,042	18.4	77	83	14.2	31	1,065	12.2	67	217	5.8	31	982	.2	81	237	13.8
850----	31	1,531	15.3	71	90	12.2	31	1,542	10.2	60	251	6.8	31	1,439	- 2.4	78	257	14.4
800----	31	2,043	12.6	68	99	9.7	31	2,046	8.3	52	263	10.5	31	1,918	- 4.8	71	262	17.5
750----	31	2,580	10.2	57	107	8.2	31	2,577	6.5	42	266	13.0	31	2,419	- 7.0	63	272	19.6
700----	31	3,156	7.4	53	111	7.4	31	3,142	3.7	40	269	15.9	31	2,960	- 9.6	54	285	24.1
650----	31	3,758	4.2	49	128	6.6	31	3,741	1.0	34	266	17.9	31	3,520	-12.3	48	285	28.8
600----	31	4,411	.7	44	129	3.1	31	4,381	- 2.7	35	263	22.9	31	4,138	-15.5	46	292	36.7
550----	31	5,096	- 2.9	34	166	1.2	31	5,059	- 7.0		259	25.1	31	4,779	-19.4	41	293	42.2
500----	31	5,855	- 7.7		230	3.5	31	5,803	-11.5		260	28.0	31	5,491	-23.9	40	293	46.8
450----	31	6,656	-12.7		276	4.7	31	6,602	-16.6		261	30.9	31	6,242	-29.0	38	292	52.7
400----	31	7,557	-18.7		280	11.5	31	7,478	-23.0		262	35.2	31	7,085	-35.0	40	292	55.6
350----	31	8,539	-25.5		276	12.2	31	8,443	-30.0		257	40.6	31	8,004	-42.1		291	58.3
300----	31	9,639	-33.8		276	18.7	31	9,523	-38.3		260	45.5	31	9,029	-49.5		289	56.9
250----	31	10,892	-43.7		273	24.7	31	10,753	-47.4		262	51.1	31	10,202	-56.8		295	58.3
200----	31	12,356	-54.9		263	27.2	31	12,196	-56.8		265	54.8	31	11,599	-60.6		297	56.5
175----	31	13,199	-60.4		257	28.0	31	13,034	-60.7		262	57.1	31	12,431	-59.4		297	52.5
150----	30	14,151	-64.9		262	27.8	29	13,988	-64.6		260	53.2	31	13,397	-58.1		295	46.6
125----	29	15,250	-69.3		259	24.9	28	15,099	-67.1		260	46.2	30	14,545	-57.3		294	41.8
100----	27	16,566	-74.3		255	12.6	26	16,451	-70.4		259	41.2	29	15,952	-57.6		298	39.4
80-----	23	17,865	-75.2		179	4.5	25	17,771	-71.4		257	34.8	29	17,358	-58.5		306	31.3
70-----	23	18,646	-73.2		145	4.5	25	18,574	-69.6		256	23.3	27	18,193	-58.4		308	30.9
60-----	23	19,556	-68.9		111	3.3	25	19,490	-66.5		255	16.5	25	19,170	-58.6		303	30.7
50-----	23	20,664	-63.0			.0	25	20,605	-62.3		264	14.8	24	20,319	-58.6		307	31.5
40-----	22	22,055	-57.4		355	1.2	24	21,996	-57.6		276	12.6	20	21,728	-59.4		321	28.4
30-----	21	23,896	-52.3		71	4.1	20	23,836	-53.7		282	14.0	8	23,497	-62.3			
25-----	20	25,082	-49.5		77	10.9	18	25,022	-50.5		277	17.7						
20-----	18	26,561	-45.7		87	14.2	16	26,492	-46.4		276	23.3						
15-----	8	28,501	-42.8				12	28,418	-42.6									

Standard pressure surface (mb.)	TOPEKA, KANS. (987 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	TUCSON, ARIZ (926 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	269	- 5.9	82	311	3.9	31	789	6.0	77	153	5.8
1,000--	31	162					31	150				
950----	31	566	- 4.3	69	307	8.2	31	574				
900----	31	992	- 3.1	65	312	12.6	31	1,021	9.8	54	161	6.2
850----	31	1,445	- 3.3	59	305	14.8	31	1,495	8.2	48	194	4.9
800----	31	1,924	- 4.1	56	295	17.1	31	1,993	5.2	49	232	7.0
750----	31	2,430	- 5.8	48	289	19.2	31	2,518	2.3	45	252	8.7
700----	31	2,970	- 8.5	50	277	23.9	31	3,072	- .1	36	269	11.3
650----	31	3,537	-11.3	47	274	29.5	31	3,660	- 3.3		272	13.6
600----	31	4,152	-14.7	41	271	36.9	31	4,292	- 7.3		273	17.1
550----	31	4,802	-18.7	35	269	45.5	31	4,959	-11.5		268	22.3
500----	31	5,511	-23.1	32	270	49.2	31	5,689	-15.9		266	31.9
450----	31	6,270	-28.1		269	53.8	31	6,465	-21.3		266	34.2
400----	31	7,111	-34.0		268	57.7	31	7,333	-27.8		266	40.2
350----	31	8,034	-40.3		270	63.7	31	8,278	-35.3		266	44.7
300----	31	9,070	-47.4		268	73.3	31	9,332	-43.7		267	49.4
250----	31	10,257	-54.3		271	78.7	31	10,532	-52.4		266	55.4
200----	31	11,676	-57.2		276	75.6	31	11,951	-58.6		262	67.6
175----	31	12,519	-58.0		277	68.4	31	12,785	-60.9		263	60.8
150----	31	13,492	-57.7		278	63.3	31	13,742	-61.6		266	57.5
125----	31	14,640	-59.2		275	52.8	31	14,864	-64.2		267	51.1
100----	30	16,038	-60.1		277	45.5	31	16,224	-65.2		269	42.2
80-----	29	17,430	-60.6		276	35.9	31	17,582	-65.0		267	34.0
70-----	29	18,267	-60.0		276	30.9	31	18,406	-63.5		265	26.4
60-----	29	19,226	-60.1		275	27.6	30	19,349	-62.0		268	21.0
50-----	29	20,363	-60.2		271	27.8	30	20,482	-59.7		270	16.9
40-----	26	21,765	-59.1		273	27.2	30	21,884	-57.5		266	15.7
30-----	24	23,573	-58.6		280	29.1	25	23,719	-54.1		265	18.1
25-----	19	24,728	-58.1		281	34.4	13	24,897	-51.7		261	20.6
20-----	17	26,135	-57.8		276	39.8						
15-----	6	27,978	-54.6									
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Standard pressure surface (mb.)	WASHINGTON, D. C. (1008 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	WINNEMUCCA, NEV. (871 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	WINSLOW, ARIZ. (854 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	81	- 2.0	82	315	3.3	31	1,310	- 3.8	87	175	1.9	31	1,492	- 7.3	85	238	0.6
1,000--	31	150			319	4.1	31	203					31	243				
950----	31	561	- .4	64	282	8.9	31	613					31	648				
900----	31	993	- 1.3	66	274	15.0	31	1,049					31	1,077				
850----	31	1,447	- 2.4	62	278	21.0	31	1,507	- .6	68	197	3.7	31	1,527			262	.8
800----	31	1,928	- 3.4	61	274	23.9	31	1,990	- 2.1	60	242	8.0	31	2,006	- 1.4	68	257	5.8
750----	31	2,438	- 4.7	53	271	29.3	31	2,494	- 4.5	56	270	12.6	31	2,525	- .7	51	257	8.0
700----	31	2,977	- 7.0	47	267	34.0	31	3,042	- 7.1	54	281	16.9	31	3,072	- 2.5	43	258	14.2
650----	31	3,552	- 9.4	37	264	38.1	31	3,610	-10.2	53	294	21.0	31	3,654	- 5.3	40	271	17.1
600----	31	4,168	-12.7	38	266	42.9	31	4,229	-13.3	47	303	27.8	31	4,282	- 9.0	38	278	19.6
550----	31	4,824	-16.5		265	46.8	31	4,882	-17.2	42	308	30.1	31	4,943	-13.3		278	24.3
500----	31	5,537	-20.8		263	52.8	31	5,595	-21.7	39	308	34.2	31	5,670	-18.1		276	28.8
450----	31	6,303	-26.0	41	264	58.7	31	6,353	-27.2	39	308	37.1	31	6,440	-23.7		278	31.9
400----	31	7,151	-31.7	43	264	66.8	31	7,200	-33.4	38	310	41.6	31	7,299	-30.3		275	36.5
350----	31	8,084	-38.0		261	67.8	31	8,123	-40.5		310	40.8	31	8,234	-37.5		274	42.4
300----	31	9,131	-45.0		261	75.6	31	9,156	-48.4		313	45.9	31	9,280	-45.6		270	48.8
250----	31	10,329	-52.3		260	74.6	31	10,335	-56.0		310	43.9	31	10,474	-53.0		271	58.9
200----	31	11,754	-57.4		261	79.1	31	11,734	-61.2		304	44.9	31	11,893	-58.5		272	61.0
175----	31	12,596	-58.4		263	74.6	31	12,562	-61.3		299	43.1	31	12,729	-59.8		269	61.8
150----	31	13,565	-59.0		266	66.8	31	13,523	-59.6		293	38.7	31	13,690	-60.7		273	58.3
125----	31	14,706	-59.9		264	63.0	31	14,662	-60.0		294	37.5	31	14,821	-62.5		272	48.4
100----	30	16,092	-60.6		262	52.7	31	16,053	-60.8		294	34.4	31	16,192	-63.4		271	42.0
80-----	30	17,477	-60.9		262	45.1	31	17,442	-60.3		295	28.6	31	17,562	-63.1		275	32.6
70-----	29	18,321	-60.8		266	38.7	31	18,275	-59.7		294	23.3	31	18,391	-61.9		274	26.4
60-----	27	19,269	-60.3		268	31.7	31	19,238	-59.9		300	23.3	30	19,339	-61.1		271	21.4
50-----	27	20,404	-60.1		269	28.6	28	20,381	-58.9		303	21.8	30	20,475	-60.1		273	20.2
40-----	24	21,806	-59.1		269	28.4	24	21,785	-58.3		296	16.9	28	21,868	-58.0		275	23.1
30-----	23	23,618	-58.1		264	33.8	20	23,618	-57.7		300	19.4	26	23,690	-56.2		273	20.0
25-----	20	24,777	-57.1		263	40.2	15	24,761	-58.0		298	19.8	22	24,847	-55.4		276	27.4
20-----	18	26,185	-56.4		265	48.6	9	26,208	-58.0				20	26,271	-52.7		280	30.5
15-----	14	28,021	-53.7		265	53.6							11	28,140	-50.7			
10-----	10	30,670	-49.3															

Standard pressure surface (mb.)	YAKUTAT, ALASKA (1002 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	YUMA, ARIZ. (1000 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	12	- 3.7	82	100	7.8	27	131	8.1	62	342	2.1
1,000--	31	26			106	5.8	27	129			351	3.3
950----	31	436	- 3.1	73	118	11.5	27	560	12.5	40	348	9.3
900----	31	860	- 5.0	75	151	8.7	27	1,011	10.6	39	354	5.6
850----	31	1,307	- 7.4	72	177	8.0	27	1,484	8.0	39	315	4.3
800----	31	1,777	- 9.7	68	203	8.7	27	1,982	5.7	36	300	5.6
750----	31	2,274	-12.4	63	220	11.5	27	2,513	2.9	40	293	7.8
700----	31	2,798	-15.7	62	230	13.2	27	3,063	- .1	36	294	9.5
650----	31	3,349	-19.2	59	239	15.7	27	3,656	- 3.6	32	289	12.8
600----	31	3,944	-22.8	57	248	19.0	27	4,281	- 7.3	31	283	16.3
550----	31	4,573	-27.1	57	250	22.0	27	4,954	-12.0	32	280	18.3
500----	31	5,257	-31.7	53	253	26.0	27	5,675	-16.8	30	278	22.3
450----	31	5,991	-36.4		257	29.3	27	6,464	-22.7	29	273	25.1
400----	31	6,804	-41.6		261	34.8	27	7,311	-29.0	31	270	29.3
350----	31	7,699	-46.6		265	39.2	27	8,252	-36.2	31	268	39.4
300----	31	8,711	-51.3		265	45.1	27	9,303	-44.2		267	47.2
250----	31	9,886	-54.4		270	46.0	27	10,502	-52.5		267	52.3
200----	31	11,313	-54.6		275	42.6	26	11,928	-58.6		261	56.3
175----	31	12,168	-54.9		278	41.6	24	12,768	-60.2		263	60.8
150----	31	13,152	-55.1		279	45.5	20	13,741	-61.8		262	59.1
125----	31	14,316	-55.3		277	45.9	14	14,866	-63.8			
100----	30	15,750	-54.8		278	49.0	10	16,218	-65.5			
80 ----	29	17,171	-55.7		283	48.6	8	17,562	-64.7			
70-----	29	18,020	-56.4		284	51.3	5	18,377	-63.9			
60-----	29	18,996	-57.4		288	55.8						
50-----	29	20,143	-58.9		289	59.1						
40-----	27	21,551	-60.5		292	65.5						
30 ----	22	23,336	-61.9		296	65.7						
25----	20	24,455	-62.4		296	73.8						
20-----	19	25,840	-63.6		299	76.7						
15-----	5	27,740	-62.6									

Note: All observations scheduled at 1200, G.C.T. Pressures shown under station names are the average monthly station pressures for the month of record, corrected to the height of the floors of the instrument shelters used for rawinsonde purposes. "Number of observations" refers to those of dynamic height only. Temperature, humidity or wind data may be missing for one or more pressure surfaces of some observations. The temperature and wind values are based on 15 or more observations at the surface or 5 observations at a standard pressure level for temperature and 10 for wind. Relative humidity data are not published for standard pressure surfaces having less than 16 actual observations.

Relative humidity data beginning with October 1, 1948, were computed and expressed in these tables on the basis of vapor-pressure over water. Upper air values of relative humidity at levels with temperatures less than 0°C, have formerly been computed and expressed on the basis of the vapor-pressure over ice. All relative humidity observations are obtained by electric hygrometer and have been adjusted to compensate for the value occurring below the operating range of the humidity element.

These average values for standard pressure surfaces were obtained by rawinsondes: dynamic height (geopotential) in units of .98 dynamic meter, temperature in degrees Celsius, relative humidity in percent, and resultant winds in degrees and knots. The resultant wind speed is biased toward a lower value as the number of observations on which the resultant is based lessens. The amount of bias increases with the number of observations that are terminated due to low angle limitations.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun

ALBUQUERQUE, N. MEX.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.19	3.35	2.51	1.67	*	1.67	2.51	3.35	4.19
Dec.									
2-----	1.01	1.11	1.22	----	----	----	----	----	----
4-----	.90	.97	----	1.33	1.37	1.36	1.24	1.06	0.96
5-----	1.07	1.16	1.25	1.40	1.45	1.40	1.27	1.18	1.06
6-----	.92	1.22	1.21	1.23	----	----	----	----	----
7-----	----	----	----	----	----	(1.21)	----	----	----
12----	1.18	1.28	1.37	1.48	----	----	----	----	----
17----	.98	1.05	1.21	----	----	----	----	1.09	----
18----	----	----	----	----	----	----	1.27	1.17	1.08
19----	----	----	1.25	1.40	1.39	1.37	1.24	1.16	1.06
20----	1.06	1.16	1.26	1.39	1.42	1.38	1.24	1.14	1.05
21----	1.04	1.16	1.27	1.42	1.43	1.43	1.32	1.22	1.13
22----	1.10	1.21	1.29	1.45	1.45	1.45	1.29	1.21	1.12
23----	1.12	1.21	1.32	1.46	1.47	1.47	1.33	1.23	1.12
24----	1.13	1.23	1.33	1.46	1.47	1.43	1.30	1.10	.96
25----	1.12	1.22	1.33	1.47	1.47	1.47	1.33	1.24	1.16
26----	1.10	1.19	1.30	1.42	1.44	1.33	1.19	1.18	1.09
27----	1.11	1.21	1.31	1.43	1.46	1.46	----	----	----
28----	1.10	1.20	1.30	1.43	1.41	1.34	1.25	1.18	1.08
29----	1.09	1.16	1.27	1.43	1.43	1.42	----	1.17	1.07
30----	1.12	1.20	1.32	1.45	1.45	1.42	1.33	1.16	1.12
31----	1.08	1.17	1.27	1.41	1.43	1.40	1.21	1.06	.99
Averages	1.07	1.17	1.28	1.42	1.44	1.41	1.27	1.16	1.07

TUCSON, ARIZ.

	Air mass: 4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Dec.									
2-----	0.99	----	----	----	----	----	----	----	----
5-----	.86	0.97	1.11	----	----	----	1.16	1.03	0.89
19----	.90	----	----	1.31	----	----	1.19	1.04	.90
20----	.98	1.08	----	----	----	1.39	1.22	1.13	1.03
21----	----	----	----	----	----	----	----	----	.97
22----	.93	1.04	----	----	----	----	1.19	1.03	.94
23----	----	----	----	----	----	----	----	----	.98
24----	----	----	1.30	----	----	----	----	----	----
25----	----	1.11	1.23	1.39	----	----	1.20	1.08	.98
26----	1.01	1.10	1.21	1.37	----	----	----	----	----
27----	1.03	1.15	----	----	----	----	1.23	----	----
Averages	0.96	1.08	1.21	1.36	----	1.39	1.20	1.06	0.96

GUAM, M. I.

Air mass: 4.92	3.93	2.95	1.97	*	1.97	2.95	3.93	4.92

Recorder inoperative

BLUE HILL OBS., MASS.

Date	Sun's zenith distance: A.M. 78.7°	75.7°	70.7°	60.0°	*	P.M. 60.0°	70.7°	75.7°	78.7°
	Air mass: 4.89	3.92	2.94	1.96	*	1.96	2.94	3.92	4.89
Dec.									
1-----	1.03	1.12	1.24	----	1.33	----	1.22	1.08	0.99
4-----	.77	.87	.99	----	----	----	----	----	----
5-----	----	----	----	----	----	----	----	1.06	.91
6-----	1.00	1.07	1.21	----	1.29	----	1.16	1.01	.94
8-----	----	----	----	----	----	----	1.15	1.01	.93
9-----	1.07	1.13	1.25	----	1.32	----	----	----	----
13----	----	----	----	----	1.25	----	1.20	1.05	.93
14----	.98	1.07	1.21	----	1.32	----	1.13	1.04	.93
15----	.98	1.07	1.22	----	1.33	----	1.27	1.16	1.06
16----	1.10	1.17	1.30	----	1.36	----	1.25	1.12	1.04
22----	.91	1.01	1.13	----	1.21	----	----	----	----
23----	1.06	1.15	1.24	----	----	----	----	----	----
25----	----	----	1.18	----	1.33	----	1.24	1.12	1.03
29----	1.07	1.16	1.27	----	1.36	----	1.25	1.10	1.03
30----	Recorder inoperative.								
Averages	1.00	1.08	1.20	----	1.31	----	1.21	1.08	0.98

MAUNA LOA OBS., HAWAII

	Air mass: 3.36	2.69	2.01	1.34	*	1.34	2.01	2.69	3.36
Dec.									
1-----	1.20	----	1.39	1.50	1.57	1.48	----	----	----
2-----	1.29	1.38	1.48	1.59	1.65	----	----	----	----
7-----	1.21	1.28	1.40	----	----	----	----	----	----
8-----	1.31	1.39	1.49	1.58	----	----	----	----	1.15
9-----	1.20	1.28	1.37	----	1.60	1.51	1.46	1.27	1.15
10----	1.28	1.36	1.43	1.56	1.65	1.57	1.46	1.38	1.25
11----	1.34	1.41	1.51	1.60	----	1.56	1.46	1.37	1.29
12----	1.32	1.41	1.49	----	1.62	1.54	1.41	----	----
14----	----	----	----	----	----	----	1.39	1.29	1.22
15----	1.21	1.32	1.41	1.53	----	1.50	1.40	1.31	1.22
16----	1.27	1.35	1.44	1.56	1.63	1.54	----	----	----
17----	1.25	1.33	1.42	1.54	1.62	----	----	----	----
18----	1.31	1.39	1.47	1.58	1.62	----	----	----	1.25
19----	1.31	1.39	1.48	1.59	----	----	----	1.36	1.26
20----	1.30	1.37	1.47	1.58	1.63	----	----	----	1.24
21----	----	1.37	1.46	1.57	1.64	----	----	1.33	1.25
22----	1.31	1.38	1.48	1.58	1.62	----	----	----	1.18
23----	1.30	1.38	1.47	1.57	----	----	1.38	----	----
24----	1.29	1.37	1.47	1.56	1.65	1.59	1.49	1.42	1.35
25----	1.31	1.39	1.48	1.58	1.63	1.53	1.45	1.36	1.28
26----	1.27	1.35	1.45	1.55	1.64	1.56	1.45	1.37	1.29
27----	----	1.39	1.48	1.59	1.64	1.56	1.44	1.37	1.28
28----	1.30	1.37	1.46	1.57	1.64	1.55	1.44	1.34	1.27
29----	1.28	1.36	1.40	1.56	1.63	1.52	1.41	1.30	1.22
30----	1.29	1.37	1.46	1.56	1.63	1.53	1.41	1.32	1.24
31----	1.24	1.33	1.42	1.53	1.61	1.52	1.38	1.29	1.22
Averages	1.28	1.36	1.45	1.57	1.63	1.54	1.43	1.34	1.25

HILO, HAWAII

	Air mass				*				
Dec.									
15----	----	----	----	----	1.32	----	----	----	----
16----	----	----	1.04	----	----	----	----	----	----
18----	----	----	----	1.23	----	----	----	----	----
19----	----	0.93	1.05	----	----	----	----	----	----
31----	0.88	1.00	1.13	1.28	1.43	1.28	1.13	1.00	0.85
Averages	0.88	0.97	1.07	1.26	1.38	1.28	1.13	1.00	0.85

( ) Clouds present
* Values corresponding to true solar noon

Langley is the unit used to denote one gram calorie per square centimeter. An explanation of the formula used in computing the air mass values for each station listed above appears in the February 1957 issue, Vol. 6, No. 2, page 63, of this publication.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. DECEMBER 1961

1961	Albuquerque, N. Mex.	Ames, Iowa	Annette, Alaska	Apalachicola, Fla.	Astoria, Oreg.	Bethel, Alaska	Bismarck, N. Dak.	Blue Hill Obs., Mass.	Boise, Idaho	Boston, Mass.	Brownsville, Tex.	Caribou, Me.	Charleston, S. C.	Columbia, Mo.	Corvallis, Oreg.	Dodge City, Kans.	East Lansing, Mich.	El Paso, Tex.	Ely, Nev.	Fairbanks, Alaska	Flaming Gorge, Utah	Fort Worth, Tex.	Fresno, Calif.	Gainesville, Fla.	Glasgow, Mont.	Grand Junction, Colo.	Great Falls, Mont.	Greensboro, N. C.	Griffin, Ga.	Cape Hatteras, N. C.	Hilo, Hawaii	Indianapolis, Ind.	Inyokern, China Lake, Calif.	Lake Charles, La.	Lander, Wyo.	Laramie, Wyo.	Las Vegas, Nev.	Lemont, Ill.
Dec. 3	225	37	16	359	111	55	---	98	62	98	333	110	290	149	110	194	170	164	161	3	279	180	231	345	112	332	125	289	334	315	186	152	348	291	169	190	305	24
Dec. 4	343	139	33	349	20	52	193	183	146	170	319	41	266	71	20	278	15	253	274	3	276	100	119	337	150	330	73	238	299	308	141	36	349	120	239	240	311	1
Dec. 5	348	227	23	316	122	43	81	39	145	48	317	15	210	276	110	282	209	354	278	19	214	28	79	307	96	321	128	110	63	123	107	299	348	---	236	236	308	186
Dec. 6	279	63	11	183	101	13	176	207	163	211	275	73	132	274	104	284	161	337	286	17	167	76	53	338	144	322	163	169	52	76	107	---	344	156	192	242	306	90
Dec. 7	266	231	17	306	53	10	134	118	47	116	191	75	324	280	95	156	82	61	---	17	281	144	154	329	113	316	39	306	360	353	335	231	356	159	209	244	322	105
Dec. 8	146	89	24	365	165	12	82	159	198	162	202	136	316	82	86	24	146	210	261	2	155	37	86	369	120	139	81	315	264	335	247	207	346	39	134	120	281	133
Dec. 9	127	80	65	182	155	6	180	174	215	181	282	105	230	87	121	99	20	274	181	1	151	200	195	350	169	256	128	86	114	140	194	27	341	---	199	184	294	3
Average	248	124	27	294	104	27	141	140	139	141	274	79	253	174	92	188	115	236	240	9	217	109	131	339	129	288	105	216	213	236	188	159	348	153	197	208	304	77
Dec. 10	333	213	22	297	157	10	(185)	21	161	20	257	76	172	149	146	98	41	365	233	3	206	40	156	318	136	152	---	23	50	85	254	49	336	138	242	197	104	41
Dec. 11	146	98	28	237	57	14	183	142	151	140	224	126	187	53	141	98	84	228	269	5	(269)	---	68	264	163	343	172	36	69	36	218	36	342	141	256	236	307	10
Dec. 12	345	238	15	212	68	16	185	25	117	26	27	149	201	318	95	(305)	36	343	255	2	228	349	191	210	164	303	165	56	25	288	341	64	300	---	256	242	239	84
Dec. 13	238	260	19	139	18	25	80	157	105	166	48	118	203	307	37	(301)	123	224	---	2	243	280	130	125	73	332	91	308	353	91	85	249	314	183	139	212	306	181
Dec. 14	188	235	12	134	28	37	187	202	124	204	182	158	182	181	38	306	120	306	---	2	197	55	153	273	161	188	90	138	67	240	(215)	49	121	51	214	206	---	140
Dec. 15	77	231	73	295	24	40	162	205	77	213	29	175	65	242	30	157	198	240	---	3	228	66	144	184	136	204	87	167	61	256	378	216	326	59	223	212	---	182
Dec. 16	101	56	28	71	11	41	174	211	139	217	59	177	36	44	23	138	136	140	---	6	136	250	74	93	150	209	135	48	36	121	(345)	33	329	101	260	169	275	62
Average	204	190	28	198	52	26	(165)	138	125	141	118	140	150	185	73	(200)	105	264	---	3	(215)	173	131	210	140	247	123	111	95	160	(262)	99	295	112	227	211	246	100
Dec. 17	299	142	19	292	82	45	108	57	135	52	166	171	104	48	80	283	14	329	---	7	230	218	140	289	47	156	52	58	38	136	243	40	242	65	205	170	243	21
Dec. 18	197	62	43	153	20	32	42	18	125	15	354	72	53	40	24	153	48	351	160	10	159	332	130	135	156	260	140	155	243	177	299	42	306	290	226	115	174	15
Dec. 19	324	112	32	198	19	27	183	30	21	18	343	164	306	88	30	288	54	279	211	7	195	321	211	266	158	177	71	60	300	288	345	21	322	342	203	114	277	24
Dec. 20	---	138	26	374	18	19	129	24	157	20	224	37	316	236	14	227	44	355	177	10	241	338	221	370	156	218	101	239	222	315	360	64	326	344	223	204	287	85
Dec. 21	336	93	28	336	64	24	116	73	69	61	111	79	317	243	96	282	67	342	260	6	163	323	160	276	54	78	81	236	344	303	230	86	335	326	193	124	295	54
Dec. 22	337	27	25	359	14	23	79	167	170	175	265	104	311	25	117	282	111	357	---	6	254	327	107	366	143	326	73	276	343	325	184	158	337	---	222	211	297	108
Dec. 23	341	101	58	184	15	26	(177)	150	183	168	369	103	265	57	82	284	53	363	290	3	251	347	68	309	133	---	43	43	326	84	364	58	321	351	226	198	300	34
Average	306	96	33	271	33	28	(119)	74	123	73	262	104	239	105	63	257	56	339	220	7	213	315	148	287	121	203	80	152	259	233	289	67	313	286	214	162	267	49
Dec. 24	340	227	63	380	47	34	126	17	123	23	352	122	325	127	35	278	201	356	298	4	255	343	48	---	91	298	83	278	177	169	275	152	336	343	136	200	300	137
Dec. 25	346	155	44	358	54	41	129	193	131	198	214	57	310	---	181	270	59	361	221	5	214	345	38	313	134	308	152	312	348	335	274	64	341	334	136	202	306	91
Dec. 26	329	138	22	297	126	46	172	111	198	110	350	170	332	234	157	258	56	360	---	2	205	329	42	319	177	224	---	316	343	339	394	215	331	75	268	188	302	111
Dec. 27	346	214	9	165	20	52	74	139	144	125	313	---	286	221	102	(293)	55	363	205	3	232	347	28	316	---	---	129	249	139	290	281	137	341	152	200	197	285	220
Dec. 28	339	171	11	399	49	55	159	20	196	16	352	26	293	260	49	286	132	366	286	3	116	344	34	387	162	276	60	266	305	127	285	215	269	340	214	116	289	219
Dec. 29	330	183	21	398	39	31	177	200	111	197	160	60	332	269	88	225	185	361	272	4	231	233	47	397	102	277	86	316	369	340	289	126	322	342	172	137	304	174
Dec. 30	343	188	20	373	168	8	49	196	161	196	316	121	---	---	52	260	140	369	276	1	128	336	49	395	101	314	62	322	355	379	222	189	342	251	212	122	306	223
Dec. 31	342	196	6	72	149	14	61	196	191	199	268	118	317	74	111	254	140	363	256	3	(263)	334	64	99	123	343	145	132	180	368	444	77	216	287	229	214	240	147
Average	339	184	25	305	81	35	119	134	157	133	291	96	313	198	97	(266)	121	362	259	3	(205)	326	44	318	127	291	102	274	277	293	305	147	312	265	196	172	291	165

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys.

DECEMBER 1961

1961	Lexington, Ky.	Little Rock, Ark.	Los Angeles, Calif.	Los Angeles, Calif. (urban)	Madison, Wis.	Manhattan, Kans.	Matanuska, Alaska	Mauna Loa Obs. Hawaii	Medford, Oreg.	Miami, Fla.	Midland, Tex.	Nashville, Tenn.	Newport, R. I.	North Omaha, Nebr.	Oak Ridge, Tenn.	Oklahoma City, Okla.	Page, Ariz.	Phoenix, Ariz.
Dec. 3	---	247	266	260	57	70	29	306	94	405	197	195	111	31	179	100	296	219
Dec. 4	141	154	285	291	86	192	11	142	87	301	119	94	193	207	82	132	301	291
Dec. 5	202	88	296	(301)	229	246	18	---	131	210	96	96	62	219	125	229	297	328
Dec. 6	317	338	250	256	110	249	46	289	110	364	346	273	225	195	253	309	297	227
Dec. 7	315	276	295	299	86	190	19	278	66	368	54	260	141	235	266	184	299	195
Dec. 8	286	56	---	152	150	10	4	509	147	288	121	120	178	46	194	23	144	314
Dec. 9	32	23	---	220	41	76	3	441	114	348	297	5	182	82	20	60	255	224
Average	215	169	278	(254)	108	148	18	327	107	326	176	149	156	145	160	148	270	257
Dec. 10	---	198	---	190	156	188	7	518	161	336	60	35	21	236	58	56	114	63
Dec. 11	43	27	---	273	81	79	21	515	163	359	107	27	182	85	29	56	373	308
Dec. 12	39	286	---	168	176	176	6	499	176	388	324	18	39	252	30	---	304	218
Dec. 13	312	359	---	278	---	275	9	216	73	397	203	239	136	251	267	295	244	209
Dec. 14	136	99	53	65	218	249	7	420	63	387	197	120	215	244	117	204	231	76
Dec. 15	250	53	---	268	---	194	14	431	46	409	87	70	219	209	111	121	(120)	28
Dec. 16	---	20	---	282	83	22	25	508	36	390	292	15	220	49	18	101	274	177
Average	156	149	---	218	143	169	13	444	102	381	181	75	148	190	90	139	(237)	154
Dec. 17	---	15	177	197	115	80	17	509	56	398	334	19	45	115	23	76	223	199
Dec. 18	---	67	147	127	192	31	18	492	32	383	316	39	26	80	138	88	275	287
Dec. 19	133	154	236	245	116	193	18	(502)	21	216	227	69	54	158	197	312	265	295
Dec. 20	49	315	252	266	180	200	---	489	---	297	324	50	48	114	55	303	286	316
Dec. 21	97	337	53	170	89	262	18	466	180	168	326	227	118	213	148	297	(159)	319
Dec. 22	277	52	239	279	54	148	33	504	102	222	334	240	210	81	225	301	112	308
Dec. 23	96	81	291	293	119	75	36	505	45	172	334	42	176	75	124	310	127	337
Average	130	146	199	225	124	141	23	(495)	73	265	314	98	97	120	130	241	(207)	294
Dec. 24	80	135	301	300	114	225	36	517	71	357	349	49	18	170	56	310	115	315
Dec. 25	205	---	212	279	162	211	37	512	141	402	331	174	207	177	205	306	301	320
Dec. 26	300	134	227	246	103	184	8	502	81	375	332	255	157	104	259	271	295	315
Dec. 27	70	345	270	275	234	263	38	510	147	279	340	41	167	186	22	309	259	316
Dec. 28	146	301	208	180	211	170	37	507	42	373	340	154	17	139	243	301	320	286
Dec. 29	154	365	289	287	225	264	24	511	30	364	328	263	206	253	252	172	304	311
Dec. 30	310	298	285	291	182	111	7	498	25	386	336	242	201	133	292	187	308	312
Dec. 31	---	197	128	128	124	26	6	505	65	406	332	88	208	78	38	272	304	299
Average	181	254	240	248	169	182	24	508	75	368	336	158	148	155	171	266	276	309

1961	Prosser, Wash.	Pullman, Wash.	Rapid City, S. Dak.	Riverside, Calif.	St. Cloud, Minn.	Salt Lake City, Utah	San Antonio, Tex.	Santa Maria, Calif.	S. Ste. Marie, Mich.	Sayville, N. Y.	Seattle, Wash.	Seattle-Tacoma, Wash.	Shreveport, La.	Spokane, Wash.	State College, Pa.	Stillwater, Okla.	Swan Island, W. I.	Tampa, Fla.	Tucson, Ariz.	Washington, D. C. (Obs & Test Dev Ctr)
Dec. 3	124	139	170	256	21	80	185	260	22	174	105	110	226	157	230	141	242	369	284	205
Dec. 4	95	33	211	285	54	270	192	311	92	157	45	36	158	45	67	91	272	369	(295)	141
Dec. 5	116	134	59	290	119	204	156	314	17	79	97	90	17	137	223	225	167	364	349	156
Dec. 6	176	156	---	255	150	239	218	314	33	165	71	107	52	166	217	275	337	368	274	256
Dec. 7	156	74	204	314	184	214	40	318	52	103	37	51	221	72	199	212	284	329	102	263
Dec. 8	87	68	133	148	77	244	34	311	109	166	95	96	53	110	97	9	219	370	93	264
Dec. 9	74	124	185	218	75	112	279	(305)	47	157	137	148	40	126	56	30	359	361	106	38
Average	118	104	160	252	97	195	158	(305)	53	143	84	91	110	116	156	140	268	362	(215)	189
Dec. 10	187	---	215	137	198	277	41	172	26	7	150	159	34	155	60	57	315	351	251	37
Dec. 11	105	117	119	265	103	236	66	295	113	181	30	44	38	65	98	38	323	294	152	93
Dec. 12	92	111	---	157	163	178	341	182	34	20	41	43	179	81	19	307	288	347	329	24
Dec. 13	91	106	178	271	158	238	120	176	145	156	21	35	271	61	191	244	275	315	140	242
Dec. 14	82	105	135	24	201	121	80	---	87	231	36	49	40	54	202	189	217	347	124	192
Dec. 15	143	78	211	280	137	163	60	172	139	261	13	36	28	74	243	137	374	325	53	252
Dec. 16	86	117	133	251	139	146	198	278	99	259	17	25	25	54	191	80	374	279	57	174
Average	113	106	165	198	157	194	129	213	92	159	44	56	88	78	143	150	309	323	158	145
Dec. 17	190	59	162	187	170	88	260	236	44	22	75	110	33	44	27	56	334	300	199	60
Dec. 18	36	92	81	113	56	---	331	255	68	11	13	30	274	47	65	46	370	342	329	66
Dec. 19	47	35	170	252	90	---	316	278	70	15	22	29	298	29	16	273	222	230	328	40
Dec. 20	33	68	176	274	150	---	327	278	100	80	13	17	303	52	46	286	220	196	344	128
Dec. 21	149	96	71	277	73	74	218	265	136	178	60	66	259	149	105	263	292	256	---	157
Dec. 22	114	88	189	284	(45)	248	230	286	166	235	43	27	171	68	151	263	---	368	---	171
Dec. 23	33	55	163	292	139	---	343	283	134	179	15	22	291	45	57	---	---	356	347	48
Average	86	70	145	240	(103)	---	289	269	103	103	35	43	233	62	67	198	288	293	309	96
Dec. 24	49	31	156	292	169	---	335	278	56	14	127	114	288	---	82	---	---	256	---	81
Dec. 25	162	130	114	284	67	---	294	286	152	258	49	43	293	127	152	265	---	330	---	237
Dec. 26	181	117	156	263	194	---	320	290	74	164	110	111	146	72	205	146	---	364	342	213
Dec. 27	76	118	194	282	176	91	347	294	109	212	34	47	238	91	107	---	239	357	---	213
Dec. 28	78	21	194	168	140	98	340	160	166	28	30	31	284	26	141	264	272	345	338	146
Dec. 29	109	65	95	273	146	---	336	293	109	209	94	44	277	53	165	244	68	116	340	260
Dec. 30	143	157	87	275	72	241	140	305	83	212	64	67	257	71	181	---	123	382	346	274
Dec. 31	179	157	190	137	160	254	343	157	107	236	142	147	120	52	234	---	318	32	290	255
Average	122	100	148	247	140	171	307	258	107	167	81	75	238	70	158	230	204	273	331	210

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

TOTAL OZONE DATA

The total amount of ozone is expressed in 10^{-3} cm. at STP. These data are provisional values applicable to local noon, and are obtained from measurements with a Dobson ozone spectrophotometer using the sun or zenith sky as a light source (see explanation below).

DECEMBER 1961

Station	Day of month																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Bismarck, N. Dak.	241	145	---	297	---	---	325	---	345	378	390	387	---	333	318	317	---	---	320	---	---	---	340	---	317	372	---	382	368	---	---
Caribou, Maine	---	---	302	---	---	321	---	321	---	---	---	318	302	321	363	320	302	---	291	---	---	---	---	357	---	412	---	---	---	---	---
Green Bay, Wis.	---	---	---	282	291	---	---	284	---	---	---	---	277	294	266	---	---	---	---	294	323	---	---	---	310	316	366	351	410	---	---
Hallett Station	298	296	*269	*275	*220	199	*250	*270	*230	†245	*256	298	*256	*240	*240	†275	†248	*230	†250	276	†296	*283	*281	*287	*273	*267	240	*248	254	*254	*234
Mauna Loa, Hawaii	258	268	---	---	---	---	---	265	274	274	---	294	---	296	288	285	281	275	271	273	273	272	267	269	270	270	272	267	268	260	249
Midland, Texas	195	195	---	---	---	194	---	---	228	---	---	279	225	---	---	240	260	262	---	230	222	252	235	232	233	236	261	260	259	245	220
Nashville, Tenn.	293	---	272	---	---	272	265	---	---	---	---	---	277	---	---	---	---	---	---	---	---	299	---	---	321	294	---	356	---	355	---
Sterling, Va.	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	*301	319	---	333	---	---	---	†318	310	---	395	422	360

The spectrophotometer measures the total amount of ozone in the atmosphere, i.e., the amount contained in a vertical column of air extending from the ground to the top of the atmosphere in the vicinity of the station. The amount of ozone in this column is expressed in terms of thickness of a layer it would occupy at standard temperature and pressure.

The standard method of measurement is that on direct sun using A(3055Å and 3254Å) and D(3176Å and 3398Å) wavelength pairs. Observations made on the clear zenith sky are slightly less accurate, and are marked with a dagger (†). Observations made on zenith cloud are least reliable, and are marked with an asterisk (*). A detailed description of the spectrophotometer and observational procedures may be found in the "Observers' Handbook For the Ozone Spectrophotometer", Annals of the International Geophysical Year, Volume V, Pergaman Press, 1957.

CONDENSED CLIMATOLOGICAL SUMMARY

DELAYED DATA

Section	Temperature						Precipitation			
	Monthly extremes						Monthly extremes			
	Station	Highest	Date	Station	Lowest	Date	Station	Greatest	Station	Least
		°F			°F			In.		In.
May 1961										
Alaska	Allakaket	75	23	Barter Island WBAP	-11	1	Whittier	28.06	2 Stations	0.01
June 1961										
Alaska	Summit FAA	89	18	Wainwright	20	6	Little Port Walter	20.08	Barrow WBAP	.08
Hawaii	3 Stations	90	28+	Haleakala Summit	30	25	Kahana	18.90	4 Stations	.00
July 1961										
Alaska	4 Stations	86	31+	Wainwright	22	9	Port Alexander	18.98	Teller	.10
Hawaii	3 Stations	90	28+	Haleakala Summit	32	12	Waiawa	20.79	5 Stations	.00
August 1961										
Alaska	Hollis	85	19	Kenney Lake	21	29	Annex Creek	24.99	Teller	.11
Hawaii	U. S. Magnetic Obsy	93	4	Mauna Loa Slope Obsy	35	30+	Kahana	19.33	5 Stations	.00
September 1961										
Alaska	2 Stations	76	11	Nenana FAA	14	30	Whittier	17.48	Teller	.18
Hawaii	Coconut Island	92	9	Mauna Loa Slope Obsy	31	10	N. Wailua Ditch	18.66	9 Stations	.00
October 1961										
Alaska	2 Stations	61	30+	Allakaket	-29	31	Beaver Falls	40.23	Teller	.06
Hawaii	Upolu Point USCG	95	14	Mauna Loa Slope Obsy	29	5	Papaikou Mauka	41.58	Pulehu	.27
November 1961										
Hawaii	2 Stations	90	6+	Mauna Loa Slope Obsy	26	30	Saddle Road	39.01	Niu Ridge	.19

See reference notes with current data.

STORM SUMMARY

DELAYED DATA

STATE	TORNADOES					HAILSTORMS				WINDSTORMS				LIGHTNING				‡ HEAVY SNOWSTORMS AND BLIZZARDS				# ICE STORMS				Ø ALL OTHER			
								†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE				†DAMAGE	
	NUMBER	DAYS	DEATHS	INJURIES	†DAMAGE	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS	DEATHS	INJURIES	PROP-ERTY	CROPS
January 1961																													
Delaware																		1	?	5	0								
Maryland																		5	?	6	0								
June 1961																													
Hawaii *																													
July 1961																													
Hawaii *																													
September 1961																													
Louisiana	11	4	6	110	6	0	0	°3	C																	D6	D199	7	7
Mississippi *																													
Oklahoma										0	2	5	5													0	0	5	5
November 1961																													
Louisiana	6	3	0	5	5					0	0	4	0													0	0	5	0
Mississippi	5	2	0	2	5																								

D Includes 6 dead and 110 injured in tornadoes spawned by hurricane CARLA.

Also see reference notes with current data.

RAWINSONDE DATA

Average monthly values

DELAYED DATA

Standard pressure surface mb.	1 MERIDA, MEXICO (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	1 SWAN ISLAND, W. I. (1012 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	11	23.3	95	99	5.4	30	10	26.8	82	99	11.7
1,000--	30	123	23.6	90	103	10.3	30	116	26.0	81	98	14.2
950----	30	571	22.4	81	131	18.3	30	568	22.7	83	106	18.7
900----	30	1,043	20.3	72	133	16.3	30	1,038	19.6	81	110	21.8
850----	30	1,536	17.9	64	130	13.0	30	1,530	16.8	74	110	22.2
800----	30	2,054	15.2	59	131	10.5	30	2,045	14.3	64	111	20.0
750----	30	2,595	11.9	56	136	10.1	30	2,589	11.6	58	114	19.6
700----	30	3,173	8.3	55	143	9.3	30	3,164	8.5	56	112	18.5
650----	30	3,779	4.7	50	143	8.5	30	3,772	5.1	52	112	16.5
600----	30	4,431	1.1	49	137	7.6	30	4,423	1.4	50	118	14.6
550----	30	5,122	-2.6	39	121	7.6	30	5,110	-2.5	45	124	10.1
500----	30	5,877	-6.9	35	105	7.0	30	5,870	-7.1	40	123	8.7
450----	30	6,687	-12.0		87	7.4	30	6,679	-11.8	36	119	6.6
400----	30	7,584	-17.9		62	4.1	30	7,578	-17.6		114	5.1
350----	30	8,570	-24.4		27	2.7	30	8,564	-24.4		74	2.1
300----	30	9,674	-32.7		318	6.4	30	9,669	-32.7		331	2.7
250----	30	10,932	-42.7		309	10.7	30	10,927	-42.6		297	6.6
200----	30	12,400	-54.3		308	15.3	30	12,395	-54.7		298	10.1
175----	30	13,243	-60.6		312	17.5	30	13,237	-61.4		293	12.6
150----	30	14,188	-66.8		328	18.1	29	14,177	-68.2		315	13.8
125----	30	15,274	-72.3		352	15.6	29	15,256	-73.5		359	11.5
100----	30	16,583	-72.4		48	15.5	28	16,563	-72.6		49	10.1
80----	30	17,903	-69.7		82	22.2	28	17,875	-71.5		76	18.3
70----	30	18,710	-65.9		90	23.5	28	18,677	-68.4		83	22.7
60----	30	19,650	-61.8		90	27.0	28	19,602	-64.1		86	26.2
50----	30	20,787	-58.4		88	29.9	28	20,731	-59.4		87	30.9
40----	30	22,201	-54.5		90	31.7	28	22,141	-55.7		93	30.1
30----	29	24,062	-50.3		91	28.0	28	23,992	-51.2		97	26.2
25----	29	25,259	-47.2		91	28.2	25	25,185	-48.3		99	23.3
20----	25	26,738	-44.3		91	24.5	21	26,660	-45.8		95	21.2
15----	20	28,678	-41.6		85	22.0	13	28,591	-42.5			

Standard pressure surface mb.	1/ YUMA, ARIZ. (991 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	2/ MERIDA, MEXICO (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	131	25.1	33	28	1.0	31	11	23.3	97	86	5.6
1,000--	30	53					31	137	23.9	90	95	10.3
950----	30	504	28.4	25	222	4.3	31	587	23.0	80	115	18.7
900----	30	986	27.4	19	240	7.2	31	1,059	20.8	73	116	19.2
850----	30	1,488	24.3	20	253	6.4	31	1,553	17.9	67	115	18.7
800----	30	2,014	20.6	21	254	3.5	31	2,070	15.0	60	112	17.3
750----	30	2,560	16.2	22	212	3.7	31	2,605	11.9	54	111	16.9
700----	30	3,148	11.8	23	197	4.7	31	3,190	8.4	53	108	16.1
650----	30	3,757	6.9	25	192	6.4	31	3,795	4.9	50	108	16.1
600----	30	4,413	2.0	30	191	7.4	31	4,448	1.1	48	111	15.7
550----	30	5,102	-3.3	35	200	6.6	31	5,137	-2.9	45	102	12.8
500----	30	5,854	-8.8	34	217	7.8	31	5,893	-7.4	47	103	11.7
450----	30	6,652	-14.4	24	240	8.0	31	6,704	-12.3	51	95	9.5
400----	30	7,544	-20.8	20	251	9.3	31	7,599	-17.8	48	82	6.4
350----	30	8,516	-28.6	21	257	12.4	31	8,584	-24.7	43	84	4.1
300----	30	9,600	-37.3	22	254	14.6	31	9,687	-33.1	39	260	1.7
250----	30	10,836	-46.2		248	18.3	31	10,942	-43.2		264	7.2
200----	28	12,290	-55.3		252	24.3	31	12,406	-55.0		270	14.8
175----	26	13,129	-59.1		254	30.7	31	13,247	-61.3		280	14.0
150----	26	14,088	-62.1		261	24.1	31	14,189	-67.6		290	10.9
125----	25	15,212	-64.8		265	15.3	31	15,276	-70.5		27	6.6
100----	19	16,566	-66.8		244	6.0	30	16,603	-70.1		70	18.8
80----	10	17,888	-64.9		103	7.8	30	17,939	-67.0		88	26.0
70----	9	18,708	-61.8				30	18,753	-64.8		88	27.6
60----	8	19,665	-59.7				30	19,696	-61.7		85	30.9
50----	8	20,813	-56.5				30	20,836	-58.2		90	36.5
40----	6	22,241	-53.9				30	22,250	-55.0		97	35.0
30----	6	24,106	-49.6				29	24,107	-50.4		92	31.9
25----							22	25,298	-48.8		90	29.1
20----							18	26,770	-45.8		84	30.7
15----							12	28,716	-43.2			

Standard pressure surface mb.	2/ SAN JUAN, P. R. (1017 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	2 YUMA, ARIZ. (993 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	[illegible]	25.5	85	92	2.1	29	131	27.7	46	65	1.9
1,000--	31	151	25.1	81	92	11.1	29	64				
950----	31	598	22.2	79	93	19.4	29	518			200	2.5
900----	31	1,070	19.2	81	94	21.2	29	1,002	27.7	31	187	8.4
850----	31	1,560	16.5	77	95	19.6	29	1,506	24.9	32	199	7.8
800----	31	2,075	14.4	63	97	18.5	29	2,034	21.5	33	165	6.4
750----	31	2,605	11.8	52	102	19.0	29	2,582	17.1	36	146	9.5
700----	31	3,192	8.5	46	104	15.9	29	3,172	12.6	37	148	9.9
650----	31	3,794	4.8	41	101	16.3	29	3,780	7.8	40	136	11.7
600----	31	4,449	.9	40	97	14.8	29	4,443	2.6	48	133	10.9
550----	30	5,135	-2.9	32	96	14.2	29	5,132	-2.3	49	133	10.1
500----	30	5,893	-6.9		94	13.2	29	5,890	-7.6	45	135	8.2
450----	30	6,701	-12.2		93	10.9	29	6,694	-12.8	37	116	4.9
400----	30	7,598	-18.4		94	9.5	29	7,592	-18.5	30	158	2.7
350----	30	8,580	-25.8		108	4.9	29	8,574	-25.8	32	189	4.1
300----	30	9,677	-34.4		185	2.3	29	9,672	-34.0	27	199	7.6
250----	30	10,925	-44.2		260	4.5	29	10,926	-43.0		203	12.2
200----	30	12,383	-56.1		255	13.8	29	12,394	-53.8		222	15.0
175----	30	13,222	-61.4		263	11.7	29	13,241	-59.7		221	15.9
150----	30	14,166	-66.5		269	9.3	29	14,198	-64.9		224	10.5
125----	30	15,261	-69.5		273	2.1	29	15,284	-69.3		200	6.2
100----	30	16,585	-71.3		83	11.7	31	11	22.2	97	101	2.9
80----	30	17,918	-67.2		85	24.9	31	135	24.1	88	113	6.6
70----	30	18,729	-64.5		87	29.9	31	581	23.2	78	127	11.5
60----	30	19,678	-61.6		90	31.7	31	1,058	20.9	71	123	10.5
50----	30	20,816	-58.6		94	32.3	31	1,552	18.1	66	117	9.5
40----	30	22,233	-55.2		94	31.9	31	2,070	15.1	30	120	9.1
30----	26	24,098	-50.5		96	30.1	31	2,608	11.7	59	121	8.0
25----	25	25,290	-47.8		93	27.8	31	3,192	8.3	58	124	8.2
20----	21	26,771	-44.7		90	28.2	31	3,792	4.7	55	118	7.4
15----	14	28,711	-42.0				31	4,449	1.1	53	116	6.6
10----							31	5,134	-2.9	50	105	6.6
7----							31	5,895	-7.3	46	96	7.2
							31	6,705	-12.3	42	75	7.0
							31	7,603	-18.9	37	81	5.6
							31	8,587	-24.9	35	77	3.5
							31	9,690	-33.1	32	54	1.4
							31	10,945	-43.0		318	2.1
							31	12,410	-54.7		301	5.1
							31	13,252	-60.9		297	4.3
							31	14,196	-66.7		314	1.6
							31	15,287	-70.1		61	3.9
							31	16,610	-70.9		83	15.7
							31	17,941	-67.0		93	23.1
							31	18,755	-63.8		89	24.9
							31	19,705	-60.7		84	29.1
							30	20,848	-57.4		89	31.9
							22	22,266	-53.3		94	32.3
							17	24,128	-50.8		92	31.5
							14	25,325	-47.3		90	31.7
							6	26,811	-44.5			

Standard pressure surface mb.	3/ MERIDA, MEXICO (1014 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	3/ YUMA, ARIZ. (995 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	11	22.2	97	101	2.9	26	131	28.3	57	120	0.8
1,000--	31	135	24.1	88	113	6.6	26	82				
950----	31	581	23.2	78	127	11.5	26	536	29.3	42	228	2.7
900----	31	1,058	20.9	71	123	10.5	26	1,020	26.8	41	196	4.3
850----	31	1,552	18.1	66	117	9.5	26	1,522	23.4	42	181	5.2
800----	31	2,070	15.1	30	120	9.1	26	2,047	19.4	44	160	6.0
750----	31	2,608	11.7	59	121	8.0	26	2,594	15.2	47	142	8.0
700----	31	3,189	8.3	58	124	8.2	26	3,179	10.5	51	142	8.7
650----	31	3,792	4.7	55	118	7.4	26	3,787	5.8	52	147	8.7
600----	31	4,449	1.1	53	116	6.6	26	4,442	1.3	50	158	9.3
550----	31	5,134	-2.9	50	105	6.6	26	5,132	-3.1	45	156	8.4
500----	31	5,895	-7.3	46	96	7.2	26	5,886	-7.7	44	159	7.2
450----	31	6,705	-12.3	42	75	7.0	26	6,692	-12.5	37	161	6.8
400----	31	7,603	-18.9	37	81	5.6	26	7,588	-18.9	36	167	8.7
350----	31	8,587	-24.9	35	77	3.5	26	8,569	-25.9	35	183	12.0
300----	31	9,690	-33.1	32	54	1.4	26	9,667	-34.2	31	190	14.6
250----	31	10,945	-43.0		318	2.1	26	10,919	-43.4		188	21.2
200----	31	12,410	-54.7		301	5.1	23	12,385	-54.4		190	25.6
175----	31	13,252	-60.9		297	4.3	23	13,229	-60.1		197	23.1
150----	31	14,196	-66.7		314	1.6	20	14,181	-64.9		203	18.7
125----	31	15,287	-70.1		61	3.9	15	15,287	-67.1		196	8.9
100----	31	16,610	-70.9		83	15.7	8	16,624	-65.6			
80----	31	17,941	-67.0		93	23.1						
70----	31	18,755	-63.8		89	24.9						
60----	31	19,705	-60.7		84	29.1						
50----	30	20,848	-57.4		89	31.9						
40----	22	22,266	-53.3		94	32.3						
30----	17	24,128	-50.8		92	31.5						
25----	14	25,325	-47.3		90	31.7						
20----	6	26,811	-44.5									
15----												
10----												
7----												

Standard pressure surface mb.	4/ MERIDA, MEXICO (1011 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	4/ YUMA, ARIZ. (996 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	11	23.0	97	109	2.7	29	131	23.1	43		0.0
1,000--	30	103	24.1	91	91	7.2	29	70				
950----	30	554	23.0	84	109	14.0	29	519	26.6	33	278	3.3
900----	30	1,026	21.0	76	106	11.5	29	995	23.5	33	245	4.3
850----	30	1,520	18.3	71	108	9.7	29	1,491	20.2	31	220	3.3
800----	30	2,039	15.6	65	113	8.7	29	2,010	16.6	30	190	6.6
750----	30	2,582	12.6	61	122	8.7	29	2,552	12.9	30	196	6.4
700----	30	3,162	9.1	59	114	8.2	29	3,132	9.4	29	222	6.8
650----	30	3,771	5.5	57	104	8.2	29	3,737	5.8	31	229	10.7
600----	30	4,425	1.9	53	107	8.0	29	4,392	1.7	30	243	14.0
550----	30	5,115	-2.0	51	93	7.0	29	5,080	-2.8	28	247	14.8
500----	30	5,876	-6.6	52	87	5.4	29	5,836	-7.5	24	256	15.5
450----	30	6,690	-11.6	51	76	6.2	29	6,641	-13.1	24	263	18.3
400----	30	7,588	-17.1	48	71	5.2	29	7,534	-20.1	26	263	21.2
350----	30	8,575	-24.0	39	49	4.5	29	8,510	-27.7	34	258	29.1
300----	30	9,682	-32.0		36	1.4	29	9,600	-35.8	32	259	35.8
250----	30	10,944	-41.6		28	1.9	29	10,844	-44.6		255	44.3
200----	30	12,419	-53.3		21	6.0	27	12,305	-53.7		252	49.9
175----	30	13,266	-59.6		22	8.9	25	13,156	-58.9		253	45.3
150----	30	14,216	-65.7		39	1.1	23	14,115	-64.4		252	37.9
125----	30	15,308	-71.1		52	14.2	20	15,217	-68.9		254	33.4
100----	30	16,620	-72.2		60	14.6	13	16,545	-69.5		262	20.8
80----	30	17,945	-68.3		85	19.0	7	17,895	-65.8			
70----	30	18,757	-64.7		87	19.6	6	18,725	-62.6			
60----	29	19,702	-61.4		89	18.7						
50----	28	20,842	-58.0		86	22.3						
40----	28	22,259	-54.6		89	22.7						
30----	28	24,115	-51.1		86	23.3						
25----	27	25,305	-49.1		89	24.5						
20----	25	26,775	-45.7		93	24.7						
15----	18	28,692	-43.1		85	25.6						
10----	9	31,420	-38.3									
7----												

Standard pressure surface mb.	5/ MERIDA, MEXICO (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	5/ SWAN ISLAND, W. I. (1009 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	31	11	20.3	97	53	3.7	28	10	26.2	84	44	5.6
1,000--	31	120	23.1	87	62	7.6	28	92	25.7	84	45	7.6
950----	31	568	21.6	82	73	12.0	28	543	22.8	83	59	10.5
900----	31	1,038	18.6	81	69	10.1	28	1,014	20.0	79	68	10.1
850----	31	1,527	16.1	74	62	7.8	28	1,507	17.1	76	73	8.4
800----	31	2,041	13.5	70	50	4.9	28	2,023	14.2	76	80	7.8
750----	31	2,582	11.0	61	60	4.5	28	2,565	11.4	72	82	7.4
700----	31	3,158	8.5	55	53	3.7	28	3,143	8.6	67	79	6.4
650----	31	3,764	5.3	49	47	3.1	28	3,749	5.3	64	88	5.2
600----	31	4,418	1.8	47	26	4.3	28	4,404	1.7	60	103	5.2
550----	31	5,106	-1.7	41	38	4.3	28	5,094	-2.2	51	98	4.5
500----	31	5,870	-5.8	37	4	6.0	28	5,855	-6.6	53	94	5.6
450----	31	5,681	-11.0	36	356	5.6	28	6,668	-11.3	44	89	6.8
400----	31	7,585	-17.1		348	7.8	28	7,567	-17.0	42	80	7.0
350----	31	8,572	-24.5		336	8.5	28	8,555	-23.7		70	6.8
300----	31	9,675	-32.9		310	9.3	28	9,664	-31.8		47	2.9
250----	31	10,931	-42.8		292	12.6	28	10,926	-41.9		36	2.7
200----	31	12,398	-54.4		286	14.4	28	12,398	-54.2		334	3.1
175----	31	13,241	-60.7		280	15.2	27	13,241	-60.9		307	5.8
150----	30	14,187	-67.4		280	15.3	27	14,183	-68.1		311	7.6
125----	30	15,269	-73.1		275	10.9	27	15,259	-74.2		323	5.2
100----	30	16,567	-75.7		327	4.9	27	16,546	-77.7		43	4.9
80----	30	17,868	-70.6		36	6.2	26	17,843	-71.0		70	3.9
70----	30	18,674	-66.2		66	8.2	26	18,648	-67.2		97	5.6
60----	30	19,612	-62.5		82	8.7	25	19,580	-63.3		113	5.4
50----	30	20,745	-59.4		81	9.5	25	20,708	-60.2		99	8.5
40----	30	22,155	-55.9		80	12.0	24	22,112	-56.3		96	10.1
30----	29	24,001	-51.7		80	14.2	23	23,954	-52.7		97	13.2
25----	28	25,189	-49.3		79	13.8	22	25,138	-49.9		108	16.5
20----	28	26,665	-45.6		90	12.4	20	26,604	-47.3		109	18.1
15----	27	28,595	-42.3		72	10.3	11	28,515	-43.5			
10----	17	31,358	-37.9		87	13.6						
7----												

Standard pressure surface mb.	6/ MERIDA, MEXICO (1013 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed	6/ YUMA, ARIZ. (999 MB.) Number of observations	Dynamic height	Temperature	Relative humidity	Wind Direction	Wind Speed
SURFACE	30	11	20.0	96	94	5.2	30	131	10.9	44	349	2.1
1,000--	30	125	22.5	87	97	8.5	30	118				
950----	30	569	20.9	82	109	12.4	30	554	14.9	32	356	7.2
900----	30	1,039	18.2	80	104	8.5	30	1,007	12.5	32	2	5.4
850----	30	1,528	15.4	76	104	6.2	30	1,483	9.9	34	11	3.1
800----	30	2,041	13.2	67	100	5.1	30	1,984	7.4	36	320	3.5
750----	30	2,581	11.3	54	94	5.4	30	2,516	4.7	32	295	7.8
700----	30	3,158	8.9	41	95	4.1	30	3,071	1.9	29	289	10.7
650----	30	3,759	5.4	39	84	4.3	30	3,667	-1.1	30	285	14.2
600----	30	4,418	1.4	38	93	2.7	30	4,299	-5.1	30	285	16.3
550----	30	5,102	-2.7		42	2.7	30	4,978	-9.6	29	284	22.3
500----	30	5,864	-7.1		36	2.9	30	5,706	-14.6	27	279	27.6
450----	30	6,673	-12.3		314	3.1	30	6,498	-20.5	26	282	30.3
400----	30	7,570	-18.3		299	5.8	30	7,356	-26.2	27	284	34.8
350----	30	8,552	-25.8		281	8.0	30	8,308	-33.3	32	289	40.6
300----	30	9,649	-34.2		297	9.9	30	9,374	-40.6		286	46.4
250----	30	10,899	-44.0		291	12.4	30	10,595	-48.1		281	53.2
200----	30	12,357	-55.6		284	22.2	30	12,038	-56.5		277	56.3
175----	30	13,196	-61.7		284	22.3	30	12,878	-60.3		273	54.4
150----	30	14,137	-67.4		281	25.6	28	13,828	-62.9		268	45.5
125----	30	15,221	-72.6		284	23.1	24	14,947	-64.6		268	45.9
100----	30	16,517	-77.0		299	19.2	18	16,306	-66.2		268	34.2
80----	30	17,799	-75.1		308	11.5	15	17,654	-66.0		272	19.0
70----	30	18,590	-71.0		300	7.2	13	18,469	-64.4		276	8.4
60----	30	19,509	-64.7		295	3.5	12	19,414	-62.2		274	5.6
50----	30	20,633	-60.6		280	5.4	12	20,546	-60.4		262	5.2
40----	30	22,038	-56.2		288	5.1	12	21,943	-59.0		275	7.8
30----	28	23,881	-52.0		283	3.5	12	23,758	-56.5		281	9.5
25----	27	25,069	-49.8		72	.8	11	24,927	-54.8		285	8.4
20----	27	26,540	-46.5		153	2.5	10	26,363	-53.4		285	13.6
15----	27	28,464	-43.7			.0	8	28,211	-52.5			
10----	20	31,232	-39.6		138	4.3						
7----	5	33,650	-36.9									

1/ June 1961
2/ July 1961
3/ August 1961
4/ September 1961
5/ October 1961
6/ November 1961

Also see reference notes with current data.

SOLAR RADIATION DATA

Solar radiation intensities, tabulated in langleys per minute on a surface normal to the direction of the sun.

DELAYED DATA

MADISON, WIS.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
	Air mass 4.69	3.75	2.81	1.88	*	1.88	2.81	3.75	4.69
Nov. 1961									
5------	----	----	S 1.21	----	----	----	----	----	----
7------	M 0.52	M 0.75	M 1.01	----	----	----	----	----	----
9------	----	----	----	----	S 1.37	----	S 1.15	S 1.04	S 0.95
10-----	M .93	M .99	I .99	----	M 1.29	----	M 1.07	M .99	M .88
11-----	I .75	I .88	I .99	----	M 1.18	----	M .98	M .83	M .67
18-----	S .90	S 1.07	S 1.26	----	----	----	----	----	----
28-----	----	S 1.20	S 1.29	----	----	----	----	----	----
Averages	0.78	0.98	1.13	----	1.28	----	1.07	0.95	0.83

OMAHA, NEBR.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
	Air mass 4.78	3.82	2.87	1.91	*	1.91	2.87	3.82	4.78
Nov. 1961									
3------	M 0.83	M 0.95	S 1.08	S 1.25	S 1.27	1.12	HS0.92	HS0.80	----
5------	M .71	M .86	M .97	----	----	----	----	----	----
6------	M .71	M .83	S .99	S 1.22	S 1.22	S 1.24	S 1.00	S .86	S 0.67
7------	H .77	H .93	H 1.06	H 1.24	H 1.25	----	----	----	----
8------	----	----	M 1.05	M 1.23	M 1.25	M 1.15	M .92	M .81	M .60
9------	M .62	M .69	M .93	M 1.13	M 1.16	I 1.13	I .86	----	----
10-----	----	----	----	----	----	I .88	I .68	I .54	I .35
11-----	----	----	----	----	I .91	I .93	----	----	----
13-----	----	----	----	----	----	----	M .93	M .76	M .64
14-----	M .69	M .82	M .97	M 1.22	M 1.21	M 1.21	----	----	----
16-----	----	----	----	----	----	----	----	----	.83
17-----	S .80	S .91	----	----	----	----	----	----	----
23-----	.65	.77	.91	----	1.06	----	S 1.02	S .95	M .65
28-----	----	I .49	I .69	----	----	----	----	----	----
Averages	0.72	0.81	0.96	1.22	1.18	1.09	0.90	0.79	0.62

TUCSON, ARIZ.

Date	A.M. 78.7°	A.M. 75.7°	A.M. 70.7°	A.M. 60.0°	*	P.M. 60.0°	P.M. 70.7°	P.M. 75.7°	P.M. 78.7°
	Air mass 4.56	3.65	2.74	1.83	*	1.83	2.74	3.65	4.56
Sep. 1961									
1------	0.83	0.92	1.05	1.21	----	----	----	----	----
2------	.89	.98	1.09	1.23	1.39	----	----	----	----
3------	----	----	----	----	----	----	----	----	0.99
4------	.97	1.05	----	----	----	----	1.08	0.93	.83
5------	.85	.93	1.05	----	----	----	.92	.77	.67
6------	.81	.90	1.02	----	1.37	----	----	----	----
7------	.74	.83	.95	----	----	----	----	----	----
14-----	.79	.89	----	----	----	----	----	----	----
15-----	----	----	1.02	1.16	----	----	----	----	----
21-----	.90	----	----	----	----	1.25	1.10	1.00	.90
22-----	.91	----	----	----	----	----	----	.94	.82
23-----	----	----	----	----	1.44	1.33	1.17	1.06	.95
24-----	.96	1.07	1.16	1.30	1.44	1.28	1.14	----	----
26-----	.73	.84	----	----	----	----	----	----	----
27-----	.93	1.03	1.12	----	1.44	----	1.10	.96	.89
28-----	.86	.96	1.09	----	1.40	----	----	----	----
Averages	0.86	0.94	1.06	1.22	1.41	1.29	1.09	0.94	0.86

H Haze
S Slight haze - indeterminable
M Moderate haze - indeterminable
I Intense haze - indeterminable

Also see reference notes with current data.

CORRECTIONS

	Month:	1958 Annual
page 12:	San Antonio, Texas	Excessive short duration rainfall value for 120 minutes should be 4.11 inches.
	Month	April 1961
page 209:	Davis, Calif.	Solar radiation on the 8th should be 614, average 590.
	Month:	June 1961
page 288:	Hawaii	First line on right half of page from Total Precipitation column through Possible Sunshine column, data is for Lihue; the second line data is for Hilo; and the third line data is for Honolulu.
page 313:	Kotzebue, Alaska	20 mb. height should be 27,119 m.
	Month	July 1961
page 375:	Ithaca, N. Y.	Solar radiation values for the following dates should be: August 2, 18; August 5, 579; Average 427.
	Month.	August 1961
page 414:	Greenville, Maine	Heating degree days should be 87 and 177 accumulated.
	Month:	September 1961
page 467:	Denver, Colo.	Accumulated heating degree days should be 287; October 746; and November 1648.
	Kansas City, Mo.	Accumulated heating degree days should be 101; October 297; and November 923.

SOLAR RADIATION DATA

Daily totals and weekly averages of solar radiation (direct and diffuse) received on a horizontal surface, tabulated in langleys. DELAYED DATA

	Lemont, Ill.	Pullman, Wash.		Ames, Iowa	Pullman, Wash.		Pullman, Wash.		Lake Charles, La.	Stillwater, Okla.
1961			July			Aug.		Nov.		
June 4-----	715	723	2	741	810	6	---	5	122	223
June 5-----	652	768	3	709	480	7	---	6	285	351
June 6-----	568	518	4	644	528	8	706	7	411	349
June 7-----	434	760	5	136	391	9	705	8	402	---
June 8-----	342	---	6	593	748	10	683	9	419	326
June 9-----	479	794	7	633	807	11	670	10	156	175
June 10-----	586	682	8	671	807	12	656	11	228	275
Average-------	539	707		589	653		684		289	283
June 11-----	638	387	9	648	792	13	459	12	141	199
June 12-----	634	767	10	664	782	14	619	13	24	50
June 13-----	477	841	11	491	---	15	366	14	102	92
June 14-----	507	808	12	399	725	16	486	15	---	44
June 15-----	635	821	13	295	713	17	617	16	---	300
June 16-----	699	806	14	674	562	18	604	17	320	322
June 17-----	696	740	15	498	727	19	597	18	111	43
Average-------	613	739		524	717		535		140	150
June 18-----	717	739	16	674	760	20	422	19	303	57
June 19-----	443	786	17	647	770	21	620	20	368	84
June 20-----	670	798	18	658	737	22	610	21	267	15
June 21-----	684	824	19	689	728	23	327	22	107	92
June 22-----	495	814	20	653	730	24	464	23	379	302
June 23-----	605	782	21	246	722	25	354	24	372	299
June 24-----	465	722	22	437	696	26	470	25	---	264
Average-------	583	781		572	735		467		299	159
June 25-----	709	791	23	628	511	27	584	26	321	253
June 26-----	628	797	24	620	762	28	549	27	312	53
June 27-----	648	815	25	670	738	29	---	28	124	172
June 28-----	650	770	26	350	693	30	544	29	351	319
June 29-----	640	591	27	419	722	31	210	30	354	44
June 30-----	652	815	28	540	742	Sep.1	---	Dec.1	151	234
July 1-----	427	808	29	653	736	2	516	2	288	52
Average-------	622	770		554	701		480		272	161
			30	471	736					
			31	493	717					
			Aug.1	284	707					
			2	576	694					
			3	495	683					
			4	640	670					
			5	678	---					
			Avg.	520	701					

Note.--Langley is the unit used to denote one gram calorie per square centimeter.
Values in parentheses are interpolated.

TOTAL OZONE DATA

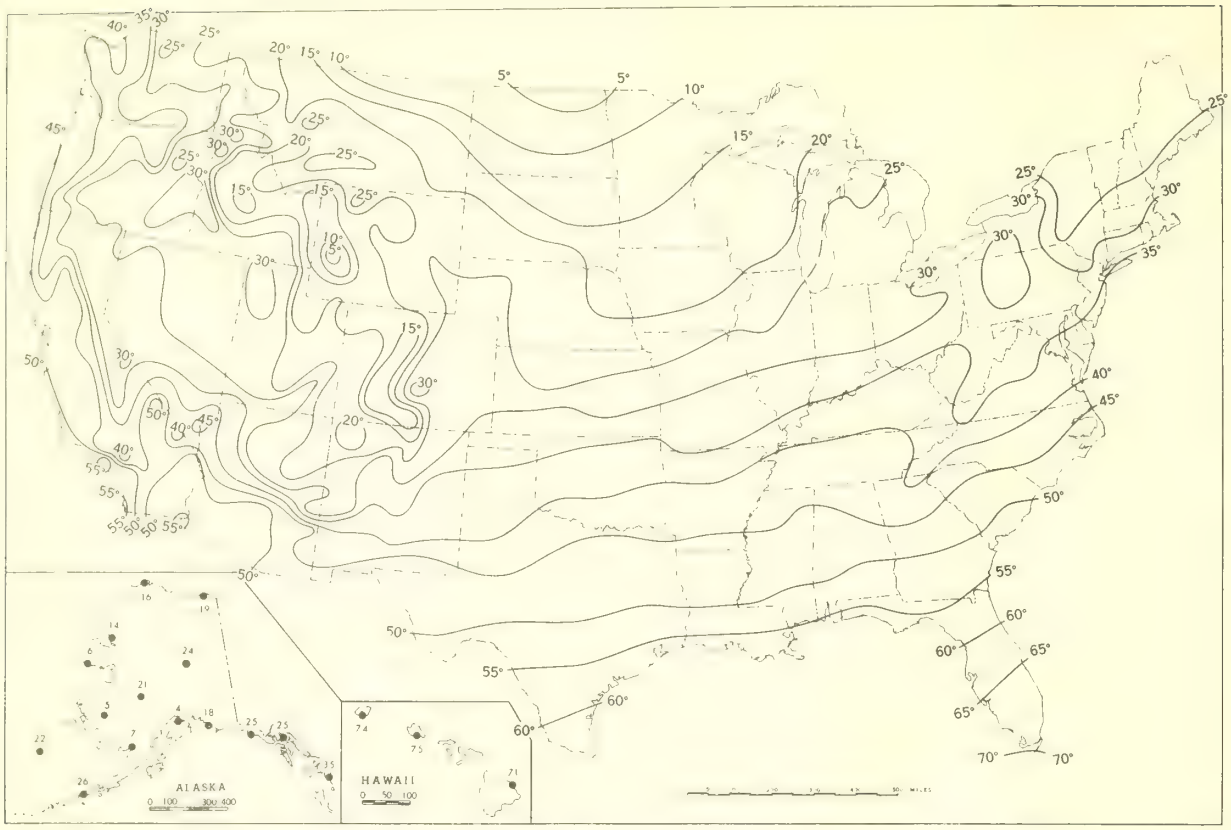
The total amount of ozone is expressed in 10^{-3} cm. at STP. These data are provisional values applicable to local noon, and are obtained from measurements with a Dobson ozone spectrophotometer using the sun or zenith sky as a light source (see explanation below).

DELAYED DATA

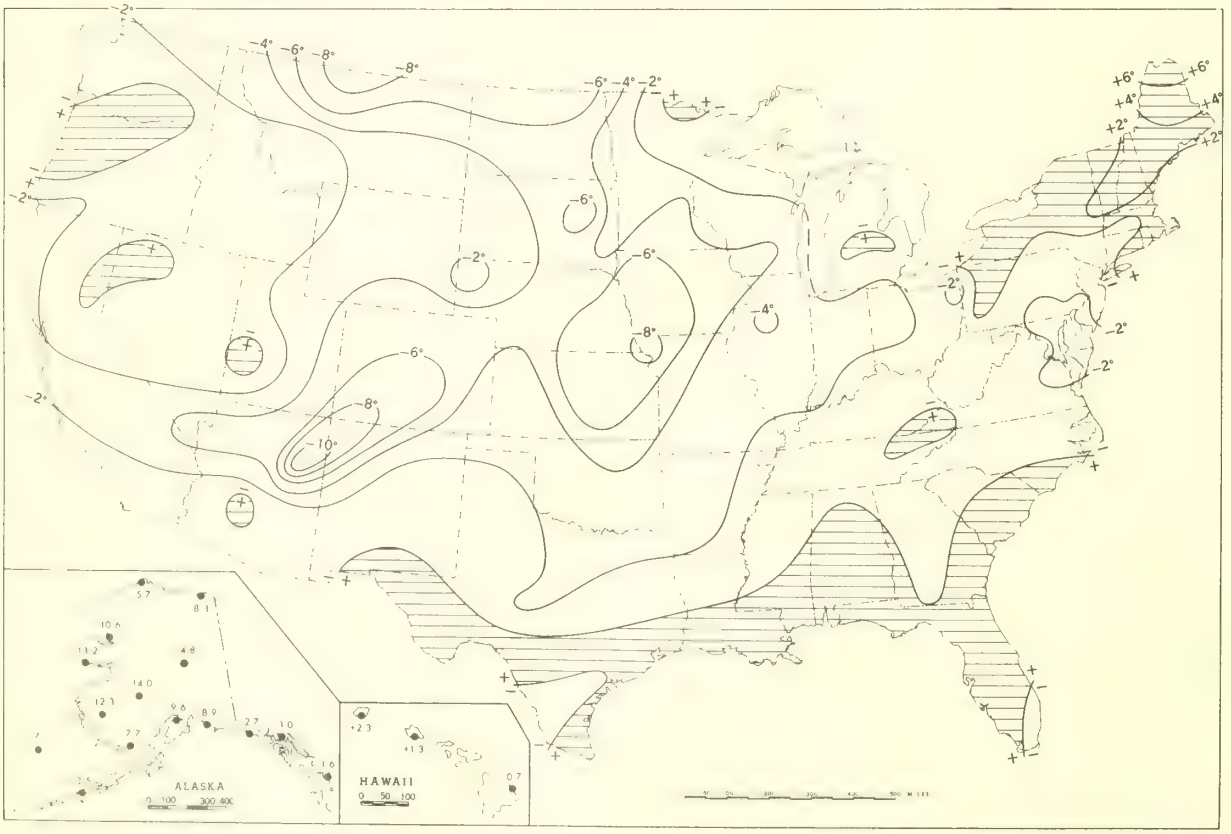
Station	Day of month																														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
July 1961																															
Sterling, Va.	336	---	325	323	*352	*347	323	341	364	388	313	*349	*296	---	---	---	314	332	322	311	333	307	312	317	319	314	318	304	---	383	308

See reference notes with current data.

Chart I. A. Average Temperature (°F.) at Surface, December 1961.



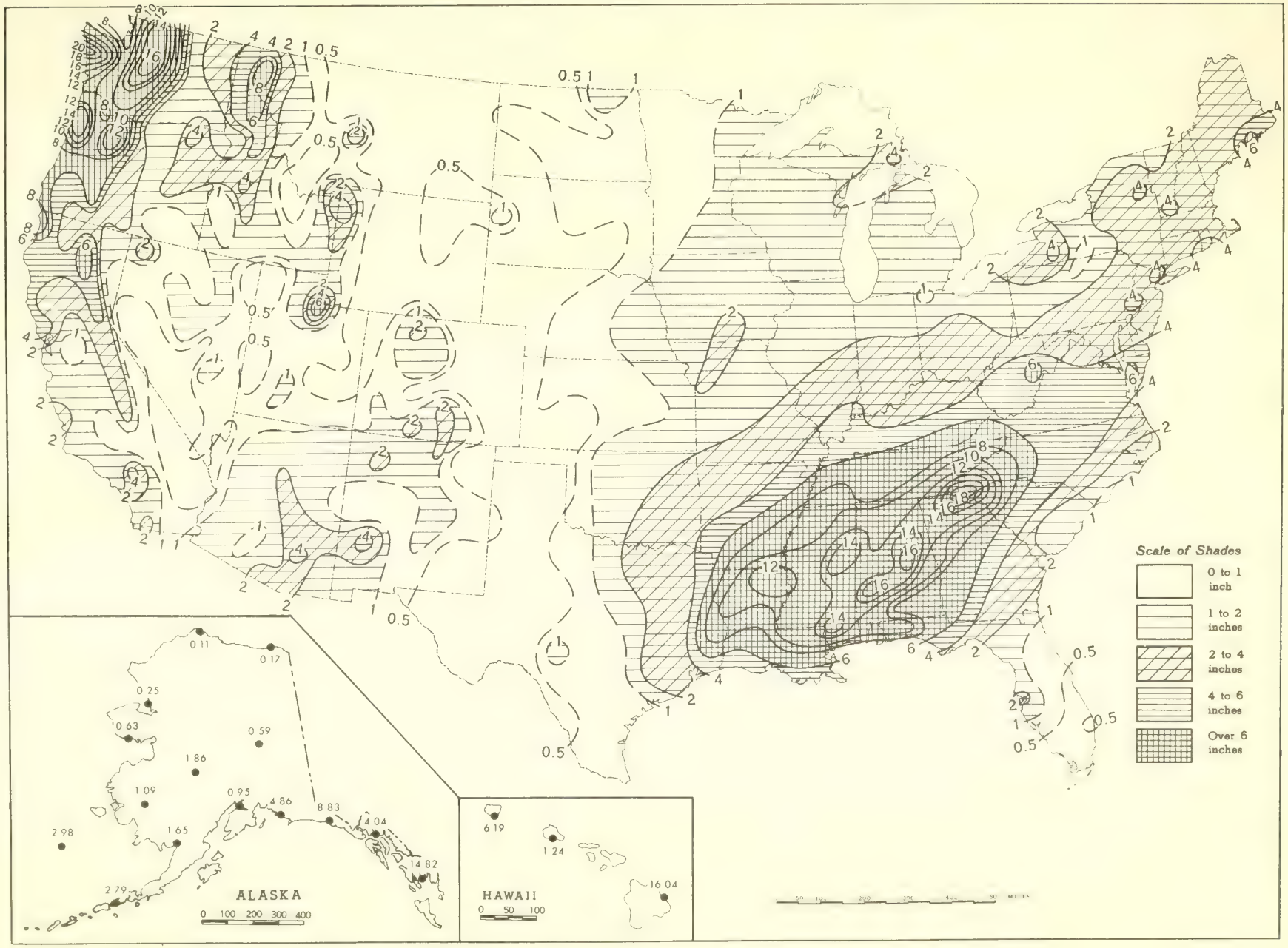
B. Departure of Average Temperature from Normal (°F.), December 1961.



A. Based on reports from over 870 Weather Bureau and cooperative stations. The monthly average is half the sum of the monthly average maximum and monthly average minimum, which are the average of the daily maxima and daily minima, respectively.

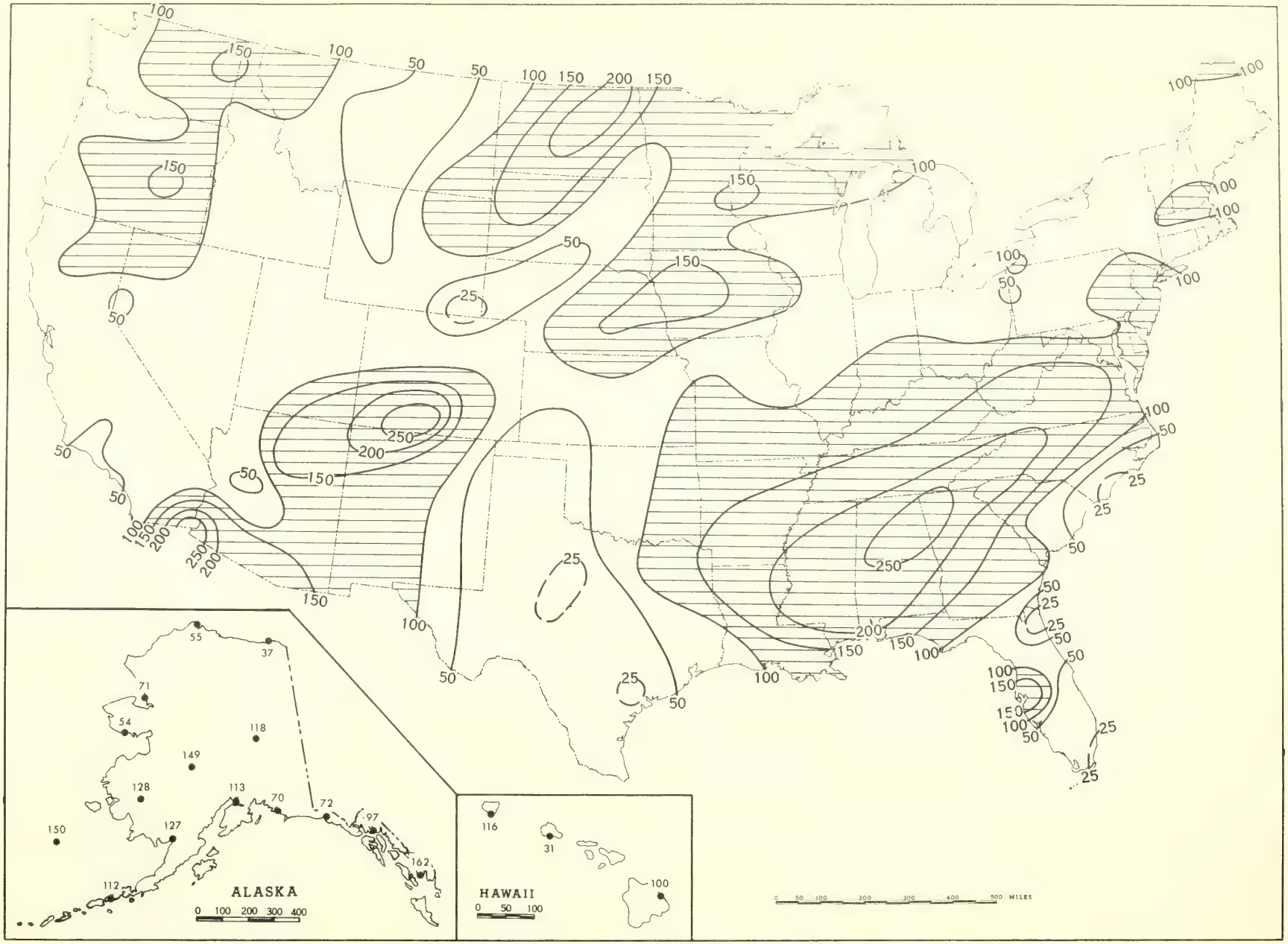
B. Departures from normal are based on the 30-yr. normals (1921-50) for first-order Weather Bureau stations.

Chart II. Total Precipitation (Inches), December 1961.



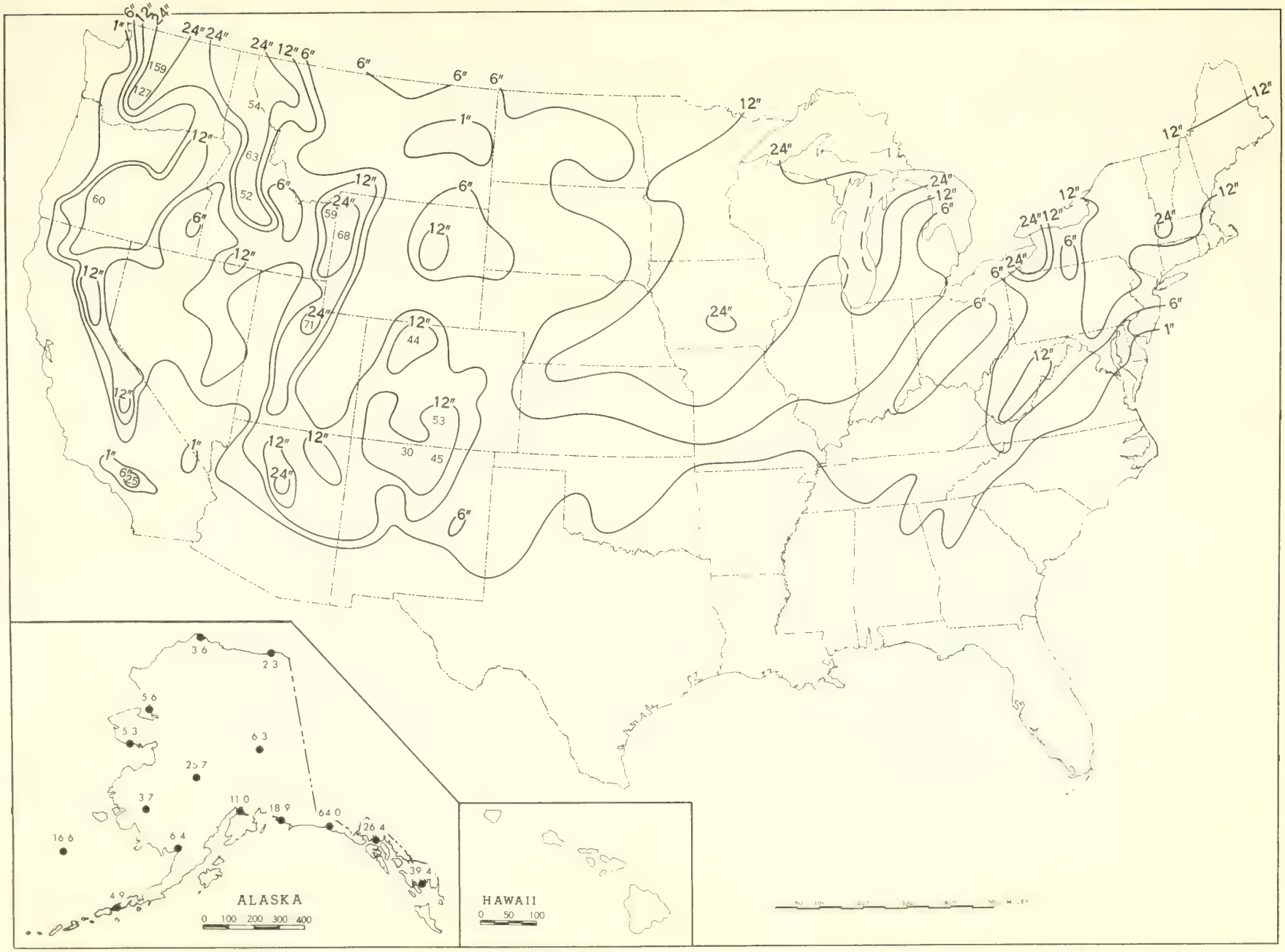
Based on daily precipitation records at about 870 Weather Bureau and cooperative stations.

Chart III. Percentage of Normal Precipitation, December 1961.



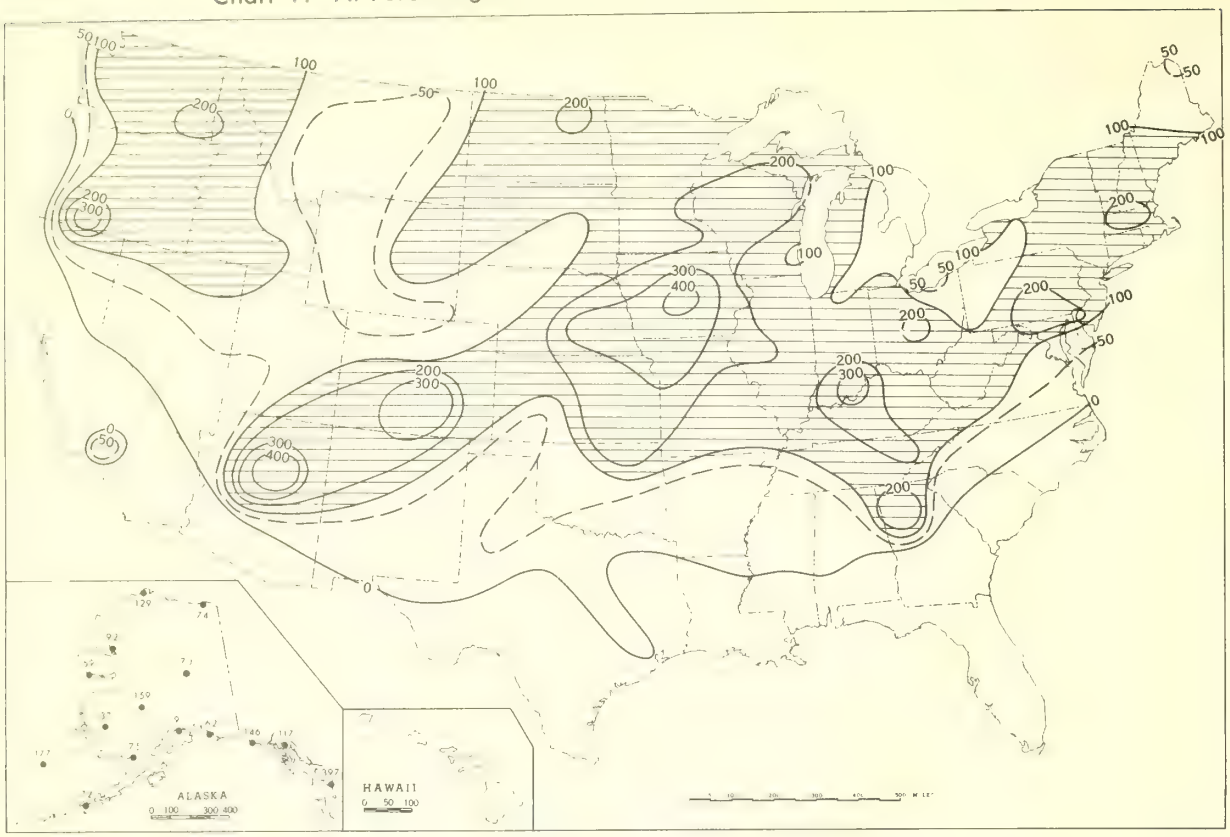
Normal monthly precipitation amounts are computed from the records for 1921-50 for first-order Weather Bureau stations.

Chart IV. Total Snowfall (Inches), December 1961.

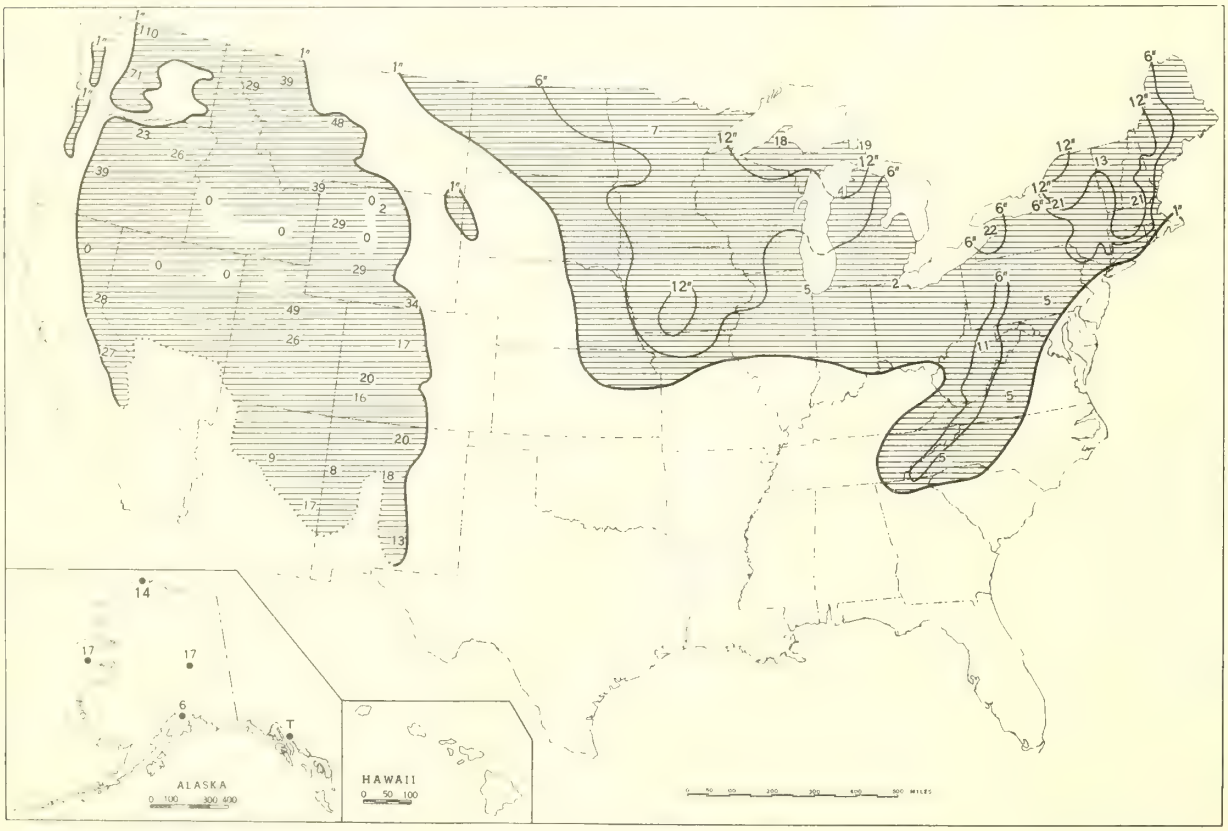


This is the total of unmelted snowfall recorded during the month at Weather Bureau and cooperative stations. This chart and Chart V are published only for the months of November through April although of course there is some snow at higher elevations, particularly in the far West, earlier and later in the year.

Chart V. A. Percentage of Mean Monthly Snowfall, December 1961.

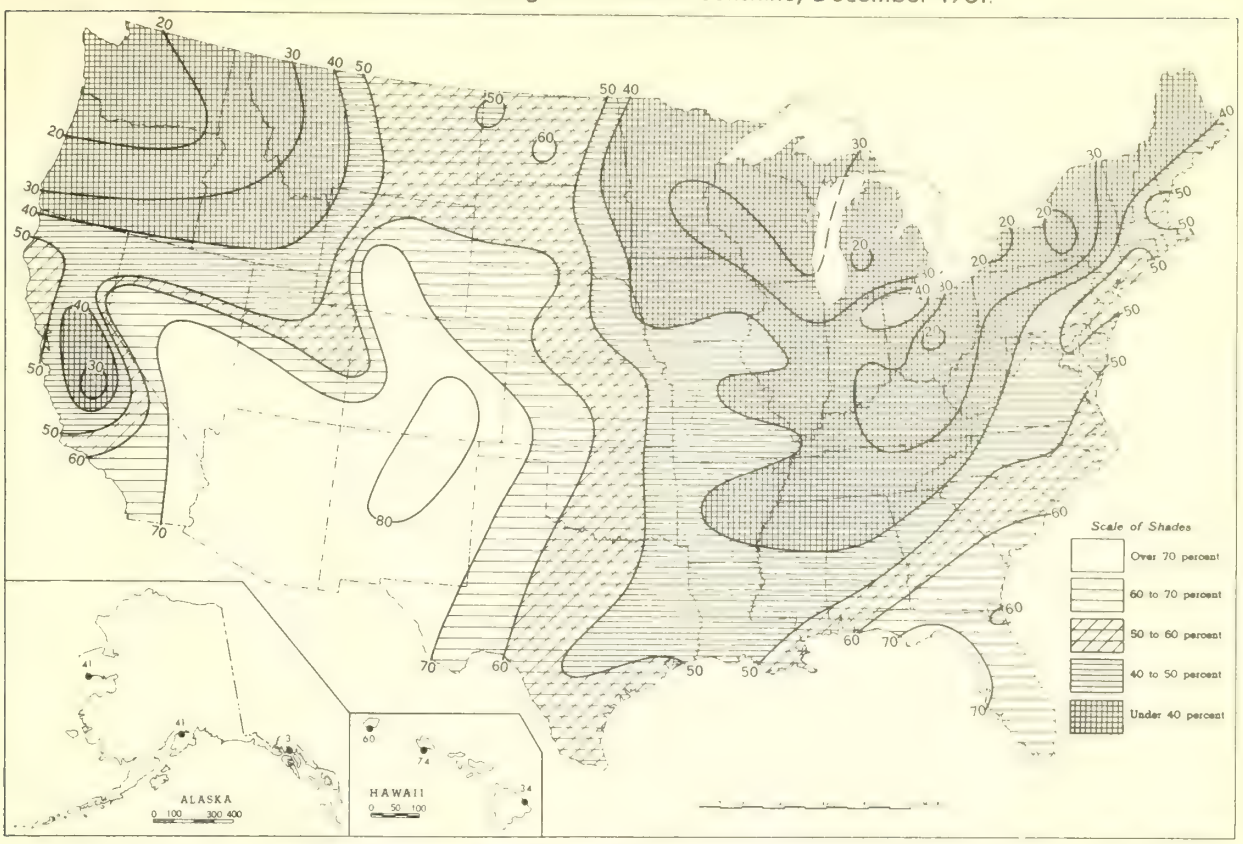


B. Depth of Snow on Ground (Inches), 7:00 a. m. E. S. T., January 1, 1962.

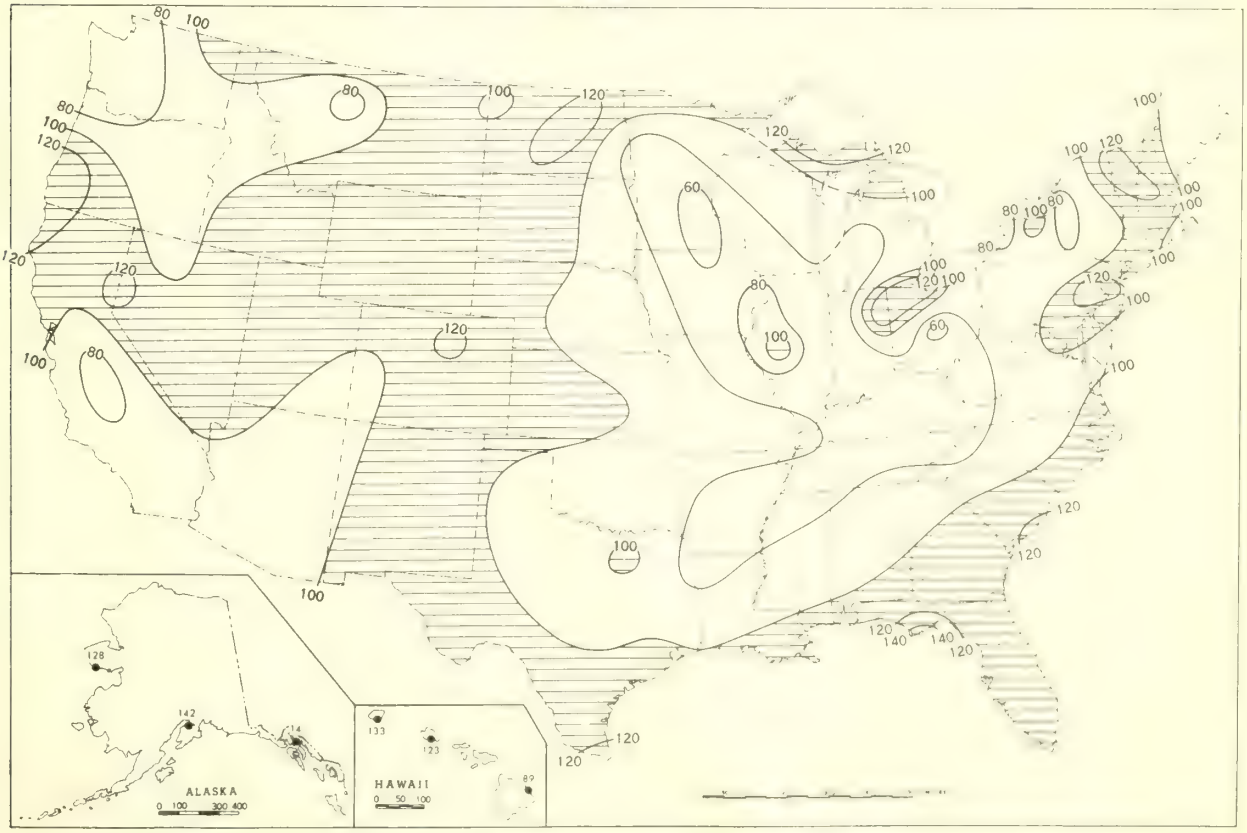


A. Amount of mean monthly snowfall is computed for Weather Bureau stations having at least 10 years of record.
B. Shows depth currently on ground at 7:00 a.m. E.S.T., of the Monday nearest the end of the month.
It is based on reports from Weather Bureau and cooperative stations.

Chart VI. A. Percentage of Possible Sunshine, December 1961.

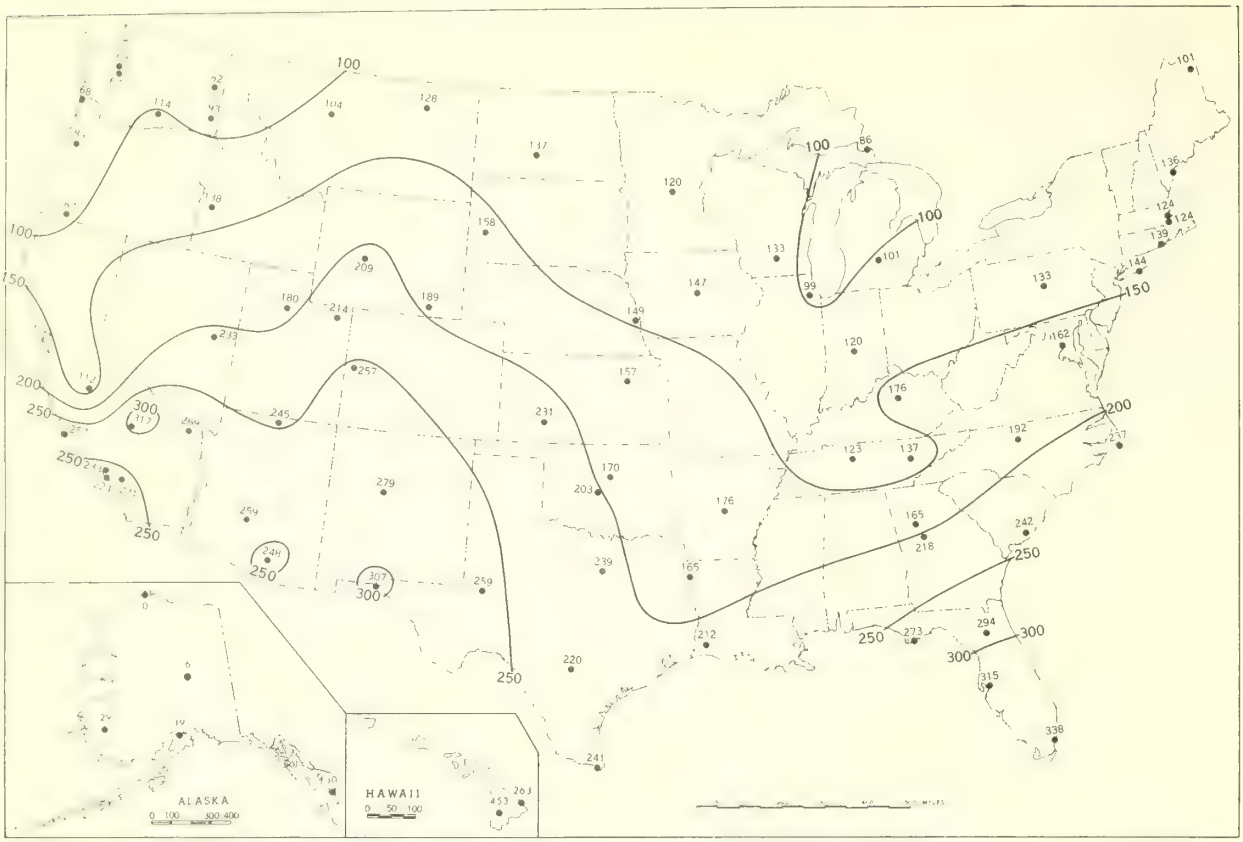


B. Percentage of Mean Monthly Sunshine, December 1961.

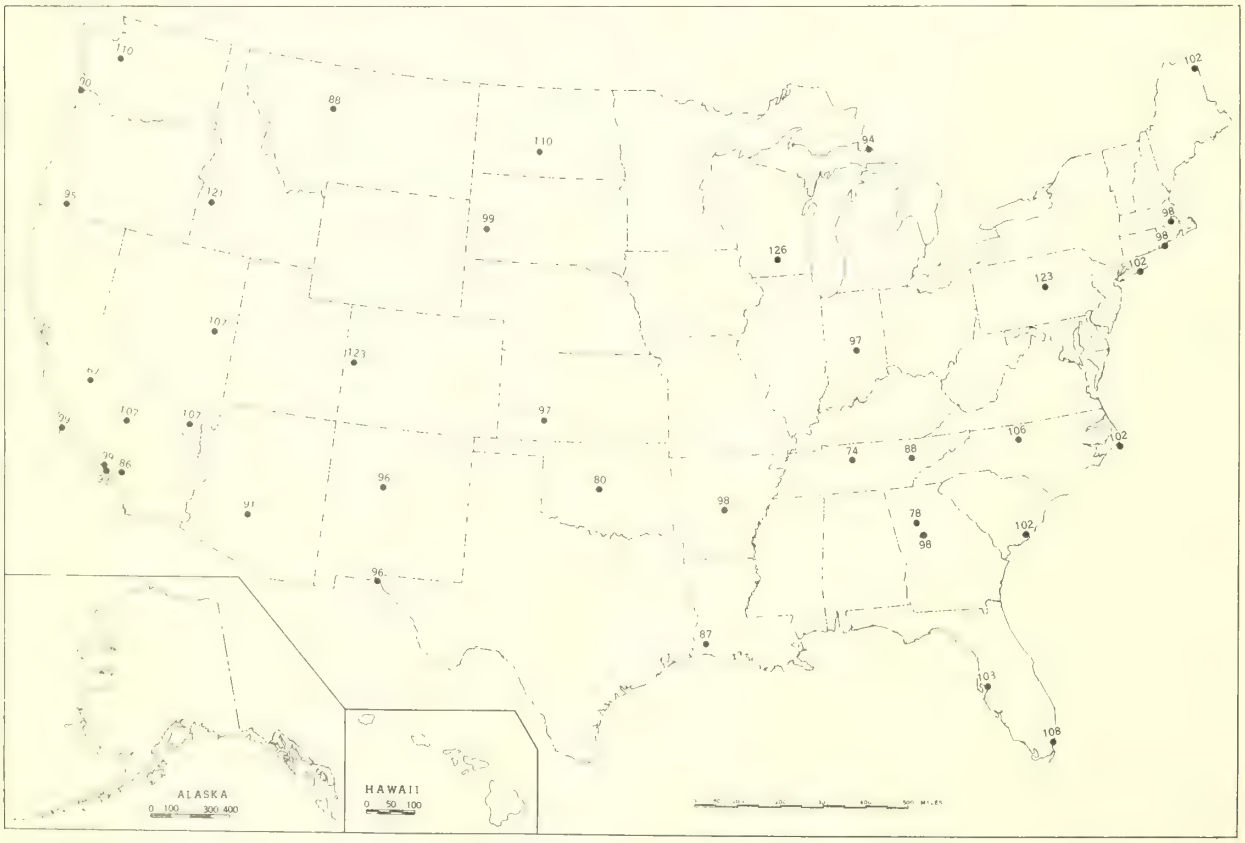


A. Computed from total number of hours of observed sunshine in relation to total number of possible hours of sunshine during month. B. Means are computed for stations having at least 10 years of record.

Chart VII. A. Average Daily Values of Solar Radiation, Langleys, December 1961.



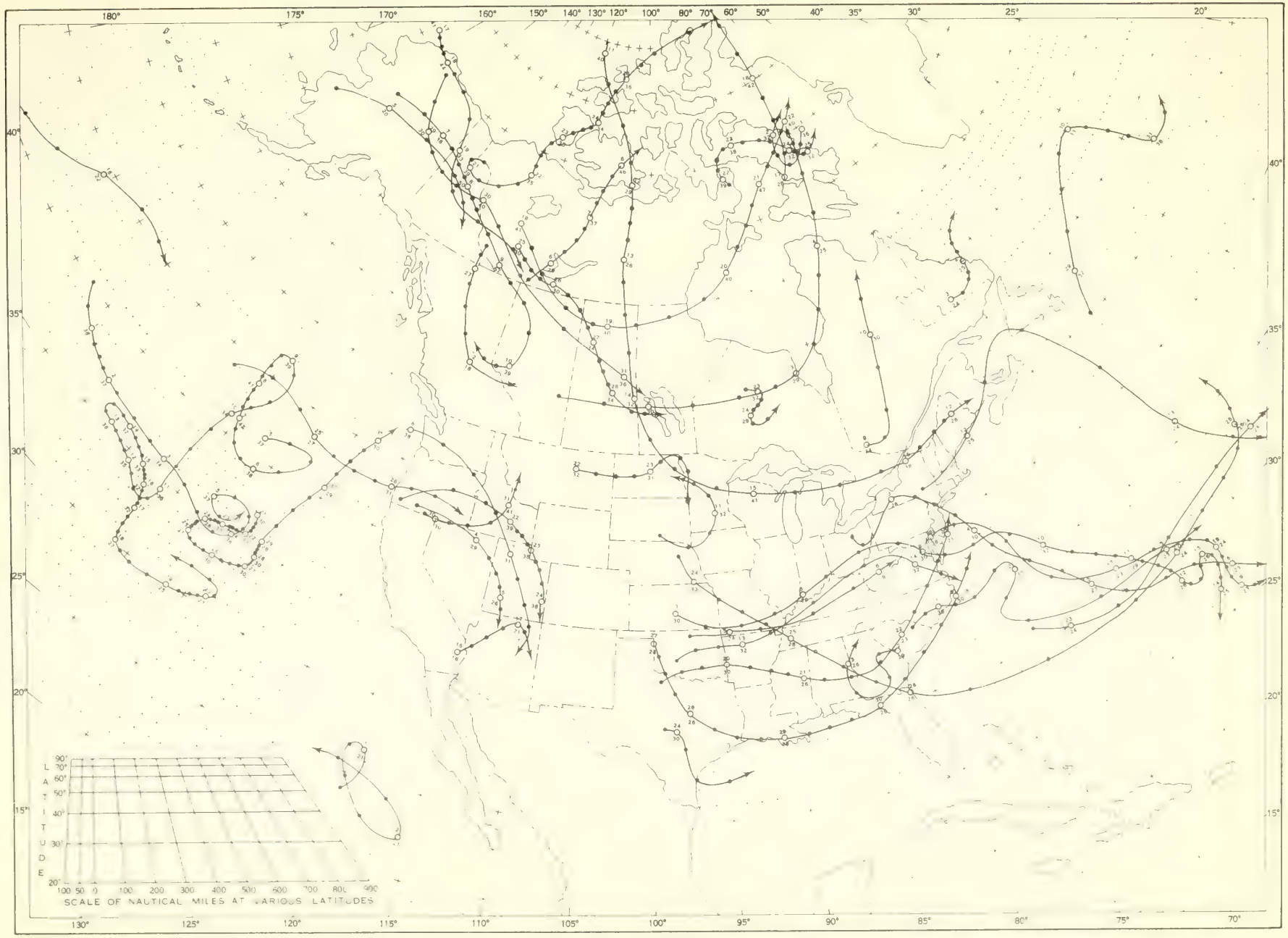
B. Percentage of Mean Daily Solar Radiation, December 1961.



A. Mean daily solar radiation, direct + diffuse, received on a horizontal surface in langleys (1 langley = 1 gm. cal. cm. $^{-2}$) and recorded in International Pyrheliometer Scale of 1956.

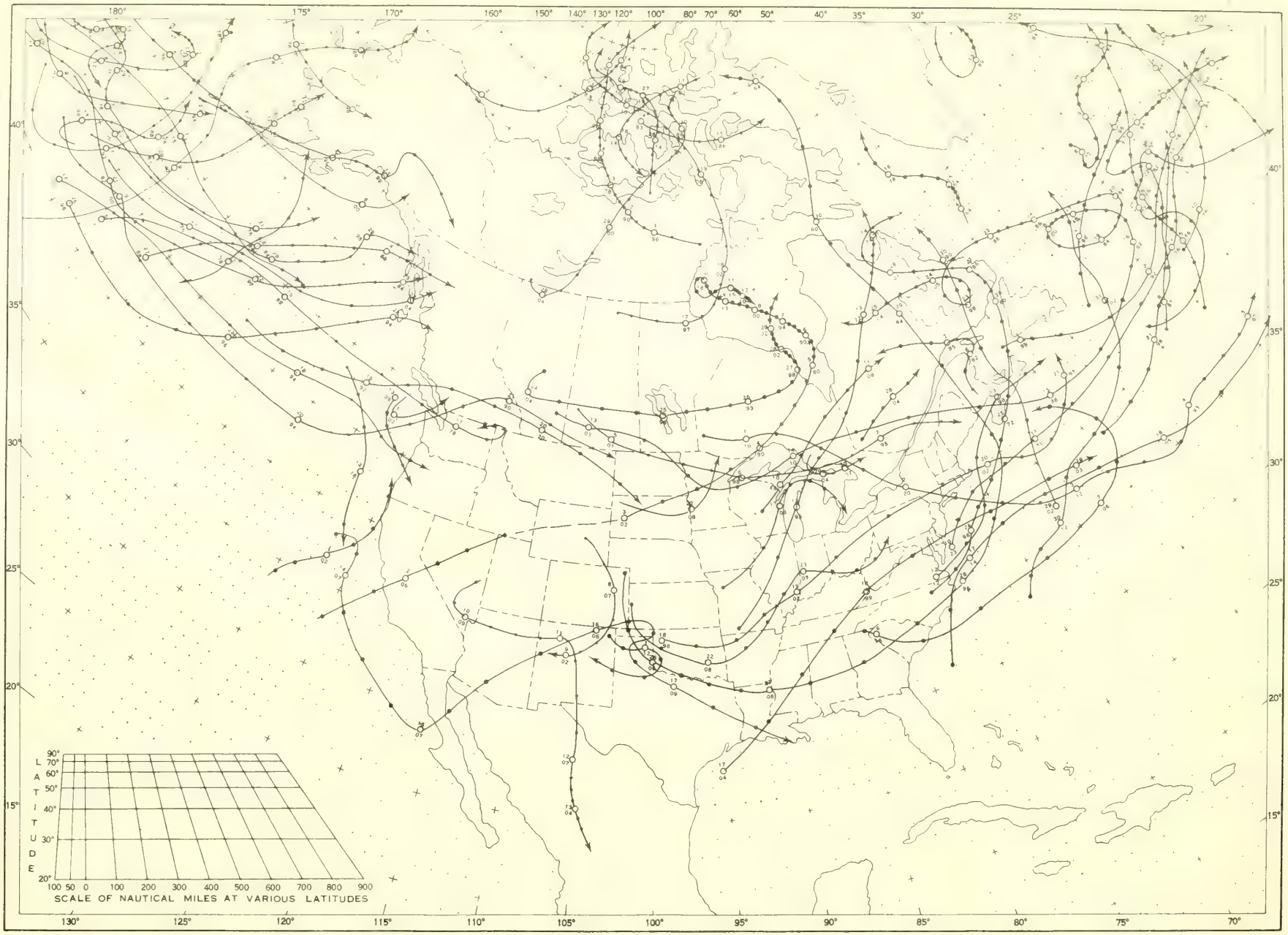
B. Percentage of the mean based on the period 1953-57, and corrected to the International Pyrheliometer Scale of 1956.

Chart VIII. Tracks of Centers of Anticyclones at Sea Level, December 1961.



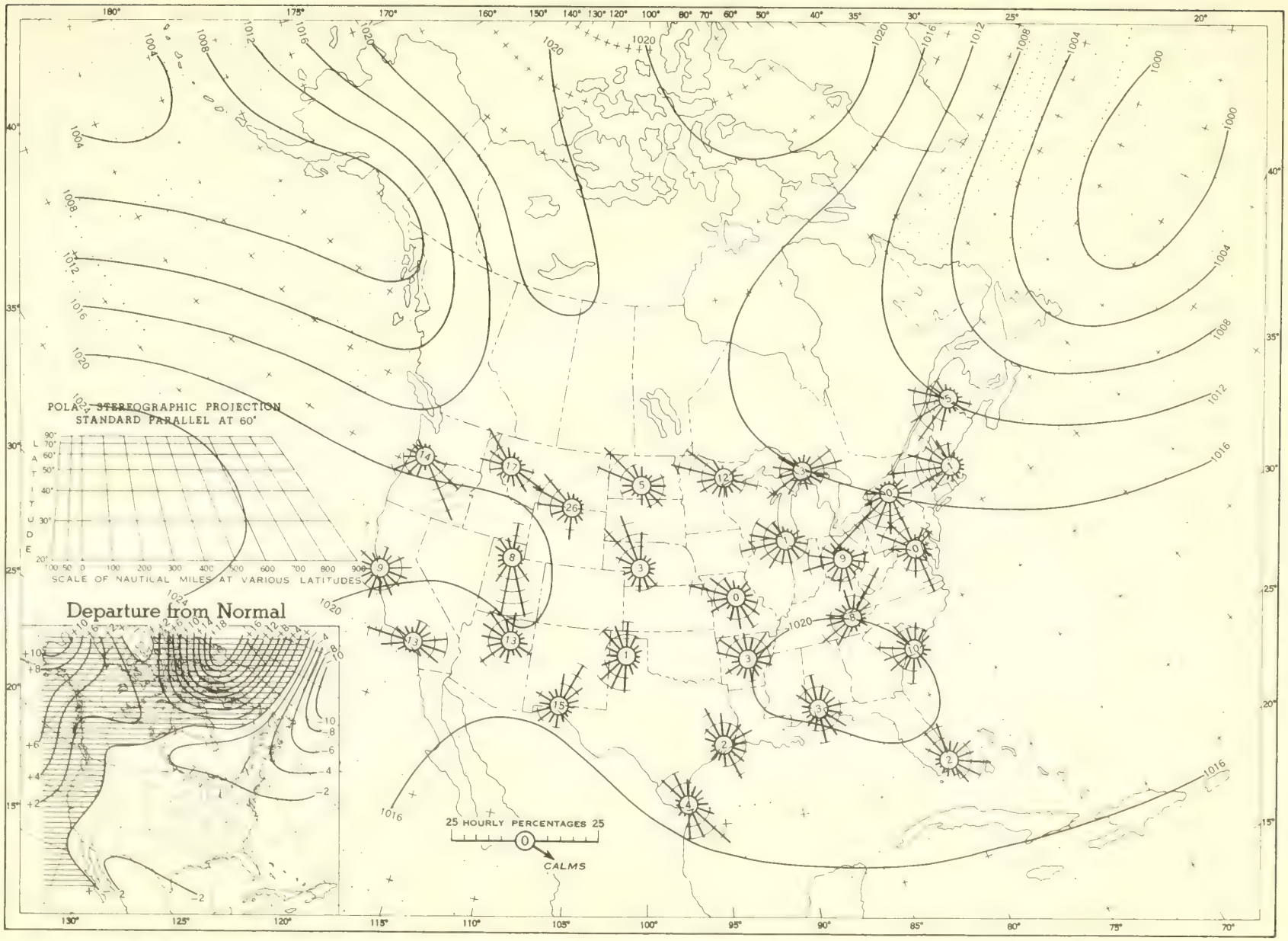
Circle indicates position of center at 7:00 a. m. E. S. T. Figure above circle indicates date, figure below, pressure to nearest millibar. Dots indicate intervening 6-hourly positions. Squares indicate position of stationary center for period shown. Dashed line in track indicates reformation at new position. Only those centers which could be identified for 24 hours or more are included.

Chart IX. Tracks of Centers of Cyclones at Sea Level, December 1961.



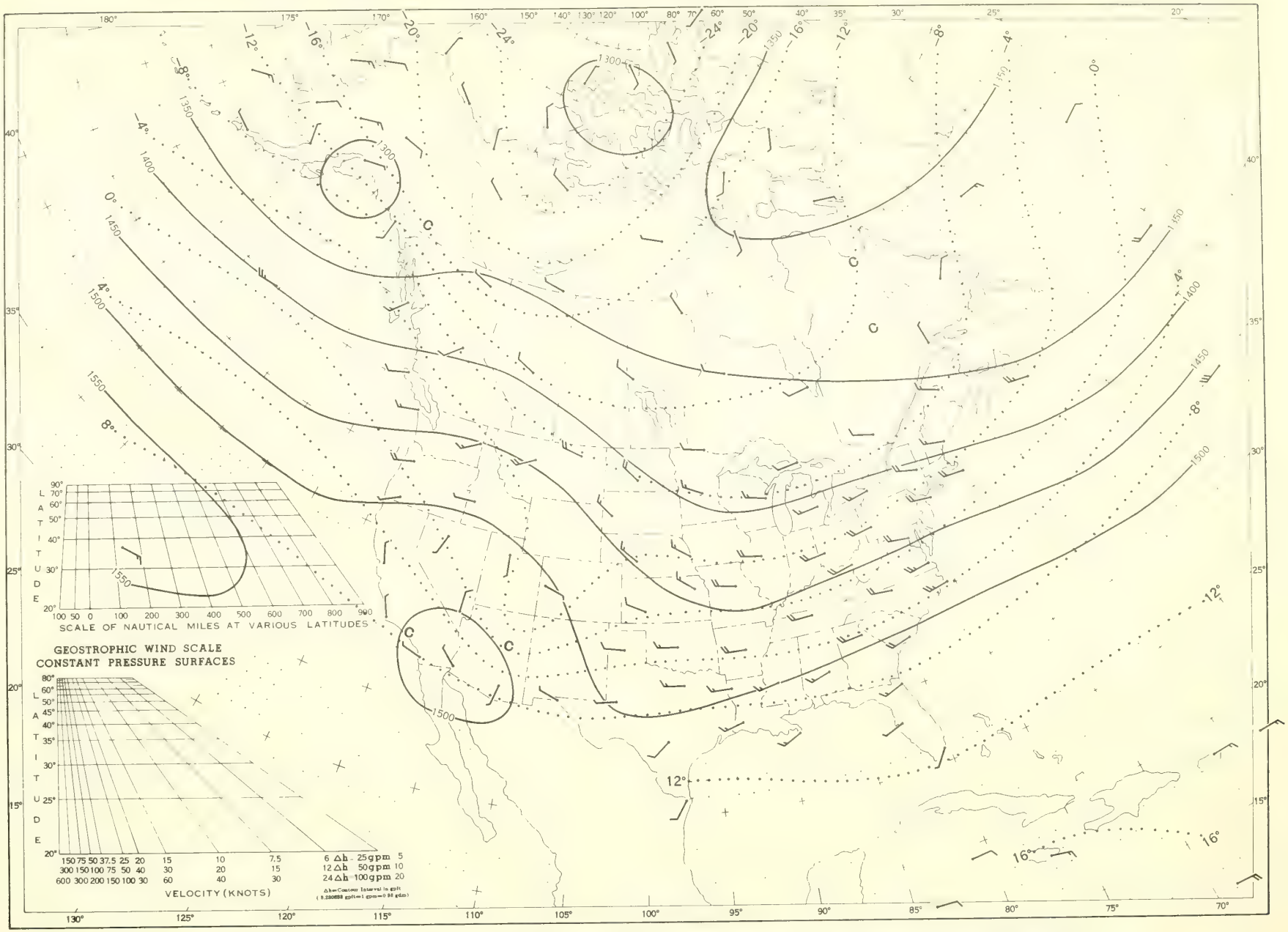
Circle indicates position of center at 7:00 a. m. E. S. T. See Chart VIII for explanation of symbols.

Chart X. Average Sea Level Pressure (mb.) and Surface Windroses, December 1961. Inset: Departure of Average Pressure (mb.) from Normal, December 1961.



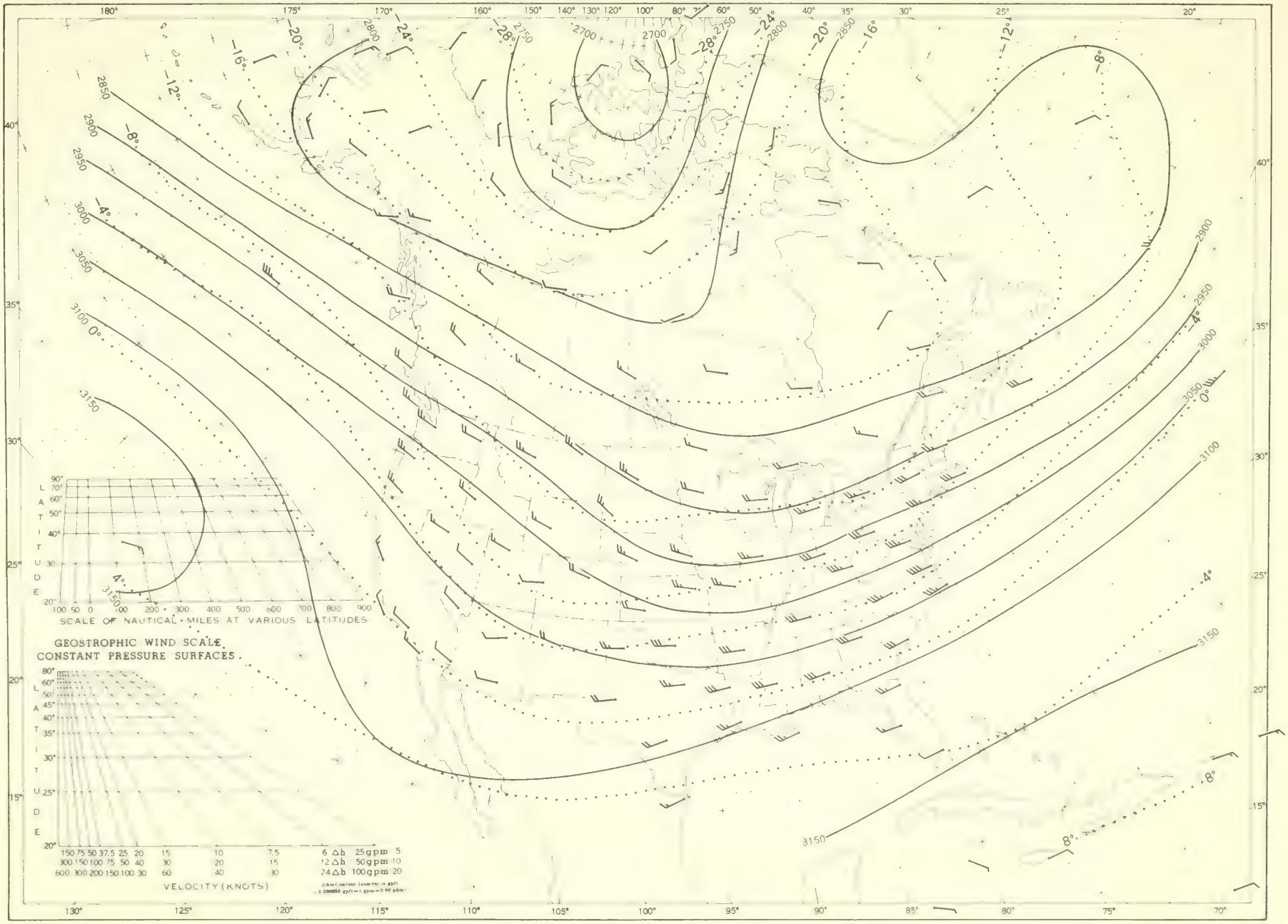
Average sea level pressures are obtained from the averages of the 7:00 a. m. and 7:00 p. m. E. S. T. readings. Windroses show percentage of time wind blew from 16 compass points or was calm during the month. Pressure normals are computed for stations having at least 10 years of record and for 10° intersections in a diamond grid based on readings from the Historical Weather Maps (1899-1939) for the 20 years of most complete data coverage prior to 1940.

Chart XI. 850-mb. Surface, 1200 GMT, December 1961. Average Height and Temperature, and Resultant Winds



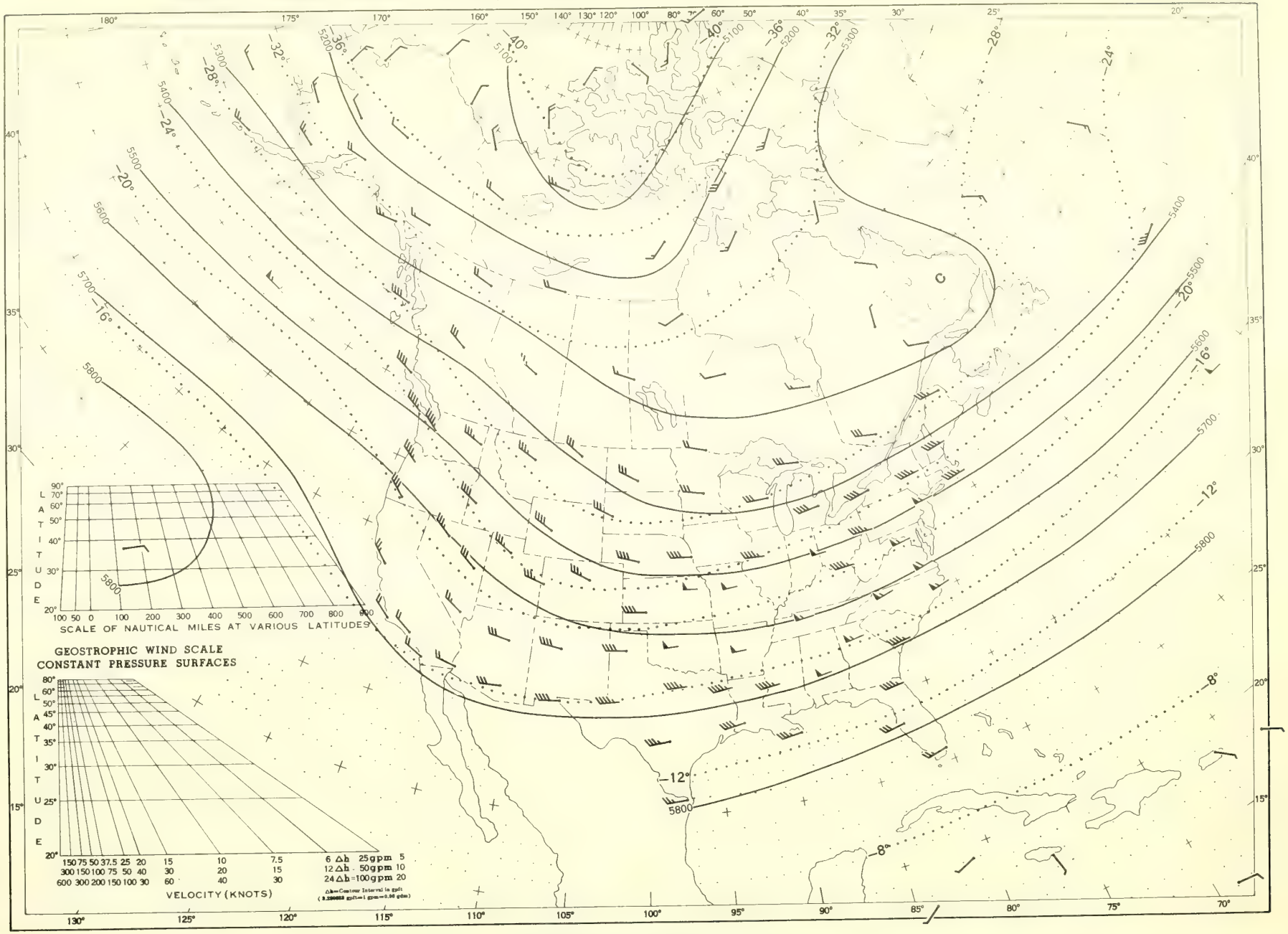
Height in geopotential meters (1 g.p.m. = 0.98 dynamic meters). Temperature in °C. Wind speed in knots; flag represents 50 knots, full feather 10 knots, and half feather 5 knots. All wind data are based on rawin observations.

Chart XII. 700-mb. Surface, 1200 GMT, December 1961. Average Height and Temperature, and Resultant Winds.



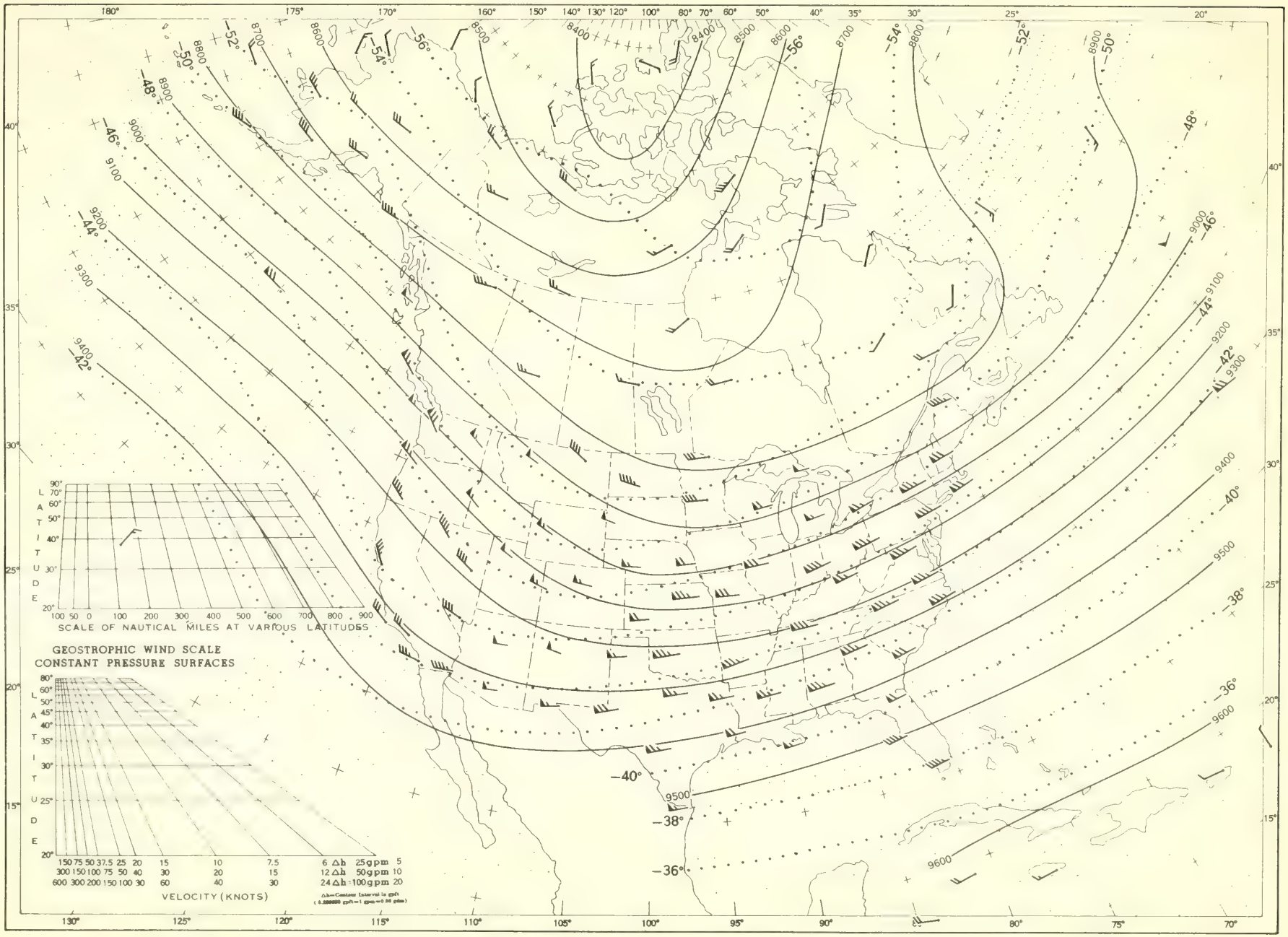
See Chart XI for explanation of map.

Chart XIII. 500-mb. Surface, 1200 GMT, December 1961. Average Height and Temperature, and Resultant Winds.



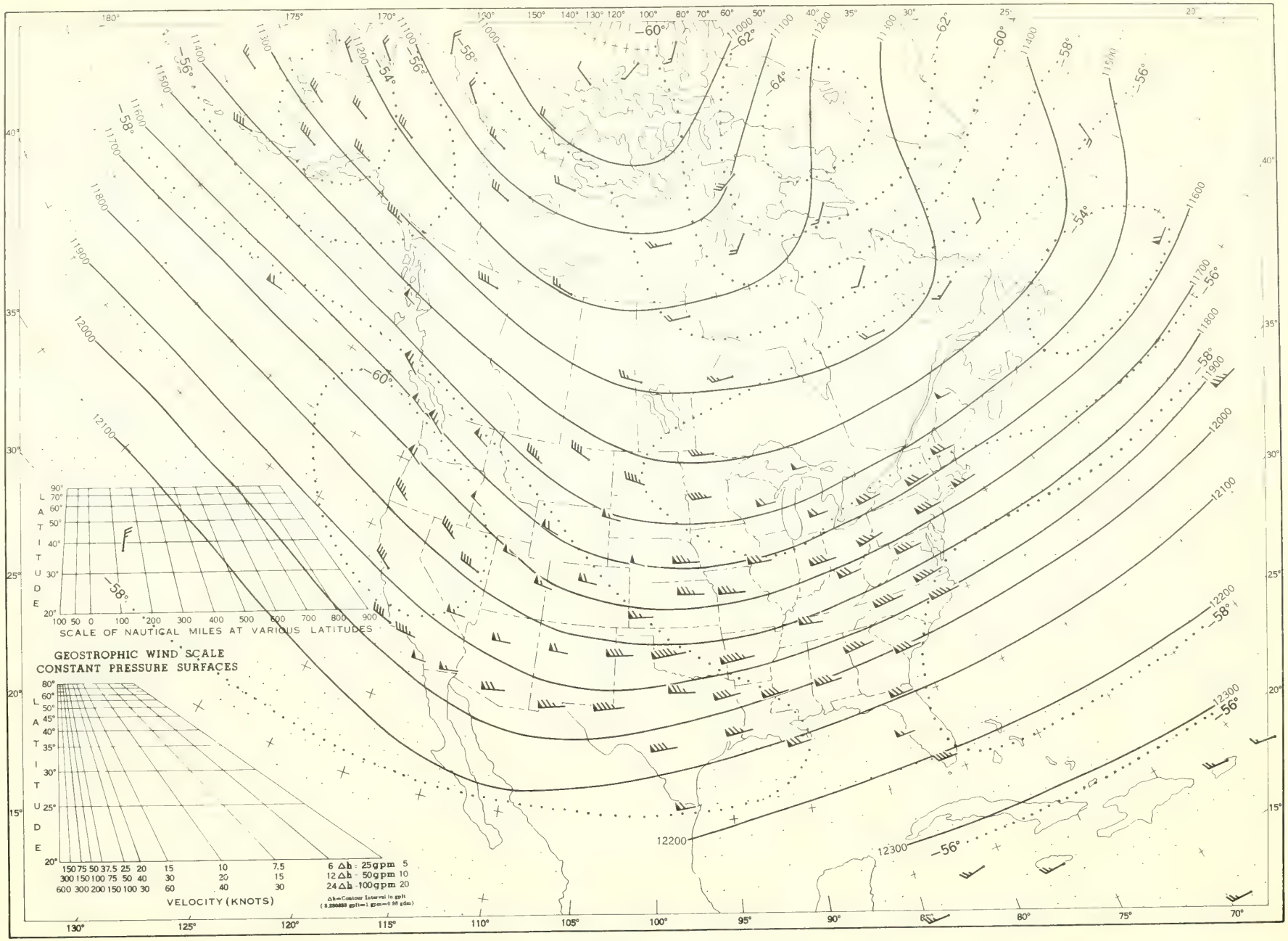
See Chart XI for explanation of map.

Chart XIV. 300-mb. Surface, 1200 GMT, December 1961. Average Height and Temperature, and Resultant Winds.



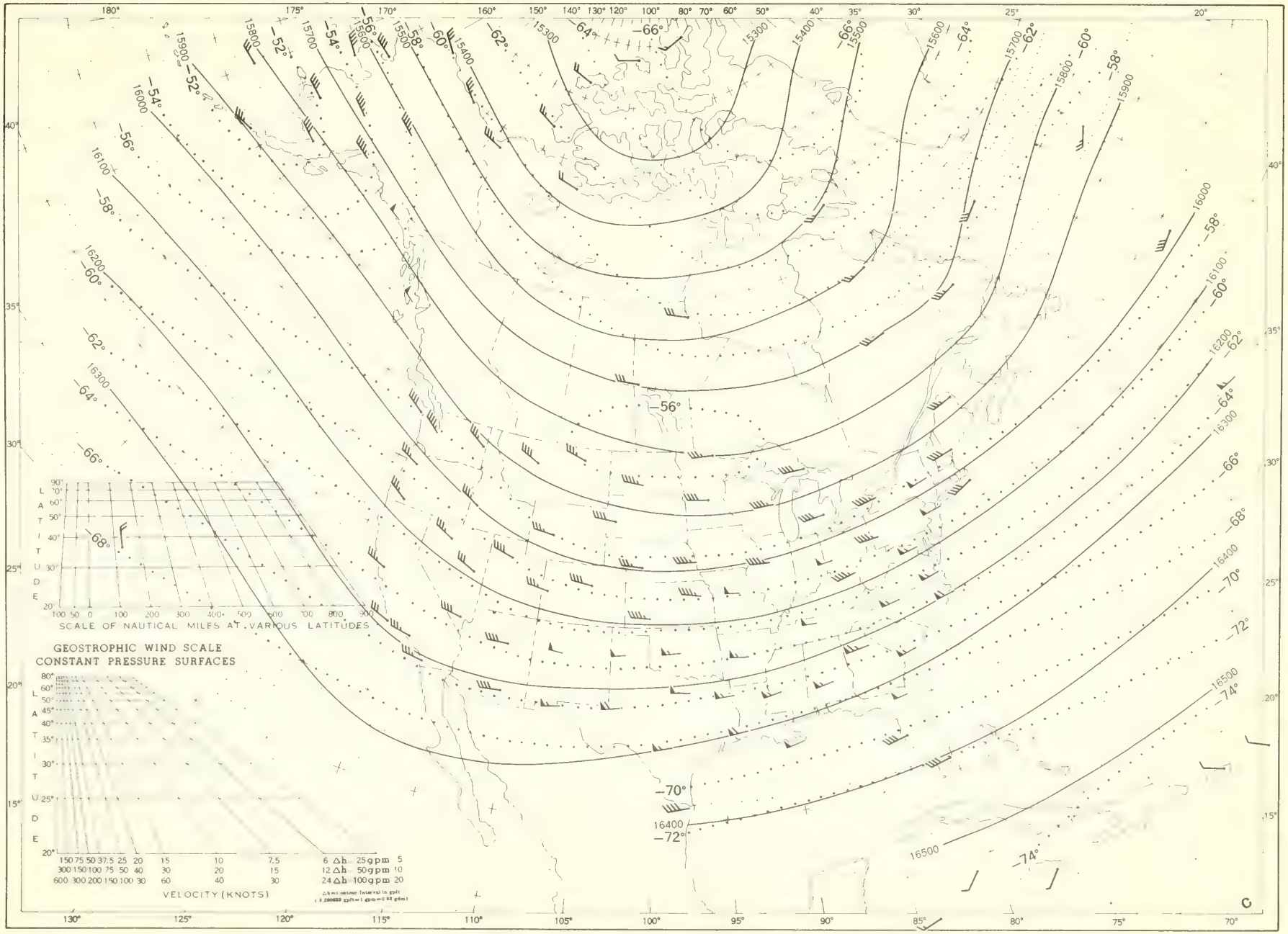
See Chart XI for explanation of map.

Chart XV. 200-mb. Surface, 1200 GMT, December 1961. Average Height and Temperature, and Resultant Winds.



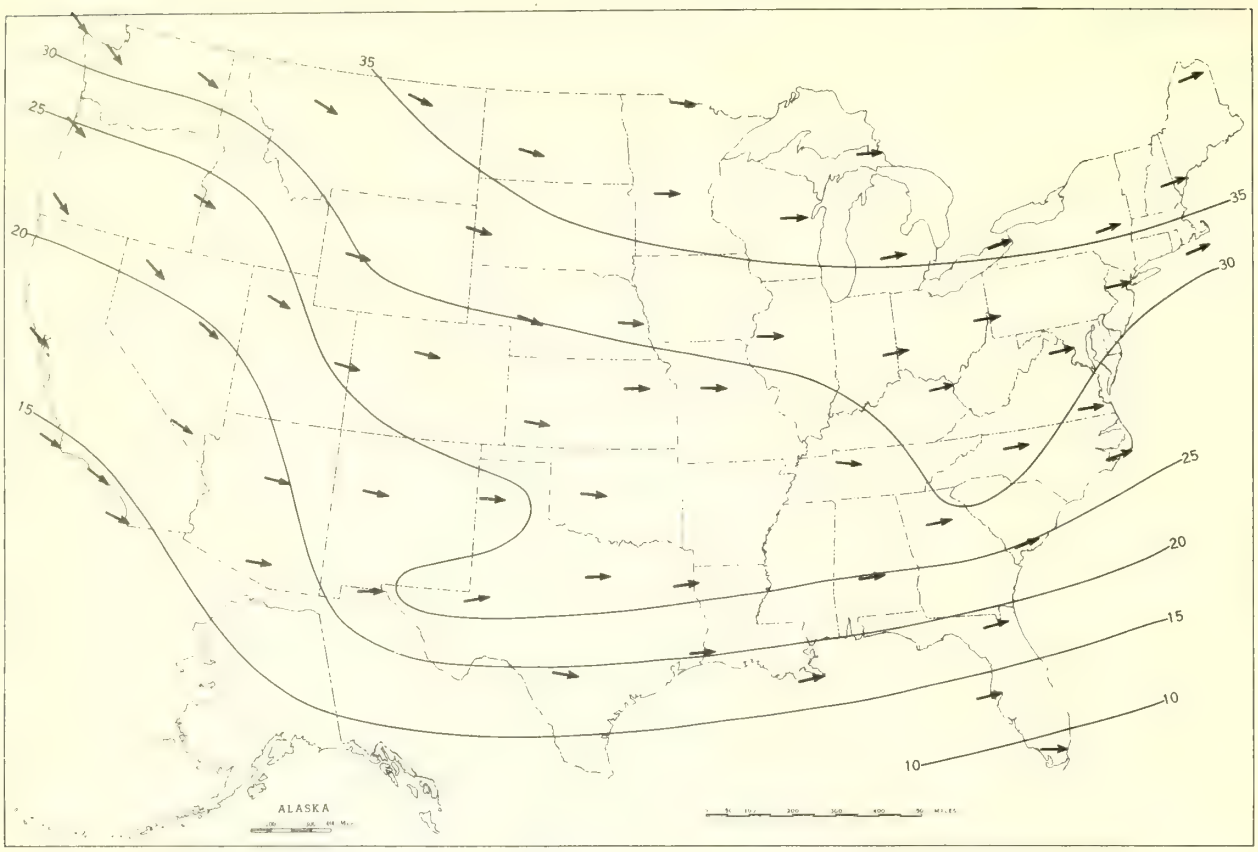
See Chart XI for explanation of map.

Chart XVI. 100-mb. Surface, 1200 GMT, December 1961. Average Height and Temperature, and Resultant Winds.

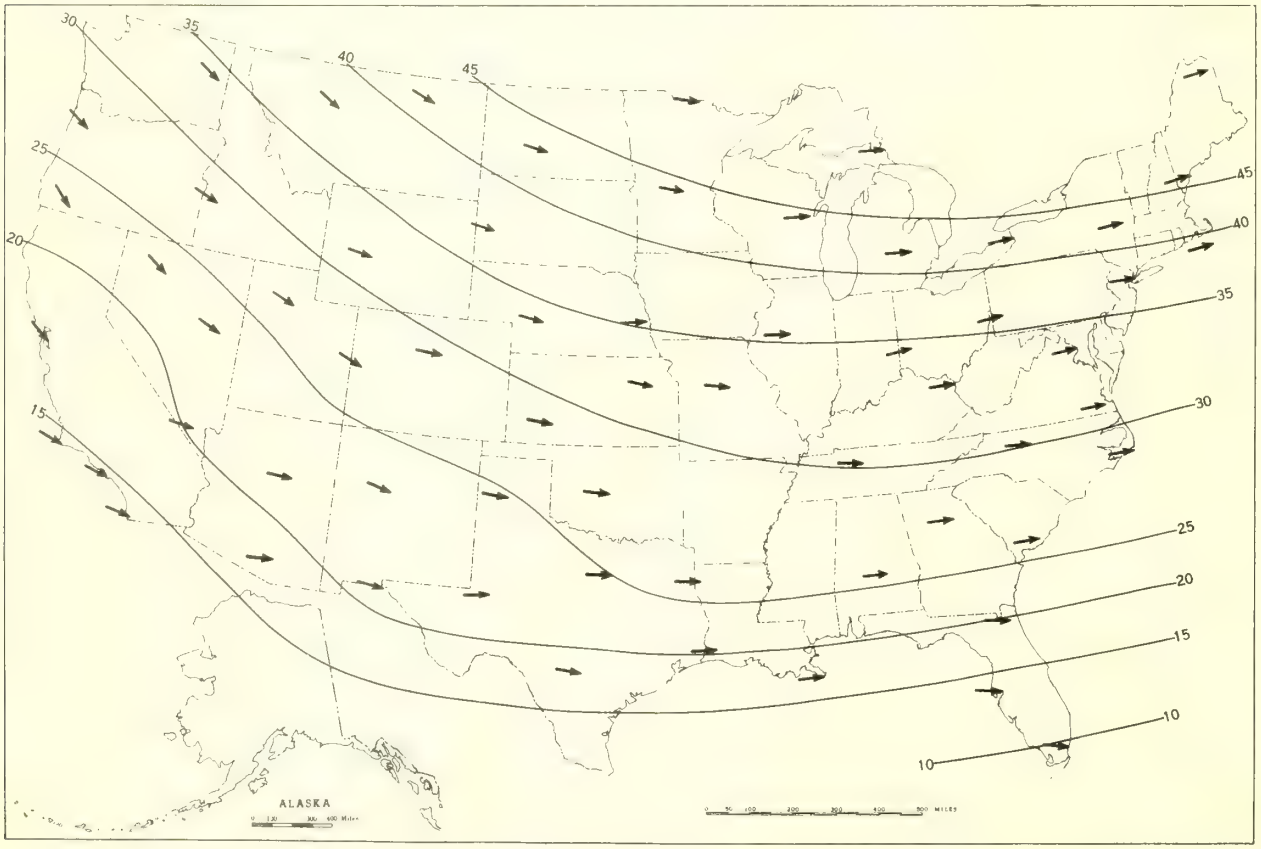


See Chart XI for explanation of map.

Chart XVII. A. 50-mb. Surface, 1200 GMT, December 1961. Resultant Winds.



B. 30-mb. Surface, 1200 GMT, December 1961. Resultant Winds.



Wind speed (isotachs) in knots. Arrows show resultant wind direction. All wind data are based on rawin observations.

USCOMM-WB-Asheville - 2/28/62 - 1825

U. S. DEPARTMENT OF COMMERCE
LUTHER H. HODGES, Secretary
WEATHER BUREAU
F. W. REICHELDERFER, Chief

CLIMATOLOGICAL DATA

NATIONAL SUMMARY

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ASHEVILLE: 1962

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CLIMATOLOGICAL DATA

NATIONAL SUMMARY

Volume 12 No. 13 ANNUAL 1961

GENERAL SUMMARY OF WEATHER CONDITIONS

L. H. Seamon, Climatology
Weather Bureau, Washington, D. C.

Unseasonably mild, dry weather prevailed in the northern Great Plains and Far West during the first 2 months of 1961. San Diego and Los Angeles, Calif., had their warmest January on record. From the Mississippi Valley to the Atlantic coast an outstanding cold spell occurred during the latter part of January and the first few days of February. In much of New England temperatures were continuously below freezing from January 18 to February 4 for one of the most prolonged severe cold periods on record there, and in sections of the upper Mississippi Valley the number of consecutive days with subzero temperatures was the most since 1936. Deep frost penetration in both areas caused frozen water pipes and drains in a number of communities. In much of the South this was the coldest January since 1940, and in the lower Atlantic Coastal States December 1960 and January 1961 combined was the coldest such period there since 1917-18. The first general freeze of the winter in the Florida Everglades occurred on January 22 and 23, damaging some tender vegetables

January was an extremely dry month, with less than 25 percent of normal precipitation in nearly all interior sections of the country and above-normal amounts in only a few relatively small areas in the extreme West, South, and East. Precipitation for February, however, was above normal in the Pacific Northwest, the northern Rockies, and in much of the eastern half of the Nation. Precipitation was the heaviest of record for February in sections of an area extending from the central Gulf region to the lower Appalachians, where heavy rainfall February 17 to 25 caused major floods and millions of dollars damage in Mississippi, Alabama, and Georgia.

Snowfall during January and February was below normal in the Far West, but was unusually heavy from northern Texas northeastward through the Ohio Valley and Middle Atlantic States. Heavy snow fell in the Northeast on January 15-16 from Maryland to New England, with heaviest amounts ranging from 10 to 15 inches or more in south-central Massachusetts and northwestern Connecticut. Another major snowstorm occurred in the Northeast on January 19-20 when Washington, D. C., recorded 8 inches and falls ranged from 2 to 16 inches in Maryland, 10 to 30 in New Jersey, 4 to 19 in Pennsylvania, 6 to 12 in New York State, and 10 to 20 inches in New England. This latter storm was a severe blizzard in southern New England where 10- to 15-foot snowdrifts, high winds, and low temperatures almost halted normal activities. During a storm on February 3 and 4, snowfall ranged from 10 to 20 inches in much of Pennsylvania and 1 to 2 feet in southern portions of southern New England and New York State, and 18 inches of drifting snow virtually paralyzed traffic in New York City. On February 8, 5 to 15 inches of new snow fell in Maryland and northern Virginia where the roofs of several buildings collapsed under the weight of a heavy cover. On February 17 and 18, northern Iowa had 10 to 15 inches of snow with 20-foot drifts in northeastern sections and a band of damaging glaze extending from the southwestern portion northeastward across the State. Severe thunderstorms and a number of tornadoes caused several injuries and considerable property damage in central Oklahoma on February 17.

In general, spring was cold, wet, and stormy in the eastern half of the Nation and about normal in the West. Above-normal March and April snowfall in the Far West brought the mountain snowpack up to near normal only in extreme northern areas, as the pack in many southern mountain areas was the least on record. Snowfall was unusually heavy during March and April from the northern Great Plains to the Atlantic coast. The most notable spring snowstorm occurred in northeastern Illinois and northwestern Indiana on April 16 when heavy snow with drifts up to 10 feet high stranded thousands of motorists. Damaging floods occurred in Iowa and Wisconsin during March, in Indiana during April, and in Kansas and the Ohio Valley in May. A flash flood at Harrison, Ark., on May 7 was responsible for 4 deaths, 12 injuries, and millions of dollars damage. The season's most destructive tornado killed 1 person, injured 115, and damaged 3,000 homes and other buildings in Chicago on March 4. A severe hailstorm, causing losses estimated at several million dollars, damaged 25,000 homes and 5,000 other buildings in Joliet, Ill., on April 23. Late spring freezes damaged crops in the Sonoma, Napa, and Santa Clara Valleys of California on April 24, and in New England on May 31.

Summer was unusually hot and dry in the northern Great Plains and Far West. A heat wave, June 13 to 17, in California damaged fruit and vegetables to the extent of millions of dollars. The heat reached record levels in August from the Dakotas to the Pacific coast. Rapid City, S. Dak., Portland, Oreg., and Seattle, Wash., had their hottest August on record, and 116° at Orofino, Idaho, and 118° at Ice Harbor Dam, Wash., were the highest temperatures ever recorded in those States during August. Crop acreages were curtailed in many areas of the Far West owing to a short supply of irrigation water, and some forests and rangelands were burned over as a high fire hazard existed for prolonged periods. Drought greatly cut grain yields in the northern Great Plains.

From the Great Lakes and lower Great Plains to the Appalachians, the summer was unusually cool. Shreveport and Baton Rouge, La., had their coolest summer on record, and Vicksburg, Miss., and San Antonio, Tex., their coolest since 1931. Precipitation maintained mostly adequate soil moisture for good crop development. Severe local storms, quite numerous in June and July, took the usual heavy toll of property. Hail damage was extensive and heavy in the central Great Plains. On July 19, a flash flood in Charleston, W. Va., and vicinity took 4 lives, destroyed 138 homes, and damaged 1,374 others. In Puerto Rico, floods resulting from heavy rains August 26 and 27 were blamed for several deaths and heavy property dam-

age.

Temperatures for autumn generally averaged well below normal in the lower Great Plains and Far West and well above east of the Mississippi River. Precipitation was generally above normal in the Rocky Mountain and mid-continent regions, but unusually deficient in the Southeast. In general, autumn was a pleasant season, with favorable weather for maturity and harvests of crops.

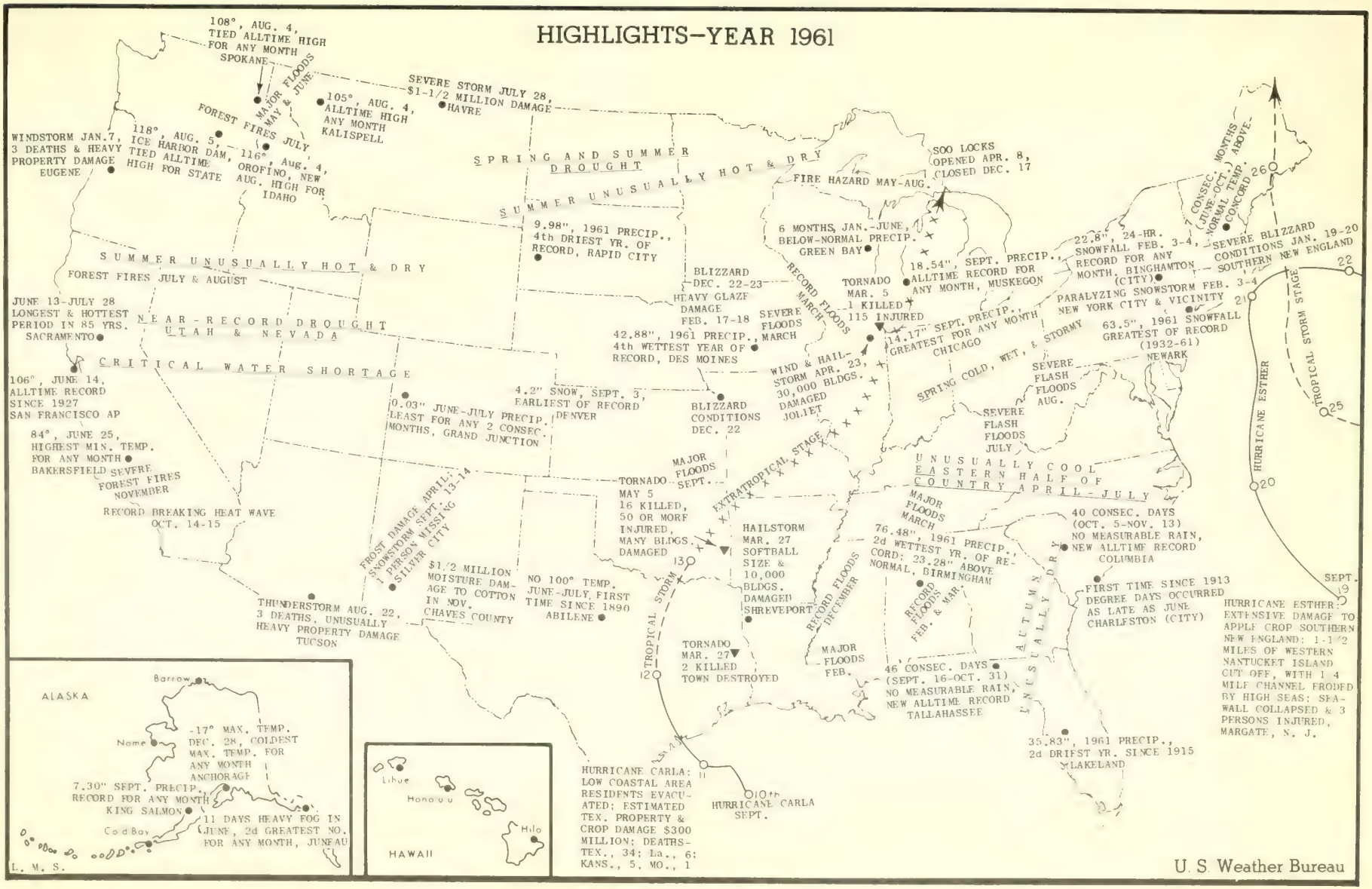
September weather was highlighted by hurricane Carla which was blamed for 46 deaths, over 500 injuries, property losses estimated in the neighborhood of $200 million, and crop losses of $100 million as she left a belt of heavy rainfall from Texas to Michigan that was mainly responsible for record amounts of September rainfall at numerous locations in the middle Mississippi Valley. Unusually heavy rains in the northern Great Plains greatly helped to replenish soil moisture depleted by spring and summer drought. Early snowfall during the month included 4.2 inches at Denver, Colo., on the 3d, the earliest on record there, and the first September snowfall at Omaha, Nebr., since 1891. An intense heat wave prevailed in the Northeast the first 10 days of September, when many locations there had their hottest weather of 1961.

October weather was even more pleasant than usual, with near-normal temperatures and limited areas with heavy precipitation. Few storms occurred, and flooding was limited to a few local areas. Three rather pronounced abnormalities did occur, however. An intense heat wave in southern California on the 14th and 15th sent the mercury to the highest ever for October at San Diego (107°) and Los Angeles (106°). This was the driest October on record in much of the Southeast, where some stations had no precipitation at all. Snowfall was unusually heavy for so early in the season in the northern Rocky Mountain region, where falls ranged up to more than 3 feet.

November was cold and snowy in the lower Great Plains and Far West and mild east of the Mississippi River. Precipitation was unusually heavy in the central and south-central portions of the country, where considerable flooding occurred in the course of the month. Considerable snow accumulated in the western mountain ranges.

December was rather cold. The first half was unusually cold in the western two-thirds of the Nation and the second half rather mild. In the eastern third, the last week was unusually cold. Frost and freezing occurred in the Florida Everglades on the 26th and 30th, damaging tender vegetable crops. During the second week, -26° at Kirwin, Kans., equaled the lowest temperature ever recorded in that State during December. Precipitation was light in south Atlantic coastal areas and the Great Plains, but extremely heavy from the lower Appalachian region to the central Gulf coast where heavy rains fell the first 2 weeks and flooding occurred along many streams the last 3 weeks of the month. From the 22d through the 25th, a heavy snowstorm moved from the central Great Plains to New England. This storm was a blizzard in parts of Iowa where more than a foot of drifting snow stranded thousands of workers and travelers.

HIGHLIGHTS—YEAR 1961



EXCESSIVE PRECIPITATION

(Excessive Short Duration Rainfall)

YEAR 1961

This table contains statistics of maximum amounts of rainfall during the calendar year 1961. Data presented in this table are generally from stations equipped with recording gages. Stations are at City Office locations unless otherwise shown.

Excessive precipitation data for the years 1896-1935 inclusive, generally present the accumulated amounts of precipitation for each 5, 10, or 20 minute intervals during storms in which the rate of fall equaled or exceeded .25 inch in any 5 minute period, or .30 in any 10 minute period, or .35 in any 15 minute period, etc., the tabulation beginning with the 5 minute period where the rate of .05 inch in 5 minutes began and continuing by 10 or 20 minute intervals up to 120 minutes. A detailed explanation of the method used may be found in the publications listed in the last paragraph of this explanation.

The present method, adopted with data for the calendar year 1936, gives the maximum fall of precipitation for the periods 5 to 180 minutes, the maximum amounts being taken for the periods in which the fall is greatest for the given time, and is tabulated to show maximum amounts for 5, 10, 15, 20, 30, 45, 60, 80, 100, 120, 150 and 180 minutes, even if the fall does not equal the excessive rate for some of the periods. (The 15 minute amount was not computed for 1936-43 and the 150 minute amount was not computed for 1944 through 1948).

The following Table A shows limits at which precipitation was considered excessive in this publication:

TABLE A

Duration (minutes)	Depth of precipitation (inches)	Duration (minutes)	Depth of precipitation (inches)
5	.25	60	.80
10	.30	80	1.00
15	.35	100	1.20
20	.40	120	1.40
30	.50	150	1.70
45	.65	180	2.00

This table is made up from the formula, $A = t + 20$ where A is the accumulated depth in hundredths of inches and t is the time in minutes.

For the years 1936 through 1948 stations in North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Tennessee, Arkansas, Louisiana, Texas, Oklahoma, and San Juan, P. R. used the limits shown in the following Table B:

TABLE B

Duration (minutes)	Depth of precipitation (inches)	Duration (minutes)	Depth of precipitation (inches)
5	.40	60	1.50
10	.50	80	1.90
15	.60	100	2.30
20	.70	120	2.70
30	.90	150	3.30
45	1.20	180	3.90

This table is made up from the formula $A = 2t + 30$. Its use, however, was discontinued at the end of 1948 and Table A is used by all sections for 1949 and the following years.

Publication of Data. A summary of maximum precipitation data for the years prior to 1896 is published in the annual report of the Chief of the Weather Bureau for 1895-1896. Excessive precipitation data for the period 1881-1896 are published in the annual report of the Chief of the Weather Bureau 1896-1897. Data for the years 1897 through 1934 have been published in the appropriate annual reports of the Chief of the Weather Bureau. For the years 1935 through 1949 these data are published in the appropriate issue of the United States Meteorological Yearbook. For 1950 and succeeding years excessive precipitation are presented in the annual issues of the Climatological Data, National Summary.

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
ALABAMA												
Birmingham Airport												
Feb. 21	0.27	0.54	0.78	0.80	0.85	0.92	1.00	1.20	1.50	1.65	1.96	2.39
Feb. 22	.28	.30	.31	.32	.38	.40	.43	.45	.47	.49	.59	.68
Feb. 22	.14	.28	.42	.50	.65	.68	.78	.90	.99	1.01	1.03	1.60
Feb. 22	.35	.67	.68	.70	.73	.82	.83	.87	.93	1.00	1.15	1.33
Mar. 6	.52	.57	.63	.68	.75	.83	.88	.94	.96	.99	.99	1.00
Mar. 31	.22	.25	.37	.40	.54	.89	1.07	1.20	1.26	1.43	1.60	1.70
Apr. 9	.40	.45	.50	.55	.60	.65	.75	.82	.85	.88	.90	.93
Apr. 26	.30	.33	.40	.42	.44	.44	.44	.44	.47	.47	.47	.47
June 8	.29	.36	.48	.57	.57	.57	.57	.57	.60	.60	.60	.60
July 12	.29	.40	.54	.59	.75	.85	.95	.99	1.20	1.47	1.52	1.88
July 16	.22	.33	.36	.37	.39	.39	.39	.39	.39	.39	.39	.39
July 21	.26	.36	.55	.63	.66	.67	.67	.67	.67	.67	.67	.67
July 22	.35	.55	.70	.90	1.25	1.70	1.80	1.83	1.83	1.83	1.83	1.84
July 26	.40	.55	.70	.80	.99	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Aug. 6	.27	.30	.40	.44	.46	.50	.50	.67	.80	.86	.86	.86
Nov. 23	.30	.55	.63	.70	.79	.87	.91	1.00	1.07	1.12	1.25	1.35
Dec. 11	.17	.22	.37	.50	.71	.88	.98	1.22	1.56	1.57	1.67	1.72
Dec. 11	.37	.51	.74	1.02	1.08	1.26	1.62	2.02	2.06	2.11	2.28	2.36
Huntsville Airport												
Feb. 22	.16	.28	.33	.46	.62	.76	.82	.84	.88	.97	1.06	1.11
Mar. 7	.23	.39	.57	.72	1.05	1.27	1.30	1.32	1.32	1.32	1.32	1.32
May 15	.18	.30	.39	.47	.70	.85	.89	.90	.91	.92	.98	.99
Aug. 31	.20	.37	.51	.64	.83	1.00	1.16	1.29	1.49	1.62	1.69	1.91
Aug. 31	.15	.27	.35	.48	.67	.92	.94	.94	.94	.94	.94	.94
Dec. 11	.22	.34	.36	.40	.44	.54	.69	.70	.75	.80	.90	.98
Montgomery Airport												
Feb. 19	.25	.36	.43	.44	.46	.59	.65	.69	.83	.83	.86	.86
Feb. 24	.20	.33	.46	.58	.89	1.21	1.43	1.49	1.68	1.73	1.82	1.84
Feb. 24	.21	.33	.45	.53	.58	.67	.71	.77	.83	.87	.94	1.02
Feb. 24	.18	.30	.41	.56	.69	.78	.88	.91	.97	1.03	1.09	1.27
Mar. 13	.25	.28	.30	.30	.31	.31	.31	.31	.31	.31	.31	.31
Mar. 18	.27	.32	.36	.36	.44	.50	.55	.58	.59	.59	.60	.60
Mar. 31	.30	.55	.67	.72	.80	.95	1.02	1.06	1.15	1.72	2.00	2.11
Apr. 9	.28	.39	.43	.46	.48	.51	.55	.57	.57	.57	.57	.57
May 25	.26	.32	.32	.33	.33	.33	.33	.33	.33	.39	.48	.57
June 20	.38	.54	.56	.60	.72	.85	.98	1.10	1.15	1.16	1.17	1.18
June 23	.30	.55	.77	.87	.95	1.04	1.12	1.14	1.16	1.16	1.16	1.16
July 17	.21	.31	.38	.45	.53	.55	.55	.58	.59	.59	.59	.59
July 28	.21	.34	.48	.60	.77	.80	.80	.80	.80	.80	.80	.83
Aug. 23	.29	.51	.56	.58	.58	.58	.59	.60	.60	.60	.69	.73
Aug. 31	.47	.90	1.32	1.68	2.42	3.44	4.16	4.39	4.47	4.51	4.58	4.64
Sept. 4	.24	.44	.61	.71	.77	.77	.77	.77	.77	.77	.77	.77
Dec. 10	.22	.35	.50	.61	.69	.80	.91	.99	1.06	1.12	1.19	1.32
Dec. 11	.40	.71	.75	.77	.77	.79	.81	.81	.90	.91	.95	.96
Dec. 12	.22	.40	.48	.54	.58	.64	.76	.93	1.12	1.28	1.33	1.37
ALASKA												
Anchorage Airport						None						
Annette Airport †						None						
Cordova Airport												
Aug. 9	.28	.39	.46	.50	.57	.61	.62	.63	.65	.68	.91	1.04
Fairbanks Airport						None						
Juneau Airport						None						
King Salmon Airport						None						
Yakutat Airport						None						
ARIZONA												
Phoenix Airport												
Aug. 23	.22	.33	.33	.34	.34	.34	.35	.36	.38	.40	.41	.41
Prescott Airport												
July 23	.26	.41	.59	.66	.82	1.04	1.17	1.17	1.17	1.17	1.17	1.17
Tucson Airport												
July 31	.31	.48	.54	.56	.59	.60	.60	.60	.61	.61	.62	.62
Aug. 22	.46	.82	1.17	1.40	1.64	2.08	2.22	2.25	2.28	2.34	2.42	2.45
Winslow Airport						None						
Yuma Airport						None						
ARKANSAS												
Fort Smith Airport												
Mar. 29	.37	.45	.47	.49	.52	.56	.57	.57	.57	.57	.57	.62
May 5	.34	.43	.45	.47	.54	.60	.65	.65	.65	.65	.65	.66
June 4	.17	.27	.37	.44	.50	.51	.53	.57	.60	.62	.65	.65
June 8	.18	.28	.28	.46	.47	.57	.63	.70	.77	.80	.83	.85
June 8	.25	.35	.45	.70	.94	.99	.99	.99	.99	.99	.99	.99
July 14	.28	.51	.67	.89	1.02	1.22	1.33	1.37	1.39	1.40	1.46	1.52
July 15	.26	.48	.64	.87	1.06	1.24	1.36	1.54	1.67	1.76	1.95	2.01
July 23	.23	.40	.44	.44	.44	.46	.55	.69	.73	.73	.84	.86
Aug. 3	.26	.32	.38	.40	.43	.44	.44	.44	.44	.44	.44	.44
Aug. 13	.22	.37	.54	.72	.83	1.05	1.28	1.42	1.49	1.56	1.64	1.72
Dec. 4	.19	.36	.37	.37	.40	.50	.77	.88	.90	1.03	1.13	1.19
Little Rock Airport												
Mar. 7	.27	.38	.39	.41	.43	.47	.52	.56	.56	.63	.68	.68
Mar. 12	.27	.30	.46	.55	.57	.58	.58	.58	.58	.60	.62	.62
Mar. 26	.28	.43	.65	.79	.85	.88	.92	.98	1.06	1.10	1.15	1.19
Apr. 25	.18	.34	.43	.46	.46	.46	.46	.46	.46	.46	.46	.46
May 1	.22	.43	.63	.83	1.07	1.24	1.26	1.30	1.35	1.38	1.42	1.45
May 6	.42	.66	.72	.74	.86	.98	1.04	1.14	1.21	1.33	1.40	1.42
May 19	.12	.22	.32	.42	.61	.78	.84	.98	1.00	1.04	1.07	1.10
June 9	.24	.40	.42	.43	.45	.45	.45	.45	.45	.45	.45	.45
July 31	.20	.38	.50	.56	.58	.60	.60	.60	.60	.60	.60	.60
Aug. 15	.18	.36	.47	.52	.60	.62	.67	.68	.70	.70	.70	.70
Sept. 27	.20	.32	.48	.51	.52	.70	.80	.85	.89	.95	1.00	1.02
Dec. 9	.18	.27	.37	.42	.51	.78	.91	1.01	1.17	1.21	1.47	1.67
Texarkana Airport												
Feb. 20	.27	.35	.38	.41	.42	.50	.62	.77	1.06	1.12	1.42	1.57
Mar. 4-5	.20	.33	.37	.38	.43	.49	.51	.53	.53	.54	.54	.54
Mar. 7	.36	.48	.51	.53	.78	.81	.82	.83	.83	.83	.83	.88
Mar. 12	.28	.50	.65	.69	1.02	1.07	1.08	1.08	1.08	1.08	1.08	1.08

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
ARKANSAS (Cont'd.)												
Texarkana Airport (Cont'd.)												
Mar. 26	0.30	0.38	0.41	0.43	0.46	0.49	0.51	0.53	0.56	0.58	0.60	0.67
Mar. 27	.42	.49	.53	.56	.57	.58	.59	.60	.60	.60	.60	.60
Mar. 29	.38	.46	.53	.55	.60	.71	.82	.85	1.20	1.37	1.55	1.58
Mar. 29	.40	.62	.68	.71	.71	.71	.71	.71	.71	.71	.71	.71
May 1	.17	.24	.35	.45	.57	.62	.62	.62	.62	.62	.62	.62
June 8-9	.34	.38	.80	1.00	1.35	1.38	1.40	1.40	1.59	2.03	2.50	2.76
June 23	.37	.55	.58	.60	.60	.60	.60	.60	.60	.60	.60	.60
July 14	.25	.34	(.45)	(.50)	(.60)	(.80)	.82	1.00	1.34	1.52	1.72	1.88
July 15	.45	.63	.65	.70	.85	1.01	1.04	1.05	1.06	1.06	1.08	1.10
July 23	.25	.35	.38	.44	.44	.49	.55	.56	.57	.57	.57	.57
July 24	.15	.25	.35	.40	.52	.54	.54	.54	.54	.54	.54	.54
Aug. 13	.30	.45	.65	.85	1.12	1.16	1.17	1.17	1.17	1.17	1.17	1.17
Aug. 14	.23	.38	.42	.42	.42	.42	.44	.45	.45	.50	.51	.51
Sept. 8	.20	.30	.32	.33	.35	.35	.35	.35	.35	.35	.35	.35
Sept. 10	.19	.34	.40	.41	.42	.42	.42	.42	.42	.42	.42	.42
Sept. 12	.17	.28	.37	.47	.64	.73	.90	.93	1.08	1.11	1.12	1.16
Sept. 30	.30	.41	.43	.44	.45	.45	.45	.48	.49	.49	.58	.60
Oct. 1	.30	.40	.45	.51	.62	.88	.96	1.10	1.22	1.34	1.47	1.68
Nov. 22	.32	.42	.47	.53	.58	.63	.71	.77	.84	.86	.87	.93
Dec. 31	.17	.27	.32	.34	.45	.55	.87	1.05	1.18	1.25	1.36	1.40
CALIFORNIA												
Bakersfield Airport						None						
Blue Canyon Airport												
Sept. 17	.17	.30	.35	.38	.42	.47	.51	.51	.51	.51	.52	.52
Burbank Airport												
Dec. 2	.20	.30	.33	.35	.37	.34	.40	.41	.42	.42	.42	.42
Eureka						None						
Fresno Airport						None						
Mt. Shasta						None						
Red Bluff Airport												
Dec. 20	.44	.62	.66	.67	.68	.68	.69	.69	.69	.69	.69	.69
Sacramento						None						
San Diego Airport						None						
San Francisco						None						
COLORADO												
Alamosa Airport												
Aug. 17	.25	.39	.59	.59	.59	.59	.59	.59	.59	.59	.59	.59
Denver Airport												
May 20	.40	.60	.70	.79	.92	.98	1.00	1.02	1.03	1.03	1.03	1.03
June 19	.16	.30	.38	.44	.50	.52	.55	.55	.55	.55	.55	.55
Sept. 19	.24	.40	.50	.55	.57	.63	.69	.69	.69	.69	.69	.69
Grand Junction AP						None						
Pueblo Airport												
June 1	.28	.45	.55	.64	.76	.77	.79	1.00	1.04	1.10	1.26	1.60
June 19	.16	.26	.34	.43	.53	.55	.58	.62	.63	.65	.67	.67
July 7	.29	.45	.56	.66	.71	.81	.82	.83	.84	.84	.86	.86
Aug. 8	.29	.39	.40	.42	.43	.43	.43	.43	.43	.43	.43	.43
CONNECTICUT												
Bridgeport Airport												
July 15	.10	.18	.28	.33	.39	.67	.90	1.03	1.14	1.22	1.34	1.42
Aug. 27	.27	.41	.55	.72	.83	.90	1.05	1.15	1.17	1.19	1.22	1.37
Sept. 2	.29	.54	.69	.73	.77	.79	.79	.84	.84	.84	.84	.84
Hartford Airport												
May 26	.18	.32	.35	.38	.40	.42	.44	.46	.49	.49	.49	.49
Sept. 2	.40	.78	.85	.93	1.07	1.10	1.10	1.10	1.10	1.10	1.10	1.10
New Haven Airport												
May 16	.21	.32	.38	.49	.55	.63	.63	.65	.66	.66	.95	1.25
June 14	.30	.44	.45	.45	.45	.45	.45	.45	.45	.45	.45	.45
Aug. 23	.24	.33	.43	.45	.46	.50	.51	.54	.54	.54	.54	.55
Aug. 27	.24	.40	.51	.59	.67	.83	.92	1.01	1.02	1.02	1.20	1.42
Sept. 2	.26	.43	.51	.57	.65	.66	.66	.66	.83	.87	.87	.87
Sept. 15	.19	.38	.43	.47	.48	.48	.48	.55	.59	.59	.59	.59
DELAWARE												
Wilmington Airport												
July 13	.25	.40	.54	.62	.85	.98	1.08	1.16	1.29	1.32	1.42	1.62
July 13	.36	.58	.64	.72	.72	.72	.72	.72	.72	.72	.72	.72
July 29	.25	.46	.66	.80	.95	1.08	1.14	1.15	1.15	1.15	1.15	1.15
Aug. 25	.16	.21	.30	.40	.51	.53	.53	.54	.54	.54	.54	.63
Sept. 14	.29	.50	.70	.75	.81	.81	.82	.82	.82	.82	.82	.82
DISTRICT OF COLUMBIA												
Washington, D. C. AP												
Feb. 25	.30	.40	.41	.43	.44	.44	.44	.44	.44	.44	.44	.44
May 9	.36	.48	.49	.50	.51	.53	.57	.57	.57	.57	.57	.57
June 2	.46	.56	.68	.74	.81	.87	.89	.89	.89	1.02	1.08	1.08
June 10	.50	.88	1.20	1.30	1.31	1.31	1.32	1.32	1.32	1.32	1.32	1.32
July 2	.26	.36	.41	.46	.49	.50	.50	.50	.50	.50	.50	.50
July 13	.12	.22	.31	.42	.51	.53	.58	.61	.67	.69	.77	.81
July 14	.22	.38	.38	.39	.39	.39	.39	.39	.39	.39	.39	.39
July 31	.39	.52	.56	.56	.58	.58	.58	.58	.58	.58	.58	.58
Aug. 9	.26	.36	.41	.46	.50	.56	.57	.60	.62	.62	.62	.62
Aug. 23	.34	.42	.65	.78	1.04	1.22	1.38	1.46	1.98	2.27	2.28	2.28
Aug. 25	.28	.38	.39	.39	.39	.39	.39	.39	.44	.58	.58	--
Aug. 26	.25	.41	.57	.64	.70	.81	.90	1.03	1.07	1.08	1.29	1.37
Sept. 15	.20	.34	.38	.41	.43	.44	.44	.44	.44	.44	.44	.44
FLORIDA												
Apalachicola												
Mar. 31	.37	.40	.61	.76	.87	.95	.99	1.01	1.05	1.12	1.24	1.29
May 24	.40	.57	.83	1.16	1.36	1.38	1.38	1.38	1.38	1.39	1.40	1.40

( ) Estimated Data

† Cold Bay data found at end of table.

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
FLORIDA (Cont'd.)												
Apalachicola (Cont'd.)												
June 16	0.22	0.37	0.49	0.52	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
June 21	.42	.55	.68	.82	1.04	1.21	1.23	1.35	1.46	1.54	1.62	1.64
July 21	.34	.46	.54	.74	.89	1.24	1.30	1.32	1.32	1.32	1.32	1.32
Aug. 5	.31	.49	.63	.63	.63	.63	.63	.63	.63	.76	.77	.77
Aug. 23	.25	.34	.48	.52	.55	.58	.59	.60	.61	.62	.63	.63
Dec. 12	.27	.46	.59	.63	.73	.80	.98	1.15	1.21	1.27	1.32	1.38
Daytona Beach AP												
Apr. 9	.32	.59	.77	.83	.87	.87	.87	.88	.89	.89	.89	.89
May 9	.43	.75	.98	1.12	1.17	1.20	1.27	1.29	1.31	1.31	1.31	1.31
May 20	.14	.25	.33	.40	.43	.44	.47	.48	.49	.49	.49	.49
June 10	.36	.45	.46	.47	.55	.75	.81	.82	.82	.88	.88	.88
June 16	.29	.31	.33	.33	.33	.33	.33	.33	.33	.58	.65	.65
June 28	.50	.65	.72	.72	.73	.86	.94	1.02	1.41	1.62	1.78	2.28
July 4	.45	.80	.90	1.04	1.08	1.14	1.16	1.18	1.20	1.22	1.23	1.23
July 18	.22	.32	.38	.53	.60	.60	.60	.68	.90	.90	1.04	1.06
Aug. 19	.25	.40	.52	.61	.69	.70	.71	.72	.72	.73	.74	.74
Aug. 26	.55	1.00	1.27	1.64	2.02	2.24	2.29	2.32	2.34	2.36	2.41	2.42
Aug. 29	.29	.42	.55	.75	.94	.98	1.03	1.03	1.04	1.10	1.12	1.62
Sept. 16	.25	.50	.58	.68	.74	.85	.86	.87	.87	.94	.95	.95
Sept. 17	.28	.36	.38	.40	.61	.69	.69	.69	.69	.72	.73	.74
Sept. 18	.23	.36	.54	.61	.85	1.01	1.04	1.09	1.10	1.10	1.10	1.10
Nov. 15	.25	.41	.44	.45	.45	.45	.45	.45	.47	.68	.79	.85
Fort Myers Airport												
Jan. 13	.35	.50	.56	.70	.84	.84	.85	.85	.85	.85	.85	.85
Feb. 7	.35	.62	.72	.90	.95	.98	1.02	1.08	1.11	1.13	1.13	1.14
Mar. 31	.44	.85	1.10	1.35	1.63	1.77	2.12	2.80	2.90	2.94	2.96	2.97
May 10	.38	.54	.58	.59	.61	.64	.69	.77	.84	.84	.84	.84
May 26	.38	.62	.94	1.15	1.50	1.90	2.20	2.52	2.59	2.65	2.69	2.72
May 29	.27	.39	.45	.45	.45	.46	.49	.49	.49	.49	.49	.49
June 9	.22	.42	.55	.58	.58	.58	.58	.58	.58	.58	.58	.61
June 12	.28	.52	.63	.75	.78	1.00	1.00	1.01	1.02	1.02	1.02	1.02
June 13	.40	.63	.76	.92	1.25	1.90	2.15	2.21	2.22	2.24	2.26	2.28
June 24	.16	.31	.36	.40	.40	.40	.40	.40	.40	.40	.40	.40
June 27	.36	.59	.79	.95	1.15	1.54	2.19	2.24	2.32	2.33	2.34	2.38
June 28	.33	.49	.67	.78	.81	.83	.84	.84	.84	.84	.84	.84
July 1	.34	.57	.80	.92	1.05	1.10	1.20	1.25	1.26	1.26	1.27	1.30
July 2	.40	.70	.82	.95	1.15	1.32	1.34	1.35	1.35	1.35	1.36	1.38
July 11	.29	.50	.60	.80	.97	1.05	1.05	1.06	1.07	1.10	1.10	1.10
July 13	.41	.72	.87	.94	.96	.96	.99	1.04	1.04	1.04	1.04	1.04
July 14	.20	.30	.43	.47	.48	.50	.50	.50	.51	.51	.51	.51
July 22	.70	1.03	1.10	1.14	1.15	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Aug. 1	.35	.45	.59	.71	.80	.92	1.25	1.60	1.63	1.64	1.64	1.64
Aug. 7	.18	.30	.43	.51	.56	.59	.61	.61	.61	.61	.62	.62
Aug. 14	1.00	1.60	2.00	2.30	2.57	2.67	2.70	2.71	2.72	2.72	2.72	2.72
Aug. 18	.31	.55	.62	.65	.75	.81	.81	.81	.82	.82	.82	.82
Aug. 24	.17	.33	.35	.37	.37	.37	.37	.38	.42	.45	.45	.45
Aug. 27	.65	.90	1.45	1.90	2.47	3.00	3.07	3.10	3.12	3.13	3.14	3.14
Aug. 28	.37	.46	.49	.50	.51	.51	.51	.51	.51	.51	.51	.54
Aug. 30	.26	.44	.44	.44	.46	.55	.56	.56	.56	.56	.56	.57
Sept. 9	.45	.65	.80	.93	1.02	1.07	1.08	1.08	1.08	1.08	1.08	1.08
Sept. 21	.30	.45	.55	.62	.65	.65	.65	.65	.65	.65	.65	.65
Oct. 13	.35	.62	.85	1.12	1.33	1.35	1.36	1.90	2.47	2.51	2.51	2.51
Nov. 5	.16	.29	.33	.40	.43	.43	.48	.64	.69	.73	.81	.81
Jacksonville Airport												
Feb. 18	.26	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35
Feb. 19	.18	.30	.36	.41	.52	.82	.91	1.14	1.29	1.29	1.30	1.30
Apr. 9	.40	.63	.76	.86	.97	1.07	1.13	1.20	1.27	1.31	1.31	1.31
Apr. 15	.24	.39	.44	.51	.57	.57	.57	.57	.57	.57	.57	.57
June 10	.24	.35	.37	.44	.46	.47	.48	.48	.48	.48	.48	.48
June 25	.34	.59	.81	.96	1.23	1.35	1.38	1.41	1.41	1.41	1.43	1.43
July 8	.26	.35	.45	.46	.52	.52	.52	.52	.52	.53	.55	.56
July 12	.25	.44	.55	.63	.65	.65	.65	.65	.65	.65	.65	.65
Aug. 2	.27	.51	.70	.92	1.11	1.16	1.17	1.17	1.18	1.18	1.18	1.18
Aug. 13	.32	.52	.65	.69	.72	.74	.75	.75	.75	.75	.75	.75
Aug. 18	.17	.30	.42	.53	.69	.85	.99	1.06	1.10	1.11	1.28	1.28
Aug. 19	.25	.35	.47	.55	.66	.84	.99	1.04	1.28	1.64	1.90	2.00
Aug. 26	.25	.42	.60	.72	.88	.89	.90	.91	.94	.97	1.02	1.03
Aug. 28	.44	.66	.75	.76	.76	.76	.76	.76	.76	.76	.76	.76
Key West Airport												
Apr. 1	.48	.70	.86	.99	1.09	1.10	1.10	1.10	1.37	1.67	1.67	1.67
June 27	.60	1.00	1.32	1.62	1.85	2.42	2.91	3.27	3.30	3.30	3.30	3.30
June 28	.30	.52	.58	.60	.60	.60	.60	.60	.60	.60	.60	.60
Oct. 28	.44	.82	.85	.92	.95	1.02	1.02	1.02	1.02	1.02	1.02	1.02
Miami Airport												
Jan. 12	.25	.33	.38	.38	.38	.46	.46	.47	.47	.47	.50	.52
Jan. 13	.20	.33	.45	.50	.60	.70	.97	1.02	1.07	1.11	1.11	1.11
Mar. 21	.55	1.03	1.11	1.12	1.12	1.23	1.24	1.47	1.48	1.48	1.48	1.48
May 23	.38	.50	.53	.54	.54	.54	.54	.54	.54	.54	.54	.54
May 26	.22	.34	.42	.44	.48	.55	.59	.61	.62	.64	1.00	1.12
May 27	.35	.39	.39	.39	.39	.39	.39	.39	.39	.41	.41	.41
May 27	.30	.60	.78	1.00	1.50	1.90	2.03	2.05	2.05	2.07	2.07	2.07
June 9	.20	.32	.35	.38	.46	.75	.80	1.05	1.12	1.21	1.43	1.51
June 10	.33	.61	.79	.84	.94	1.54	1.61	1.69	1.72	1.74	1.77	1.81
June 13	.25	.38	.39	.40	.41	.45	.45	.45	.45	.45	.45	.45
June 27	.20	.32	.45	.55	.85	1.10	1.25	1.31	1.34	1.36	1.39	1.46
June 28	.48	.88	1.18	1.38	1.58	1.77	1.83	2.03	2.10	2.15	2.25	2.25
Aug. 17	.35	.50	.75	.87	1.03	1.26	1.39	1.40	1.40	1.40	1.40	1.40
Aug. 21	.42	.65	.81	1.00	1.24	1.26	1.27	1.28	1.29	1.29	1.29	1.29
Sept. 16	.30	.50	.65	.70	.76	.82	.88	.90	.94	.99	1.06	1.10
Sept. 18	.18	.31	.36	.41	.48	.51	.54	.54	.54	.54	.54	.54
Oct. 9	.35	.60	.75	.87	.92	.96	.96	.97	.97	1.01	1.02	1.02
Oct. 27	.37	.47	.60	.71	.89	.99	1.01	1.03	1.05	1.07	1.09	1.11
Nov. 7	.25	.45	.59	.65	.70	.71	.73	.73	.73	.73	.73	.73
Miami												
Jan. 12	.33	.48	.57	.66	.72	.96	1.01	1.02	1.02	1.02	1.03	1.04
Jan. 13	.18	.22	.33	.40	.51	.75	.83	.98	1.04	1.08	1.11	1.11
Mar. 21	.32	.53	.54	.54	.62	.64	.88	1.09	1.10	1.11	1.11	1.11
May 23	.26	.37	.40	.41	.42	.42	.42	.42	.42	.42	.42	.42
May 24	.36	.58	.65	.65	.65	.65	.65	.65	.65	.65	.65	.65
May 27	.34	.47	.47	.47	.47	.51	.52	.52	.52	.52	.53	.53
May 27	.22	.41	.55	.73	1.07	1.21	1.28	1.38	1.40	1.45	1.45	1.45
June 9	.39	.72	.76	.77	.79	.93	.96	.97	.97	.97	.97	.97
June 9	.24	.38	.44	.50	.60	.97	1.12	1.35	1.46	1.53	1.61	1.70
June 10	.19	.33	.43	.47	.62	.90	1.04	1.16	1.18	1.18	1.23	1.27
June 27	.26	.48	.66	.74	.85	.95	1.00	1.02	1.05	1.07	1.13	1.22
June 28	.46	.84	1.22	1.41	1.59	1.65	1.67	1.83	1.87	1.88	1.95	1.99
July 18	.19	.28	.28	.28	.30	.30	.30	.30	.31	.31	.31	.31
Aug. 17	.45	.80	1.06	1.27	1.44	1.52	1.59	1.63	1.64	1.64	1.64	1.64
Aug. 21	.30	.53	.71	.72	.72	.73	.73	.75	.75	.76	.76	1.18

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
FLORIDA (Cont'd.)												
Miami (Cont'd.)												
Aug. 28	.34	.52	.69	.72	.73	.73	.73	.73	.73	.73	.73	.73
Sept. 16	.16	.30	.40	.46	.61	.74	.81	.87	.89	.91	1.01	1.08
Oct. 9	.28	.53	.69	.80	.90	.94	.94	.95	.95	.95	.97	.99
Nov. 4	.28	.43	.44	.60	.73	.77	.80	.81	.83	.83	.83	1.02
Orlando Airport												
Feb. 22	.37	.50	.51	.51	.57	.57	.57	.58	.59	.60	.61	.67
Mar. 18	.32	.55	.63	.70	.90	1.01	1.04	1.06	1.12	1.16	1.30	1.33
June 7	.24	.34	.49	.62	.83	1.01	1.06	1.06	1.06	1.06	1.06	1.06
June 12	.30	.52	.65	.80	1.18	1.32	1.39	1.40	1.40	1.40	1.40	1.40
June 15	.17	.27	.39	.49	.60	.62	.62	.62	.62	.62	.62	.62
June 20	.25	.43	.65	.75	.81	.82	.83	.83	.83	.83	.83	.83
June 26	.35	.48	.54	.62	.74	.81	.86	.86	.86	.86	.86	.86
June 28	.30	.47	.71	.87	1.07	1.16	1.20	1.23	1.25	1.25	1.25	1.25
July 3	.65	1.05	1.53	1.77	2.05	2.34	2.68	2.85	2.90	2.90	2.90	2.90
July 5	.56	.93	1.08	1.27	1.41	1.56	1.66	1.78	1.80	1.80	1.80	1.80
July 19	.18	.35	.42	.45	.53	.60	.81	.90	.91	.91	.91	.91
July 22	.27	.36	.39	.49	.56	.57	.57	.60	.65	.70	.73	.75
July 26	.26	.38	.43	.46	.48	.48	.48	.48	.48	.48	.48	.48
Aug. 17	.27	.41	.50	.54	.58	.67	.70	.71	.71	.71	.72	.72
Aug. 19	.26	.39	.43	.47	.51	.54	.54	.54	.54	.54	.54	.54
Aug. 26	.55	.83	1.24	1.51	1.76	1.82	1.95	2.09	2.11	2.12	2.17	2.25
Sept. 16	.18	.30	.40	.49	.64	.89	1.04	1.25	1.34	1.44	1.47	1.78
Oct. 13	.56	1.00	1.55	1.90	2.24	2.34	2.35	2.35	2.36	2.37	2.42	2.44
Pensacola												
Feb. 22	.49	.56	.71	1.10	1.40	1.81	1.90	2.02	2.15	2.28	2.34	2.53
Mar. 17	.17	.31	.42	.50	.64	.69	.72	.74	.76	.76	.80	.92
Mar. 18	.25	.32	.37	.41	.50	.58	.67	.71	.74	.89	1.16	1.27
Mar. 28	.22	.31	.35	.40	.43	.45	.73	.88	.90	.92	.97	1.03
Apr. 12	.46	.80	1.05	1.14	1.23	1.37	1.48	1.52	1.55	1.63	1.66	1.66
Apr. 27	.35	.49	.58	.64	.71	.71	.71	.74	.75	.75	.75	.75
June 20	.28	.43	.57	.68	.84	1.04	1.20	1.29	1.42	1.52	1.64	1.68
June 21	.17	.27	.35	.44	.58	.71	.79	.86	.87	.91	.92	.92
June 24	.37	.55	.64	.65	.93	1.10	1.27	1.34	1.48	1.62	1.63	1.69
June 26	.16	.26	.36	.41	.43	.43	.43	.43	.43	.43	.43	.43
July 4	.25	.35	.37	.38	.40	.40	.41	.41	.42	.42	.42	.44
July 10	.37	.60	.70	.71	.72	.72	.72	.73	.75	.76	.77	.77
July 11	.15	.26	.36	.37	.48	.57	.62	.63	.66	.66	.68	.70
July 16	.22	.38	.44	.46	.46	.46	.46	.46	.46	.46	.46	.46
Aug. 3	.29	.43	.49	.52	.55	.55	.55	.55	.55	.55	.55	.55
Aug. 6	.51	.91	1.06	1.09	1.10	1.27	1.36	1.46	1.52	1.63	1.74	1.80
Aug. 7	.34	.52	.57	.62	.86	.92	.96	1.03	1.11	1.14	1.18	1.28
Aug. 24	.47	.80	.90	.99	1.13	1.19	1.22	1.22	1.22	1.22	1.22	1.22
Aug. 30	.41	.57	.61	.62	.76	.90	.91	.91	.91	.91	.91	.91
Aug. 31	.49	.66	.83	.91	1.42	1.84	2.20	2.45	2.46	2.67	2.70	2.74
Sept. 1	.27	.42	.53	.59	.76	.79	.80	.82	1.02	1.02	1.05	1.19
Sept. 10	.24	.31	.38	.39	.62	.72	.75	.75	.76	.77	.79	.79
Sept. 10	.20	.31	.40	.45	.56	.66	.81	1.01	1.16	1.29	1.34	1.34
Oct. 7	.20	.33	.42	.48	.54	.63	.67	.70	.79	.95	1.08	1.13
Oct. 7	.20	.30	.41	.55	.78	.91	.92	.92	.92	.92	.92	.93
Nov. 14	.31	.46	.59	.73	.88	.98	1.00	1.00	1.00	1.03	1.03	1.03
Nov. 23	.26	.30	.32	.36	.37	.47	.51	.56	.63	.67	.72	.81
Dec. 10	.28	.36	.41	.46	.50	.66	.73	.79	.83	.92	.92	.93
Tallahassee AP												
Feb. 23	.35	.42	.43	.47	.49	.52	.60	.93	1.09	1.17	1.25	1.30
Mar. 17	.27	.38	.41	.44	.47	.49	.50	.52	.54	.59	.64	.65
Mar. 28	.25	.43	.51	.57	.61	.65	.65	.65	.65	.65	.65	.65
Mar. 31	.26	.47	.58	.73	.95	1.02	1.04	1.09	1.13	1.20	1.24	1.27
June 6	.34	.56	.67	.76	.78	.78	.78	.78	.78	.78	.78	.78
June 14	.19	.34	.43	.50	.55	.60	.61	.61	.62	.62	.64	.64
July 23	.65	.95	1.22	1.42	1.63	1.70	1.74	1.74	1.74	1.74	1.74	1.74
July 27	.30	.60	.85	1.04	1.25	1.65	1.72	1.72	1.73	1.73	1.73	1.73
Aug. 3	.28	.45	.52	.53	.55	.55	.55	.55	.55	.55	.55	.55
Aug. 5	.35	.59	.65	.72	.73	.73	.73	.74	.74	.87	.91	.91
Aug. 23	.29	.46	.49	.50	.50	.50	.50	.50	.50	.50	.50	.50
Aug. 30	.22	.33	.48	.57	.62	.64	.66	.70	.84	.85	.86	.93
Aug. 30	.15	.24	.26	.28	.49	.70	.91	1.02	1.24	1.28	1.31	1.38
Aug. 31	.24	.33	.37	.38	.39	.59	.64	.74	.83	.95	1.06	1.21
Sept. 9	.20	.36	.42	.43	.44	.56	.74	.75	.75	.75	.75	.75
Sept. 10	.33	.48	.49	.50	.51	.51	.51	.51	.51	.51	.51	.51
Dec. 12	.29	.45	.55	.68	.73	.80	.83	.98	1.09	1.13	1.15	1.27
Dec. 18	.15	.25	.36	.45	.56	.65	.70	.72	.78	.82	.86	.94
Tampa Airport												
Feb. 3	.27	.37	.40	.45	.50	.80	.90	1.00	1.04	1.14	1.45	1.95
Feb. 3	.20	.25	.35	.40	.45	.48	.53	.55	.68	.95	1.45	1.49
Feb. 3	.20	.35	.40	.50	.65	.70	.85	.90	1.13	1.45	1.45	2.00
Apr. 12	.30	.55	.59	.60	.60	.61	.64	.64	.64	.64	.90	1.13
June 8	.27	.44	.53	.63	.63	.63	.63	.63	.63	.63	.63	.63
June 13	.45	.62	.62	.62	.62	.62	.63	.65	.65	.65	.65	.65
July 11	.30	.40	.42	.43	.46	.47	.47	.47	.47	.47	.47	.47
July 16	.35	.61	.87	1.06	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
July 23	.40	.61	.63	.63	.63	.63	.63	.63	.63	.63	.63	.63
July 24	.50	.57	.63	.65	.65	.65	.65	.65	.65	.65	.65	.65
July 25	.25	.32	.36	.38	.40	.42	.42	.42	.42	.42	.42	.42
Aug. 8	.30	.55	.76	.82	.84	.84	.84	.84	.84	.84	.84	.84
Aug. 17	.25	.45	.56	.74	.90	.97	1.06	1.11	1.14	1.17	1.20	1.22
Aug. 19	.25	.28	.29	.30	.32	.35	.36	.36	.52	.55	.56	.83
Aug. 25	.25	.30	.35	.39	.40	.40	.40	.40	.67	.67	.67	.67
Sept. 9	.25	.39	.42	.45	.48	.48	.48	.52	.58	.58	.58	.58
Sept. 12	.45	.74	.84	.86	.87	.89	.91	.91	.91	.91	.91	.91
Nov. 23	.30	.40	.57	.67	.74	.79	.80	.80	.80	.80	.80	.80
Dec. 18	.31	.44	.54	.70	.89	.95	.97	.98	1.02	1.08	1.21	1.21
Dec. 19	.26	.44	.47	.51	.62	.71	.72	.73	.74	.77	.77	1.17
West Palm Beach AP												
Mar. 19	.25	.50	.69	.87	1.15	1.44	1.63	1.78	1.83	1.85	1.85	1.85
Apr. 1	.36	.71	.91	1.02	1.10	1.15	1.36	1.47	1.53	1.56	1.57	1.57
May 13	.25	.45	.55	.59	.60	.60	.63	.65	.65	.65	.65	.65
June 28	.25	.35	.40	.43	.56	.59	.63	.64	.64	.64	.64	.64
July 11	.25	.40	.44	.46	.46	.46	.46	.46	.46	.46	.46	.46
Aug. 9	.25	.37	.40	.40	.40	.40	.44	.64	.66	.69	.70	.70
Aug. 15	.20	.37	.46	.49	.55	.59	.68	.69	.72	.72	.72	.74
Aug. 16	.15	.25	.28	.41	.65	.87	1.03	1.13	1.15	1.16	1.17	1.18
Aug. 18	.25	.46	.60	.65	.68	.69	.69	.69	.69	.69	.69	.69
Sept. 15	.18	.28	.43	.49	.62	.85	1.05	1.09	1.10	1.10	1.11	1.12
Sept. 16	.25	.40	.41	.41	.42	.43	.43	.43	.43	.43	.43	.43
Sept. 30	.20	.35	.41	.46	.53	.62	.64	.65	.65	.65	.65	.65
Oct. 18	.15	.30	.37	.40	.47	.49	.53	.53	.56	.56	.56	.56
Oct. 28	.22	.28	.35	.40	.66	.75	.82	.86	.87	.89	.89	.89
Oct. 29	.21	.31	.35	.36	.50	.59	.62	.62	.62	.62	.64	.70
Nov. 12	.20	.30	.45	.55	.57	.58	.60	.60	.62	.62	.62	.66

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
FLORIDA (Cont'd.)												
West Palm Beach AP (Cont'd.)												
Nov. 30	0.34	0.45	0.57	0.60	0.66	0.68	0.69	0.72	0.72	0.72	0.72	0.72
GEORGIA												
Athens Airport												
June 23	.35	.48	.48	.48	.48	.58	.64	.68	.68	.69	.69	.73
July 13	.15	.30	.40	.50	.54	.54	.73	.88	.91	.91	.91	.91
July 22	.40	.68	.88	1.28	1.46	1.48	1.56	1.61	1.62	1.64	1.71	1.74
Aug. 1	.29	.55	.65	.80	1.09	1.49	1.52	1.54	1.55	1.55	1.55	1.55
Aug. 3	.20	.40	.52	.57	.66	.73	.74	.74	.74	.74	.74	.74
Aug. 23	.30	.55	.65	.65	.65	.65	.65	.65	.65	.65	.65	.65
Sept. 5	.28	.46	.47	.47	.47	.47	.47	.47	.47	.47	.58	.63
Dec. 12	.22	.42	.49	.51	.68	.73	.76	.80	.88	.97	1.10	1.19
Dec. 18	.23	.33	.41	.48	.50	.53	.56	.60	.93	.93	.93	.93
Atlanta Airport												
Feb. 19	.27	.30	.35	.38	.50	.61	.68	.77	.81	.82	.85	.88
Mar. 6	.26	.34	.41	.43	.54	.59	.78	1.03	1.10	1.13	1.19	1.24
Mar. 8	.32	.40	.42	.44	.46	.47	.47	.47	.47	.47	.47	.47
Apr. 9	.25	.33	.37	.39	.46	.55	.61	.65	.68	.70	.71	.71
May 22	.31	.37	.40	.43	.46	.50	.55	.60	.60	.60	.60	.60
Jul. 7	.30	.60	.75	.78	.78	.78	.78	.78	.78	.78	.85	.85
Aug. 6	.45	.73	1.09	1.21	1.29	1.35	1.36	1.38	1.41	1.43	1.46	1.54
Sept. 5	.23	.45	.50	.53	.55	.58	.78	.78	.78	.78	.78	.78
Dec. 11	.25	.47	.63	.85	1.04	1.11	1.15	1.17	1.21	1.32	1.46	1.55
Dec. 12	.20	.33	.50	.60	.60	.61	.64	.65	.66	.72	.82	.90
Dec. 18	.35	.40	.41	.46	.60	.67	.75	.85	.87	.89	1.02	1.04
Augusta Airport												
Feb. 24	.42	.68	.97	1.05	1.09	1.15	1.27	1.72	1.93	2.17	2.19	2.57
Apr. 9	.30	.36	.40	.43	.50	.54	.56	.56	.70	.71	.71	.71
Apr. 15	.11	.16	.26	.37	.51	.71	.90	1.07	1.17	1.35	1.40	1.58
Apr. 27	.44	.62	.67	.73	.92	1.14	1.44	1.61	1.83	2.12	2.23	2.27
May 25	.31	.51	.59	.61	.65	.70	.71	.72	.72	.72	.72	.72
June 10	.28	.52	.68	.86	.99	1.18	1.28	1.30	1.31	1.32	1.32	1.32
July 13	.34	.63	.71	.74	.75	.75	.75	.75	.75	.75	.75	.75
Aug. 24	.24	.37	.45	.55	.82	.92	.96	1.00	1.03	1.04	1.04	1.04
Sept. 5	.20	.36	.36	.36	.37	.39	.40	.40	.40	.50	.54	.54
Columbus Airport												
Feb. 18	.30	.43	.50	.53	.70	.73	.76	.81	.86	.91	1.01	1.02
Feb. 24	.20	.35	.50	.55	.83	1.00	1.18	1.43	1.58	1.83	1.95	1.97
Mar. 31	.20	.30	.37	.40	.43	.57	.60	.83	.97	1.02	1.04	1.20
Mar. 31	.40	.45	.48	.50	.52	.54	.60	.63	.65	.68	.77	.91
Mar. 31	.50	.88	.93	.98	1.13	1.22	1.32	1.36	1.37	1.38	1.39	1.39
Apr. 9	.35	.37	.39	.41	.44	.47	.50	.54	.57	.60	.60	.60
Apr. 15	.32	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35
May 1	.16	.25	.33	.37	.50	.72	.75	.91	.98	1.04	1.11	1.14
June 26	.20	.31	.42	.44	.44	.54	.55	.55	.55	.55	.55	.70
July 20	.35	.55	.65	.78	.93	1.06	1.08	1.13	1.13	1.14	1.19	1.22
Aug. 7	.26	.36	.39	.40	.40	.40	.40	.40	.40	.40	.40	.40
Aug. 8	.33	.53	.70	.71	.71	.72	.73	.74	.74	.74	.74	.74
Aug. 24	.26	.35	.43	.50	.68	.77	.86	.94	1.00	1.03	1.03	1.03
Aug. 24	.40	.52	.65	.68	.77	.82	.86	.90	.97	1.01	1.03	1.09
Aug. 24	.25	.31	.37	.42	.44	.44	.44	.44	.44	.44	.44	.44
Macon Airport												
Mar. 31	.29	.49	.58	.63	.74	.90	.94	.96	.96	.98	1.02	1.18
Mar. 31	.29	.39	.46	.47	.47	.48	.48	.51	.51	.51	.51	.54
Apr. 9	.25	.29	.30	.31	.32	.33	.35	.39	.43	.44	.48	1.48
May 1	.28	.34	.41	.43	.44	.51	.55	.63	.80	.91	.98	1.02
May 23	.30	.49	.54	.54	.56	.61	.66	.70	.72	.72	.72	.72
June 21	.40	.70	.95	1.19	1.50	1.68	1.68	1.68	1.70	1.78	1.78	1.78
July 12	.25	.42	.46	.47	.47	.47	.49	.49	.49	.49	.66	.71
Aug. 2	.31	.44	.54	.59	.65	.65	.65	.65	.65	.65	.65	.65
Aug. 4	.24	.40	.47	.47	.47	.47	.47	.47	.47	.47	.47	.49
Aug. 24	.33	.60	.76	.87	1.05	1.08	1.09	1.10	1.20	1.21	1.22	1.22
Sept. 5	.25	.37	.43	.46	.46	.46	.46	.46	.46	.46	.46	.47
Rome Airport												
Feb. 23	.23	.32	.41	.53	.67	.92	1.01	1.15	1.28	1.35	1.38	1.38
Mar. 8	.28	.38	.45	.52	.67	.73	.77	.80	.80	.81	.81	.81
Mar. 31	.15	.24	.32	.37	.51	.71	.86	1.10	1.25	1.40	1.55	1.70
May 22	.16	.23	.29	.35	.58	.67	.76	.87	.95	.99	1.02	1.04
June 23	.28	.43	.49	.56	.67	.71	.74	.79	.80	.81	.82	.83
June 23	.26	.48	.49	.49	.49	.49	.49	.49	.49	.49	.49	.49
July 12	.35	.49	.62	.65	.67	.77	.84	.84	.92	.93	1.01	1.10
Aug. 22	.18	.35	.36	.37	.37	.37	.37	.37	.38	.38	.39	.50
Dec. 11	.20	.35	.48	.90	.94	1.12	1.25	1.65	2.12	2.20	2.33	2.40
Dec. 12	.40	.49	.50	.52	.55	.95	1.12	1.21	1.25	1.30	1.32	1.33
Savannah Airport												
Jan. 14	.16	.27	.39	.42	.45	.50	.55	.61	.64	.65	.65	.65
Mar. 18	.22	.34	.37	.53	.65	.76	.78	.79	.79	.79	.79	.81
Mar. 31	.21	.29	.37	.42	.49	.53	.59	.64	.72	.79	.86	.92
Apr. 9	.41	.72	.80	.81	.83	.93	.95	.95	.95	.98	1.09	1.37
June 12	.33	.54	.64	.68	.74	.78	.80	.86	.88	.89	.90	.90
June 26	.48	.65	.80	.97	.97	1.00	1.01	1.05	1.08	1.11	1.11	1.16
July 15	.19	.35	.42	.48	.50	.59	.59	.59	.59	.60	.60	.60
Aug. 1	.25	.44	.59	.70	.74	.76	.77	.77	.77	.79	.79	.81
Aug. 4	.17	.34	.45	.47	.48	.48	.49	.51	.52	.52	.52	.52
Aug. 5	.42	.57	.60	.63	.64	.64	.64	.64	.64	.64	.64	.64
Aug. 22	.19	.33	.42	.57	.85	1.12	1.37	1.56	1.95	2.06	2.10	2.15
Aug. 24	.24	.38	.42	.46	.48	.48	.50	.50	.50	.53	.54	.54
Aug. 26	.40	.73	.89	.97	1.13	1.28	1.50	1.59	1.71	1.73	1.77	2.01
Aug. 31	.25	.36	.48	.56	.70	.87	1.18	1.28	1.31	1.33	1.33	1.33
Sept. 5	.31	.50	.69	.73	.74	.95	1.15	1.17	1.17	1.19	1.22	1.23
Valdosta Airport												
Jan. 14	.28	.35	.37	.39	.45	.47	.59	.61	.63	.66	.67	.68
Feb. 23	.37	.59	.75	.93	1.08	1.25	1.44	1.51	1.59	1.65	1.70	1.73
Mar. 31	.27	.38	.46	.51	.57	.65	.70	.76	.88	.94	1.01	1.05
Apr. 9	.35	.59	.77	.93	1.25	1.47	1.54	1.57	1.57	1.61	1.61	1.61
Apr. 12	.54	.96	1.33	1.76	2.15	2.64	2.87	2.96	3.01	3.04	3.08	3.11
May 26	.30	.42	.44	.48	.48	.66	.76	.92	1.00	1.07	1.11	1.11
June 16	.26	.33	.34	.35	.35	.35	.35	.35	.35	.35	.35	.35
June 20	.55	.70	.80	.96	1.12	1.24	1.34	1.37	1.79	2.13	2.16	2.17
June 21	.41	.68	.95	1.15	1.30	1.58	1.65	1.69	1.71	1.74	2.60	2.93
July 10	.22	.38	.51	.54	.64	.76	.81	.85	.91	.95	.95	.96
July 26	.37	.65	.78	.95	1.31	1.57	1.68	1.71	1.72	1.72	1.73	1.74
Aug. 9	(.45)	(.90)	(1.25)	(1.55)	(1.80)	(2.00)	(2.01)	(2.02)	(2.05)	(2.07)	(2.10)	(2.13)
Aug. 13	.40	.57	.75	.92	1.16	1.28	1.54	1.99	2.05	2.05	2.06	2.16
Aug. 21	.42	.65	.77	.84	1.07	1.20	1.24	1.25	1.25	1.25	1.25	1.25
Aug. 30	.41	.45	.46	.46	.47	.47	.47	.49	.51	.51	.51	.51

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
GEORGIA (Cont'd.)												
Valdosta Airport (Cont'd.)												
Aug. 31	0.35	0.58	0.62	0.65	0.69	0.80	0.81	0.82	0.83	0.84	0.88	0.88
Sept. 27	.44	.62	.74	.84	1.01	1.29	1.30	1.30	1.30	1.30	1.30	1.30
Nov. 6	.25	.38	.42	.43	.45	.46	.47	.47	.47	.47	.52	.60
Dec. 12	.18	.22	.29	.40	.52	.56	.64	.70	.73	.82	.87	.89
Dec. 18	.40	.70	.85	.95	.99	1.05	1.15	1.21	1.26	1.33	1.40	1.41
HAWAII												
Hilo Airport												
Feb. 16	.25	.46	.60	.66	.71	.77	.80	.80	.80	.81	.81	.92
Feb. 20	.27	.36	.38	.40	.42	.46	.50	.51	.52	.59	.72	.80
Apr. 2	.25	.35	.41	.52	.61	.74	.83	.92	1.03	1.09	1.13	1.20
Oct. 23	.21	.26	.30	.40	.55	.63	.80	.88	.99	1.09	1.35	1.44
Oct. 23	.19	.37	.50	.66	.79	.88	.94	.95	.99	1.02	1.08	1.11
Oct. 25	.18	.34	.45	.53	.66	.82	.96	1.07	1.22	1.38	1.45	1.55
Oct. 28	.44	.78	1.03	1.20	1.55	1.86	2.18	2.45	2.68	2.92	3.64	4.19
Nov. 18	.21	.32	.33	.33	.34	.34	.43	.46	.46	.52	.57	.57
Nov. 23	.34	.42	.45	.53	.75	.88	1.08	1.10	1.44	1.51	1.64	1.80
Dec. 12	.16	.30	.37	.40	.50	.74	.90	1.14	1.29	1.37	1.39	1.39
Dec. 22	.18	.32	.47	.52	.58	.65	.77	.97	1.02	1.06	1.08	1.08
Honolulu Airport												
Jan. 25	.17	.31	.47	.51	.61	.70	.76	.87	.93	1.01	1.15	1.17
Jan. 25	.15	.29	.37	.42	.46	.46	.46	.62	.62	.63	.67	.68
Lihue Airport												
Mar. 20	.29	.54	.73	.90	.98	1.05	1.09	1.16	1.22	1.24	1.26	1.28
May 1	.31	.59	.77	.93	1.28	1.75	1.91	2.23	2.46	2.67	2.83	2.95
Oct. 20	.21	.61	.74	.82	.93	.94	.94	.94	.94	.94	.95	.95
Oct. 29	.25	.34	.49	.54	.75	.84	.92	1.10	1.14	1.31	1.32	1.32
Dec. 5	.28	.38	.41	.42	.44	.70	.76	.77	.77	.81	.86	.89
IDAHO												
Boise						None						
Pocatello Airport						None						
ILLINOIS												
Cairo												
Apr. 25	.20	.28	.31	.46	.52	.54	.54	.54	.54	.54	.54	.54
May 6	.14	.24	.35	.44	.62	.82	.91	1.12	1.19	1.27	1.45	1.51
May 6	.11	.21	.31	.40	.57	.80	1.05	1.38	1.61	1.71	1.77	1.84
May 14	.47	.59	.65	.69	.70	.71	.71	.71	.71	.71	.71	.71
June 8	.25	.40	.44	.45	.45	.47	.47	.50	.50	.50	.50	.50
June 14	.54	.93	1.14	1.44	1.96	2.42	2.92	3.18	3.93	4.08	4.18	4.19
June 14	.39	.66	.83	1.03	1.21	1.27	1.29	1.32	1.33	1.33	1.33	1.33
July 16	.39	.66	.77	.79	.92	1.27	1.75	1.82	1.83	2.38	2.54	2.54
Aug. 1	.24	.32	.33	.33	.33	.33	.33	.33	.33	.33	.33	.33
Aug. 4	.28	.47	.55	.56	.56	.56	.56	.56	.56	.56	.58	.59
Aug. 20	.36	.61	.84	1.03	1.29	1.57	1.69	1.71	1.74	1.79	1.84	1.84
Sept. 7	.23	.34	.40	.44	.49	.65	.70	.71	.77	.81	.84	.86
Chicago Airport (Midway)												
June 10	.14	.24	.36	.45	.54	.61	.63	.63	.63	.63	.63	.63
June 19	.29	.46	.59	.61	.64	.85	.93	1.08	1.09	1.19	1.60	1.77
July 31	.21	.37	.39	.39	.39	.39	.39	.39	.39	.46	.46	.47
Aug. 1	.24	.37	.42	.48	.63	.81	1.01	1.21	1.36	1.39	1.75	1.97
Aug. 4	.21	.28	.34	.37	.50	.53	.73	.86	.86	.86	.86	.86
Aug. 10	.20	.30	.37	.41	.69	.74	.79	.83	.84	1.20	1.27	1.31
Aug. 31	.27	.30	.33	.34	.36	.62	.65	.66	.66	.66	.66	.66
Sept. 3	.45	.82	1.16	1.23	1.37	1.42	1.60	1.62	1.71	1.72	1.74	1.74
Sept. 6	.49	.71	.72	.72	.72	.72	.82	.82	.82	.82	.82	.82
Sept. 12	.28	.48	.64	.80	.97	1.10	1.18	1.22	1.24	1.31	1.42	1.64
Sept. 14	.09	.17	.25	.34	.49	.69	.86	1.13	1.32	1.55	1.85	2.00
Oct. 13	.34	.43	.44	.51	.57	.59	.60	.62	.62	.62	.62	.62
Moline Airport												
May 14	.31	.61	.72	.75	.80	.81	.82	.82	.82	.82	.82	.82
June 30	.48	.76	1.02	1.50	1.80	2.10	2.12	2.13	2.13	2.14	2.14	2.14
July 27	.22	.36	.49	.56	.74	1.01	1.14	1.16	1.17	1.19	1.56	1.68
Aug. 1	.21	.35	.51	.65	.76	.77	.78	.78	.78	.78	.78	.78
Aug. 3	.33	.36	.38	.38	.40	.41	.41	.41	.41	.41	.41	.41
Sept. 1	.17	.25	.33	.39	.52	.73	.96	.97	.98	.98	.98	.98
Sept. 12	.19	.35	.37	.39	.40	.40	.40	.40	.40	.46	.46	.46
Sept. 13	.16	.28	.37	.48	.68	.92	1.17	1.35	1.59	1.88	2.13	2.42
Peoria Airport												
Apr. 21	.18	.32	.35	.38	.42	.45	.48	.54	.60	.61	.64	.68
May 14	.21	.32	.38	.46	.62	.68	.76	.80	.87	.90	.91	.91
July 21	.22	.26	.29	.34	.53	.57	.58	.58	.58	.58	.58	.58
July 21	.22	.30	.40	.49	.51	.55	.56	.56	.56	.56	.56	.56
July 22	.34	.66	.82	.87	1.12	1.20	1.29	1.32	1.34	1.36	1.37	1.37
Aug. 4	.22	.38	.44	.47	.50	.55	.58	.59	.62	.64	.65	.65
Sept. 12	.19	.25	.44	.52	.77	.92	1.09	1.17	1.17	1.22	1.28	1.28
Sept. 12	.19	.34	.48	.50	.52	.55	.62	.64	.65	.66	.66	.66
Sept. 13	.18	.34	.44	.56	.75	.92	1.04	1.26	1.56	1.82	2.27	2.68
Sept. 22	.15	.25	.28	.32	.50	.65	.68	.71	.74	.75	.79	.80
Sept. 23	.37	.50	.87	.97	.98	.98	1.30	1.46	1.46	1.46	1.85	1.90
Nov. 16	.20	.27	.36	.39	.43	.46	.47	.49	.50	.51	.51	.52
Rockford Airport												
Mar. 4	.21	.30	.47	.52	.53	.54	.56	.58	.58	.58	.58	.58
Apr. 23	.12	.22	.30	.42	.50	.51	.51	.51	.52	.53	.53	.53
Aug. 31	.49	.58	.59	.59	.60	.60	.60	.60	.60	.60	.60	.60
Sept. 13	.13	.25	.30	.37	.54	.80	1.05	1.33	1.59	1.94	2.27	2.62
Oct. 29	.20	.37	.50	.60	.71	.75	.78	.82	.84	.88	.89	.90
Springfield AP												
Apr. 24	.24	.36	.60	.77	1.02	1.26	1.31	1.59	1.72	1.81	1.81	1.91
May 7	.23	.45	.52	.55	.61	.64	.67	.70	.82	.88	.92	.94
June 30	.18	.29	.39	.48	.54	.66	.77	.94	1.00	1.17	1.28	1.38
July 19	.32	.54	.70	.73	.91	1.13	1.19	1.29	1.38	1.42	1.45	1.46
July 21	.40	.59	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
July 21	.34	.41	.46	.54	.72	.78	.80	.82	.85	.90	.94	.94
July 29	.28	.43	.44	.44	.44	.45	.63	.63	.65	.66	.67	.67
Aug. 1	.30	.52	.55	.58	.70	1.04	1.14	1.16	1.18	1.20	1.20	1.21
Sept. 3	.24	.39	.43	.46	.50	.51	.51	.51	.51	.51	.51	.51
Sept. 8	.22	.33	.42	.44	.51	.56	.56	.56	.56	.56	.56	.56
Sept. 11	.26	.40	.49	.53	.56	.56	.57	.57	.59	.59	.59	.59
Sept. 13	.17	.34	.48	.57	.70	.84	1.00	1.09	1.25	1.34	1.52	1.66

( ) Estimated Data

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
INDIANA												
Evansville Airport												
May 7	0.28	0.29	0.30	0.31	0.33	0.36	0.38	0.38	0.38	0.38	0.38	0.38
May 7	.74	1.02	1.10	1.14	1.29	1.40	1.61	1.77	1.77	1.78	1.86	*2.44
May 8	.16	.26	.42	.50	.58	.63	.66	.76	.81	1.20	1.27	1.50
May 14	.30	.37	.38	.41	.43	.73	.73	.75	1.00	1.21	1.56	1.60
June 14	.28	.44	.46	.48	.49	.53	.57	.62	.66	.66	.66	.66
July 24	.31	.37	.42	.42	.69	.71	.71	.71	.71	.71	.71	.71
Aug. 4	.18	.32	.39	.44	.56	.61	.62	.62	.62	.63	.63	.63
Aug. 11	.38	.41	.42	.42	.42	.42	.42	.75	.84	.84	.84	.84
Aug. 20	.22	.34	.36	.36	.36	.37	.37	.37	.37	.37	.37	.37
Aug. 24	.36	.50	.52	.53	.54	.57	.60	.60	.86	.90	.93	.96
Aug. 25	.32	.43	.44	.45	.51	.56	.57	.57	.57	.57	.57	.57
Aug. 31	.22	.37	.42	.43	.46	.48	.50	.53	.53	.53	.53	.53
Dec. 4	.19	.28	.35	.40	.43	.48	.52	.57	.60	.62	.65	.72
Fort Wayne Airport												
June 13	.24	.44	.48	.49	.50	.52	.53	.59	.63	.65	.66	.66
July 14	.20	.40	.52	.57	.58	.60	.61	.61	.61	.64	.70	.73
July 28	.24	.44	.54	.74	.88	1.06	1.18	1.33	1.38	1.42	1.42	1.42
Indianapolis AP												
Apr. 22	.26	.46	.50	.53	.60	.67	.75	.83	.89	.92	1.02	1.07
Apr 25	.21	.34	.44	.56	.79	.95	1.04	1.10	1.14	1.16	1.28	1.45
May 7	.23	.30	.42	.45	.59	.66	.70	.73	.77	.79	.79	.90
May 8	.30	.50	.68	.74	.90	1.04	1.16	1.40	1.53	1.62	1.70	1.75
June 6	.19	.28	.47	.55	.66	.94	1.40	1.62	1.65	1.69	1.79	1.83
July 16	.18	.34	.54	.66	.74	.75	.75	.75	.75	.75	.75	.75
July 21	.20	.31	.39	.48	.59	.62	.64	.64	.64	.64	.64	.64
Aug. 1	.28	.44	.56	.57	.75	.77	.77	.77	.77	.77	.77	.77
Sept. 24	.12	.23	.32	.35	.51	.67	.71	.82	.87	.92	.92	.94
Sept. 25	.52	.62	.66	.72	.80	.88	.89	.90	1.38	1.50	1.62	1.71
South Bend Airport												
Apr. 25	.19	.25	.35	.44	.52	.59	.64	.64	.64	.65	.75	.93
June 7	.28	.41	.42	.44	.45	.48	.52	.52	.55	.59	.59	.59
June 13	.30	.40	.47	.52	.55	.56	.58	.61	.63	.64	.64	.64
July 21	.22	.35	.41	.46	.53	.60	.68	.70	.72	.72	.72	.72
July 31	.20	.34	.41	.46	.63	.80	.82	.84	.84	.84	.88	.88
Aug. 1	.35	.49	.50	.51	.52	.54	.55	.55	.55	.55	.55	.55
Sept. 1	.17	.25	.40	.47	.53	.70	.83	.86	.86	.86	.86	.86
Sept. 23	.20	.23	.35	.45	.55	.58	.61	.67	.67	.67	.67	.74
IOWA												
Burlington Airport												
May 14	.19	.38	.48	.53	.60	.60	.60	.60	.60	.60	.60	.60
June 30	.30	.60	.70	.72	.85	.88	.92	.96	.96	.99	1.00	1.00
July 13	.17	.27	.42	.47	.65	.74	.82	.82	.82	.83	.88	.94
July 19	.30	.47	.57	.65	.70	.85	.90	1.37	1.64	1.69	1.74	1.94
July 21	.25	.34	.36	.38	.41	.47	.47	.47	.47	.47	.47	.47
July 28	.20	.30	.32	.38	.40	.41	.42	.44	.44	.44	.46	.48
Aug. 10	.30	.55	.70	.80	1.05	1.21	1.21	1.21	1.21	1.21	1.21	1.22
Aug. 19	.20	.35	.45	.50	.60	.79	.92	1.02	1.05	1.05	1.05	1.05
Sept. 13	.15	.20	.30	.35	.55	.62	.70	.82	1.15	1.26	1.34	1.48
Sept. 13	.20	.25	.35	.50	.70	.91	1.02	1.28	1.43	1.53	1.80	1.92
Sept. 23	.15	.20	.35	.40	.43	.47	.51	.51	.52	.56	.56	.58
Sept. 23	.20	.27	.32	.42	.62	.74	.76	.93	1.01	1.16	1.28	1.32
Des Moines Airport												
June 6	.78	1.08	1.14	1.15	1.18	1.21	1.21	1.21	1.21	1.21	1.21	1.24
July 5	.22	.34	.36	.37	.39	.49	.50	.52	.57	.64	.69	.72
July 5	.29	.31	.34	.35	.35	.35	.55	.65	.76	.79	.90	1.11
July 12	.32	.57	.80	.85	.86	.87	.87	.88	.89	.89	.89	.90
July 27	.25	.27	.28	.28	.29	.29	.29	.30	.30	.30	.30	.30
July 28	.29	.45	.57	.60	.61	.61	.62	.68	.71	.75	.81	.86
July 31	.26	.42	.46	.50	.51	.51	.51	.52	.55	.61	.85	.92
Aug. 1	.30	.42	.48	.50	.55	.61	.70	.70	.70	.70	.70	.71
Aug. 3	.46	.80	1.00	1.05	1.10	1.20	1.21	1.27	1.28	1.28	1.28	1.28
Sept. 2	.20	.34	.38	.54	.62	.70	.78	.82	.98	1.24	1.36	1.42
Sept. 12	.15	.19	.28	.33	.51	.76	.92	1.06	1.25	1.44	1.70	1.92
Sept. 22	.54	.94	1.02	1.06	1.29	1.44	1.52	1.62	1.68	1.72	1.76	1.77
Oct. 12	.36	.40	.41	.42	.42	.42	.42	.42	.42	.42	.42	.42
Dubuque Airport												
Apr. 23	.34	.50	.56	.58	.60	.60	.60	.60	.60	.61	.63	.63
Apr. 23	.28	.42	.45	.47	.49	.65	.67	.76	.92	.92	.92	.92
May 14	.25	.41	.56	.60	.63	.65	.65	.66	.67	.67	.67	.67
June 13	.27	.39	.53	.56	.57	.57	.57	.57	.57	.57	.57	.57
June 29	.33	.45	.58	.68	.79	.80	.80	.80	.80	.80	.80	.80
July 1	.70	1.05	1.25	1.40	1.95	2.17	2.38	2.54	2.56	2.74	2.92	3.03
July 1	.59	.89	1.10	1.63	2.08	2.44	2.52	2.57	2.60	2.68	2.78	2.82
July 15	.16	.30	.38	.42	.45	.50	.58	.65	.65	.66	.66	.67
Aug. 3	.30	.38	.40	.41	.45	.48	.49	.49	.50	.50	.50	.50
Aug. 3	.23	.38	.46	.50	.52	.52	.52	.52	.52	.52	.52	.52
Aug. 4	.25	.45	.50	.52	.55	.57	.62	.65	.69	.70	.70	.70
Aug. 10	.25	.50	.65	.75	.90	1.10	1.40	1.47	1.65	2.25	2.47	2.52
Sept. 12	.22	.37	.42	.47	.53	.58	.65	.70	.74	.82	.95	1.02
Sept. 22	.73	.88	1.00	1.13	1.20	1.21	1.22	1.23	1.25	1.25	1.25	1.25
Oct. 29	.32	.38	.45	.50	.53	.64	.68	.72	.75	.77	.84	.84
Nov. 1-2	.34	.42	.58	.63	.67	.90	.94	1.07	1.16	1.46	1.66	1.76
Sioux City Airport												
May 14	.26	.40	.50	.60	.80	1.00	1.20	1.30	1.55	1.60	1.64	1.64
June 14	.20	.30	.37	.40	.59	.99	1.29	1.45	1.53	1.58	1.65	1.68
July 26	.35	.68	.86	.92	1.12	1.78	1.97	2.02	2.02	2.02	2.04	2.04
Aug. 9	.36	.62	.84	.93	1.12	1.20	1.23	1.24	1.24	1.24	1.24	1.24
Aug. 11	.36	.57	.67	.70	.70	.73	.73	.76	.80	.83	.83	.86
Aug. 21	.40	.64	.98	1.06	1.16	1.54	2.12	2.34	2.87	3.43	3.53	3.57
KANSAS												
Concordia												
May 7	.20	.35	.50	.59	.72	.74	.74	.74	.74	.74	.74	.74
May 17	.30	.53	.65	.87	1.00	1.06	1.08	1.09	1.09	1.09	1.09	1.09
May 21	.13	.26	.33	.39	.48	.66	.82	.94	1.03	1.08	1.08	1.08
Sept. 1	.21	.26	.34	.39	.54	.62	.62	.63	.70	.70	.71	.71
Oct. 10	.30	.45	.50	.60	.60	.63	.63	.63	.63	.63	.64	.64
Dodge City Airport												
May 4	.12	.22	.31	.39	.54	.65	.74	.88	M	M	M	M
June 17	.34	.49	.78	1.02	1.18	1.20	1.20	1.20	1.20	1.20	1.20	1.20
July 13	.18	.34	.38	.41	.43	.43	.46	.46	.46	.46	.46	.46
Aug. 1	.26	.42	.49	.54	.60	.68	.74	.74	.74	.77	.80	.82
Goodland Airport												
June 3	.25	.31	.39	.44	.56	.59	.61	.65	.67	.67	.71	.78

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
KANSAS (Cont'd.)												
Goodland AP (Cont'd.)												
July 1	0.15	0.30	0.35	0.38	0.41	0.49	0.49	0.50	0.50	0.50	0.50	0.50
July 8	.38	.60	.78	.90	1.13	1.24	1.26	1.29	1.30	1.31	1.31	1.33
July 11	.45	.65	.90	1.00	1.27	1.35	1.39	1.45	1.50	1.53	1.53	1.53
Topeka Airport												
Mar. 26	.24	.42	.48	.53	.62	.72	.90	1.29	1.53	1.58	1.60	1.62
Apr. 22	.18	.30	.35	.39	.45	.49	.53	.58	.58	.58	.58	.58
May 4	.20	.39	.49	.53	.63	.72	.78	.82	.90	.95	.98	1.09
May 17	.16	.26	.36	.46	.68	.82	.88	.96	.98	.98	.98	.98
June 13	.26	.52	.61	.67	.73	.93	.97	.99	1.02	1.06	1.12	1.18
July 12	.34	.56	.85	1.03	1.17	1.35	1.47	1.48	1.48	1.50	1.50	1.51
July 20	.10	.20	.28	.38	.54	.70	.71	.76	.80	.89	.95	.99
July 26	.21	.42	.60	.74	1.12	1.72	1.73	1.74	1.79	1.79	1.79	1.81
Oct. 29	.20	.26	.33	.41	.61	.62	.64	.64	1.01	1.06	1.06	1.08
Wichita Airport												
Feb. 17	.44	.54	.62	.70	.75	.76	.79	.82	.82	.82	.83	.83
Mar. 26	.30	.50	.59	.68	.78	.85	1.00	1.33	1.49	1.66	1.73	1.90
Apr. 30	.21	.31	.40	.46	.60	.72	.77	.81	.82	.82	.85	.88
May 4	.20	.32	.47	.55	.71	.74	.96	1.12	1.23	1.42	1.57	1.70
July 13	.20	.30	.36	.40	.42	.50	.62	.62	.62	.62	.62	.62
July 19	.34	.54	.70	.80	.90	.94	.95	.95	1.00	1.01	1.03	1.04
July 20	.30	.48	.50	.74	.83	.92	.92	.93	.94	1.00	1.09	1.12
July 21	.26	.32	.41	.56	.68	1.08	1.39	1.56	1.59	1.72	1.79	1.81
Aug. 13	.14	.23	.29	.34	.49	.76	.93	1.03	1.15	1.27	1.38	1.50
Sept. 7	.35	.37	.38	.39	.43	.44	.44	.44	.44	.44	.44	.44
Sept. 24	.25	.32	.40	.48	.60	.90	1.14	1.22	1.23	1.25	1.26	1.26
Oct. 10	.28	.33	.50	.58	.68	.83	.97	.97	.97	.97	.97	.97
Oct. 30	.28	.39	.44	.48	.54	.72	.82	.82	.84	.84	1.10	1.37
KENTUCKY												
Lexington Airport												
Mar. 6	.22	.34	.36	.38	.41	.43	.45	.51	.53	.55	.57	.57
June 3	.18	.34	.41	.44	.46	.50	.68	.90	.98	1.06	1.11	1.13
July 14	.54	.75	.80	.83	.85	.90	.92	.92	.93	.93	.93	.93
July 19	.34	.58	.76	.81	.82	.86	.87	.91	.91	.91	.91	.91
July 29	.36	.42	.43	.45	.48	.51	.63	.88	.94	.95	.95	.95
Aug. 8	.27	.33	.35	.35	.35	.35	.35	.35	.35	.35	.35	.38
Aug. 31	.26	.40	.48	.50	.51	.51	.52	.54	.56	.58	.62	.69
Dec. 4	.29	.31	.33	.34	.35	.37	.41	.44	.48	.52	.59	.62
Louisville Airport												
Mar. 6	.33	.50	.59	.62	.70	.73	.74	.78	.82	.85	.89	.89
Apr. 25	.20	.31	.33	.34	.35	.37	.38	.38	.38	.38	.38	.38
May 7	.38	.52	.65	.68	.72	.92	.95	1.09	1.25	1.33	1.69	1.78
May 7	.28	.44	.50	.57	.74	.83	.89	.91	.91	.91	1.02	1.42
July 14	.39	.58	.60	.62	.69	.73	1.31	1.41	1.46	1.51	1.57	1.58
July 17	.17	.27	.33	.40	.49	.69	.91	.96	1.01	1.25	1.32	1.37
Aug. 2	.25	.48	.62	.64	.64	.64	.64	.64	.64	.64	.64	.64
Sept. 25	.22	.28	.46	.48	.60	.61	.61	.61	.61	.61	.61	.61
LOUISIANA												
Alexandria Airport												
Jan. 7	.13	.20	.31	.43	.54	.71	.83	1.04	1.16	1.27	1.46	1.66
Feb. 16	.35	.55	.66	.77	.98	1.18	1.29	1.34	1.37	1.42	1.45	1.50
Mar. 16	.25	.33	.35	.35	.36	.43	.44	.44	.46	.59	.62	.63
Mar. 17	.18	.30	.43	.51	.72	.79	.84	.92	1.20	1.35	1.52	1.61
Mar. 17	.45	.65	.74	.83	.93	.98	.98	.98	.99	.99	.99	.99
Mar. 27	.30	.49	.57	.60	.63	.66	.72	1.18	1.42	1.45	1.48	1.50
Mar. 30	M	M	M	M	M	M	1.00	M	M	1.01	M	1.18
Mar. 30	.34	.39	.39	.39	.39	.39	.39	.39	.39	.39	.46	.51
Apr. 9	.25	.42	.56	.68	.79	.91	1.00	1.07	1.13	1.15	1.16	1.17
May 1	.27	.33	.40	.46	.57	.57	.57	.57	.59	(.60)	(.61)	(.61)
May 15	.34	.44	.54	.58	.60	.88	1.12	1.13	1.13	1.13	1.13	1.13
May 23	.37	.55	.66	.70	.91	1.04	1.07	1.07	1.07	1.07	1.07	1.07
June 13	.16	.30	.37	.43	.51	.55	.55	.55	.55	.56	.57	.57
June 25	.15	.23	.33	.42	.52	.69	.89	.96	1.00	1.02	1.06	1.09
July 9	.34	.65	.93	1.20	1.56	1.62	1.63	1.63	1.63	1.63	1.63	1.63
July 14	.27	.42	.60	.62	.77	.78	.78	.78	.78	.78	.78	.82
July 22	.20	.31	.32	.32	.32	.46	.49	.49	.50	.57	.57	.58
July 25	.22	.30	.35	.36	.37	.38	.38	.38	.38	.38	.38	.38
July 29	.33	.50	.56	.57	.65	.74	.75	.75	.75	.75	.75	.75
Aug. 20	.35	.65	.75	.83	1.02	1.09	1.10	1.10	1.10	1.10	1.10	1.10
Aug. 27	.16	.31	.42	.48	.49	.50	.50	.50	.50	.52	.53	.53
Sept. 2	.28	.43	.47	.48	.53	.54	.54	.54	.54	.54	.54	.54
Nov. 15	.35	.48	.63	.64	.65	.65	.65	.65	.65	.65	.65	.65
Nov. 22	.15	.29	.30	.31	.50	.65	.87	1.07	1.11	1.22	1.45	1.49
Dec. 17	.18	.30	.32	.38	.52	.64	.87	.91	1.21	1.26	1.32	1.37
Baton Rouge AP												
Feb. 17	.55	.82	1.02	1.25	1.48	1.70	1.92	2.24	2.59	2.65	2.80	2.83
Feb. 17	.25	.35	.47	.55	.69	.80	.97	1.07	1.11	1.12	1.14	1.14
Feb. 19	.12	.24	.34	.45	.52	.61	.63	.64	.64	.64	.65	.66
Feb. 21	.12	.24	.31	.40	.43	.50	.54	.55	.58	.59	.65	.69
Mar. 7-8	.23	.30	.35	.45	.55	.60	.61	.63	.65	.65	.65	.65
Mar. 17	.36	.51	.59	.65	.70	.76	.79	.80	.81	.84	.87	.90
Mar. 27	.20	.25	.35	.38	.40	.60	.75	.90	1.00	1.07	1.15	1.18
Apr. 9	.27	.40	.47	.57	.67	.69	.72	.73	.74	.75	.76	.77
Apr. 26	.32	.47	.55	.70	.75	.99	1.02	1.35	1.85	1.89	1.90	2.10
May 2	.22	.42	.53	.62	.72	.74	.75	.80	.85	.85	.85	.85
May 8	.35	.66	.79	.83	.92	.94	.96	.98	.98	.99	.99	.99
May 15	.26	.37	.40	.41	.44	.55	.78	.83	.88	.90	.90	.90
June 12	.35	.40	.44	.46	.47	.47	.47	.48	.49	.49	.50	.50
June 13	.25	.39	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
July 2	.25	.45	.65	.75	1.02	1.12	1.16	1.17	1.17	1.19	1.20	1.20
July 10	.30	.50	.66	.95	1.24	1.60	1.95	2.13	2.29	2.65	2.71	2.75
July 14	.27	.42	.52	.56	.59	.60	.64	.64	.64	.64	.64	.64
July 16	.28	.44	.54	.75	.86	.92	.98	1.00	1.00	1.00	1.00	1.00
July 29	.25	.36	.50	.54	.60	.61	.61	.61	.61	.61	.61	.61
July 30	.25	.42	.55	.67	.85	1.04	1.07	1.10	1.13	1.13	1.13	1.14
Aug. 24	.31	.51	.65	.68	.73	.78	.79	.81	.83	.83	.83	.83
Sept. 5	.20	.30	.37	.45	.50	.51	.52	.52	.52	.52	.52	.52
Sept. 10	.29	.47	.51	.55	.65	.75	.90	1.06	1.10	1.14	1.27	1.45
Sept. 11	.15	.30	.45	.60	.80	.83	.86	.88	1.15	1.25	1.30	1.45
Sept. 13	.24	.35	.45	.55	.60	.62	.80	.85	1.10	1.14	1.20	1.28
Sept. 13	.25	.31	.32	.32	.33	.33	.45	.46	.48	.49	.50	.50
Nov. 13	.20	.25	.30	.45	.60	.70	.80	.92	1.01	1.06	1.20	1.34
Nov. 13	.23	.35	.45	.55	.62	.68	.74	.83	.84	.87	1.03	1.20
Nov. 22	.47	.68	.80	.88	1.03	1.10	1.17	1.23	1.24	1.24	1.24	1.24
Dec. 10	.28	.41	.47	.50	.53	.63	.66	.69	.88	.90	.90	.90
Dec. 17	.33	.43	.48	.64	.76	.83	.91	1.16	1.31	1.32	1.36	1.37

* From triple register
M Missing

M Missing

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
LOUISIANA (Cont'd.)												
Lake Charles AP												
Feb. 17	0.31	0.40	0.50	0.60	0.94	0.98	1.02	1.04	1.05	1.09	1.09	1.10
Feb. 17	.20	.36	.43	.61	.72	.92	.94	.97	1.08	1.11	1.13	1.13
Mar. 17	.33	.50	.53	.58	.61	.65	.68	.68	.68	.68	.68	.68
Mar. 30	.20	.30	.35	.35	.37	.38	.38	.47	.47	.48	.70	.72
Apr. 9	.28	.46	.55	.57	.76	.84	.90	.94	.98	.98	.98	.98
June 25	.25	.31	.32	.33	.35	.38	.40	.43	.46	.46	.50	.50
May 1	.25	.31	.34	.36	.40	.42	.45	.45	.45	.45	.45	.45
May 2	.34	.46	.51	.52	.54	.54	.54	.55	.57	.57	.57	.57
May 8	.18	.33	.48	.60	.87	.92	.95	.95	.95	.95	.95	.95
May 24	.35	.67	.85	.88	.94	.94	1.04	1.04	1.04	1.05	1.08	1.12
June 25	.25	.31	.32	.33	.35	.38	.40	.43	.46	.46	.50	.50
July 3	.40	.55	.80	1.00	1.35	1.40	1.40	1.40	1.40	1.40	1.42	1.42
July 8	.20	.35	.47	.55	.58	.60	.60	.60	.60	.62	.62	.64
July 9	.35	.60	.90	1.00	1.40	1.44	1.50	1.59	1.66	1.69	1.76	1.84
July 28	.17	.25	.40	.43	.43	.43	.45	.45	.45	.45	.47	.47
July 30	.30	.55	.62	.65	.80	.81	.81	.81	.81	.81	.82	.82
Aug. 4	.50	.65	.77	.85	.85	.85	.85	.85	.85	1.02	1.26	1.26
Aug. 6	.17	.30	.40	.48	.73	.85	.92	1.06	1.10	1.10	1.11	1.12
Aug. 18	.25	.36	.37	.38	.38	.38	.38	.38	.38	.38	.38	.38
Sept. 12	.25	.35	.38	.39	.45	.45	.45	.45	.45	.45	.45	.45
Sept. 13	.25	.35	.46	.60	.75	.98	1.00	1.00	1.02	1.02	1.05	1.05
Oct. 2	.15	.25	.40	.43	.52	.55	.65	.78	.80	.90	1.00	1.00
Nov. 13	.60	.85	1.15	1.60	2.10	2.96	3.30	3.86	4.16	5.05	6.15	7.59
Shreveport												
Feb. 20	.27	.36	.37	.43	.55	.73	.81	.92	.93	.94	1.07	1.24
Mar. 7	.26	.30	.31	.32	.34	.34	.34	.34	.34	.34	.34	.34
Mar. 13	.30	.38	.39	.40	.41	.42	.43	.43	.44	.44	.44	.44
Mar. 17	.25	.30	.32	.33	.37	.48	.55	.65	.71	.80	.84	.92
Mar. 27	.40	.41	.43	.44	.44	.44	.44	.44	.45	.54	.54	.64
Mar. 30	.27	.32	.33	.34	.35	.43	.46	.53	.67	.70	.76	.84
Apr. 25	.17	.30	.35	.39	.48	.58	.64	.65	.65	.65	.65	.65
May 14	.27	.40	.45	.46	.46	.46	.46	.46	.46	.46	.46	.46
June 9	.48	.71	.96	1.05	1.08	1.08	1.08	1.08	1.08	1.08	1.08	1.09
June 12	.27	.37	.42	.50	.67	.77	.78	.79	.80	.80	.80	.80
July 14	.35	.52	.56	.64	.72	.75	.76	.80	.84	.85	.85	.85
July 28	.27	.50	.63	.75	.82	.83	.83	.83	.83	.83	.83	.83
Aug. 14	.55	.90	1.05	1.10	1.20	1.26	1.28	1.30	1.31	1.32	1.33	1.35
Aug. 22	.20	.27	.37	.50	.52	.52	.52	.53	.55	.55	.55	.55
Sept. 12	.18	.35	.46	.56	.63	.74	.84	1.00	1.13	1.15	1.22	1.23
Sept. 13	.27	.52	.75	.85	1.10	1.70	2.22	2.42	2.47	2.49	2.54	2.54
Oct. 1	.20	.33	.45	.49	.59	.75	.95	1.21	1.43	1.57	1.71	2.01
Oct. 25	.22	.33	.43	.47	.47	.50	.51	.52	.52	.52	.52	.52
Nov. 22	.29	.44	.54	.61	.76	.88	.90	.96	.97	1.21	1.41	1.49
Dec. 9	.15	.25	.29	.34	.39	.55	.80	.93	1.00	1.05	1.10	1.18
MAINE												
Caribou Airport												
July 10	.23	.30	.33	.34	.36	.37	.37	.37	.37	.37	.37	.37
July 18	.23	.43	.61	.78	.84	.90	.96	1.06	1.25	1.32	1.32	1.32
Sept. 15	.24	.33	.38	.43	.51	.62	.72	.76	.78	.79	.84	.90
Portland Airport												
June 10	.28	.28	.28	.28	.28	.28	.28	.28	.28	.28	.28	.28
July 21	.26	.50	.64	.70	.74	.74	.74	.74	.74	.74	.74	.74
Sept. 25	.18	.28	.31	.38	.47	.57	.84	1.06	1.16	1.35	1.50	1.75
MARYLAND												
Baltimore												
May 9	.33	.39	.41	.42	.43	.45	.46	.46	.46	.46	.46	.46
June 9	.40	.68	1.00	1.01	1.04	1.05	1.05	1.06	1.06	1.06	1.06	1.06
July 16	.18	.24	.37	.44	.52	.61	.68	.68	.68	.68	.68	.68
July 17	.25	.40	.41	.50	.55	.56	.58	.58	.58	.58	.58	.58
July 24	.20	.35	.50	.60	.79	.80	.81	.83	.84	.84	.85	.85
Aug. 6	.32	.50	.53	.53	.55	.55	.55	.55	.55	.55	.55	.55
Aug. 23	.25	.32	.35	.40	.45	.55	.58	.70	1.02	1.22	1.25	1.25
Aug. 23	.14	.25	.37	.42	.53	.56	.56	.56	.56	.56	.56	.56
Aug. 25	.25	.38	.53	.60	.67	.69	.69	.69	.69	1.00	1.30	1.30
Sept. 3	.20	.35	.36	.37	.38	.40	.40	.41	.41	.41	.41	.41
Baltimore Airport												
May 9	.26	.39	.46	.47	.48	.51	.51	.51	.51	.51	.51	.51
June 9	.40	.68	1.00	1.01	1.04	1.05	1.05	1.05	1.05	1.05	1.05	1.05
June 14	.20	.30	.35	.40	.53	.73	.93	1.01	1.08	1.29	1.40	1.63
June 25	.20	.29	.36	.47	.58	.64	.64	.64	.64	.65	.65	.65
July 3	.23	.33	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38
July 16	.35	.40	.53	.63	1.02	1.16	1.17	1.20	1.20	1.20	1.20	1.20
July 24	.43	.58	.85	1.18	1.53	1.63	1.68	1.70	1.70	1.70	1.70	1.70
Aug. 6	.27	.36	.41	.53	.54	.54	.54	.55	.56	.56	.56	.56
Aug. 23	.15	.23	.45	.53	.74	.82	.83	.83	.83	.83	.83	.85
Aug. 25	.25	.37	.41	.49	.70	.72	.72	.72	.72	.72	.77	.77
Sept. 4	.21	.32	.42	.49	.70	.90	.91	.91	.91	.91	.91	.91
Frederick Airport												
Mar. 6	.20	.28	.35	.40	.40	.40	.40	.40	.40	.40	.40	.40
June 30	.26	.52	.63	.64	.65	.67	.67	.67	.67	.67	.67	.67
July 3	.30	.50	.63	.73	.74	.74	.74	.74	.74	.74	.74	.74
July 16	.80	1.10	1.10	1.10	1.10	1.25	1.44	1.45	1.55	1.55	1.55	1.55
Aug. 16	.25	.45	.45	.45	.45	.46	.47	.47	.47	.47	.47	.47
Sept. 8	.30	.45	.60	.70	.90	1.03	1.30	1.82	1.97	2.12	2.17	2.32
Nov. 5	.15	.25	.43	.53	.65	.67	.67	.67	.67	.67	.73	.74
MASSACHUSETTS												
Boston Airport												
July 2	.21	.32	.42	.45	.48	.53	.53	.54	.55	.55	.55	.55
July 3	.31	.38	.51	.56	.56	.56	.57	.61	.61	.62	.62	.62
July 25	.25	.38	.39	.41	.49	.50	.51	.52	.53	.53	.53	.53
Aug. 29	.25	.40	.55	.60	.65	.69	.70	.71	.74	.76	.80	1.17
Sept. 21	.25	.30	.41	.45	.47	.76	.92	1.08	1.18	1.29	1.35	1.40
Sep. 25	.20	.27	.35	.50	.62	.85	.95	1.05	1.23	1.40	1.46	1.60
Nantucket Airport												
July 25	.30	.43	.64	.83	1.14	1.64	2.03	2.05	2.06	2.08	2.14	2.42
July 31	.13	.21	.27	.32	.52	.70	.84	1.00	1.12	1.20	1.35	1.53
Aug. 21	.31	.40	.41	.41	.41	.41	.41	.41	.41	.41	.41	.42
Aug. 29	.26	.32	.34	.35	.35	.35	.35	.35	.35	.35	.35	.35
Oct. 2-3	.26	.43	.57	.63	.72	1.01	1.17	1.27	1.44	1.81	1.85	1.88
Pittsfield Airport												
June 8	.17	.30	.40	.46	.50	.53	.53	.55	.56	.57	.60	.70
June 10	.30	.35	.36	.36	.36	.36	.37	.37	.37	.37	.37	.37
July 25	.35	.60	.78	.81	1.00	1.02	1.02	1.02	1.02	1.02	1.02	1.02

† New Orleans data found at end of table.

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
MICHIGAN												
Alpena Airport												
June 12	0.29	0.31	0.31	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32	0.32
July 14	.24	.37	.45	.47	.51	.55	.59	.60	.61	.61	.61	.61
Aug. 9	.16	.25	.36	.40	.45	.47	.48	.49	.49	.50	.57	.62
Sept. 27	.19	.31	.39	.50	.50	.50	.50	.50	.50	.50	.50	.50
Detroit Airport												
Apr. 23	.18	.30	.35	.37	.40	.42	.43	.44	.44	.44	.44	.59
June 1	.22	.31	.34	.42	.48	.52	.66	.73	1.11	1.18	1.23	1.24
Aug. 1	.25	.38	.50	.58	.78	1.02	1.34	1.61	1.72	1.79	1.91	1.94
Aug. 23	.20	.30	.44	.50	.58	.69	.78	.91	1.00	1.08	1.12	1.14
Sept. 1	.22	.32	.39	.42	.46	.50	.57	.66	.68	.71	.77	.78
Sept. 2	.28	.46	.55	.55	.56	.56	.56	.56	.56	.56	.56	.56
Sept. 23	.28	.43	.65	.76	.88	.94	1.11	1.18	1.23	1.27	1.28	1.28
Sept. 26	.13	.22	.28	.34	.52	.65	.67	.69	.70	.71	.72	.73
Detroit (Metropolitan AP)												
June 1	.18	.33	.44	.53	.61	.64	.65	.66	.75	.78	.80	.81
July 16	.31	.34	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35
July 19	.27	.40	.58	.67	.72	.87	.92	.95	.95	.95	.95	.95
Aug. 4	.35	.55	.70	.76	.80	.80	.80	.80	.80	.80	.80	.80
Aug. 11	.40	.70	.90	.96	1.30	1.36	1.39	1.39	1.39	1.39	1.39	1.39
Aug. 27	.27	.42	.46	.52	.67	1.03	1.12	1.15	1.50	1.51	1.62	1.62
Sept. 1	.23	.33	.47	.60	.93	1.33	1.52	1.67	1.80	1.91	1.99	2.02
Sept. 24	.45	.78	1.05	1.16	1.17	1.20	1.38	1.71	1.71	1.71	1.71	1.71
Detroit Airport (Willow Run)												
July 23	.17	.28	.32	.40	.53	.57	.57	.67	.70	.70	.70	.76
Aug. 5	.35	.60	.70	.83	.91	1.07	1.11	1.13	1.18	1.19	1.28	1.29
Aug. 11	.44	.64	.77	.94	1.19	1.27	1.27	1.27	1.27	1.27	1.27	1.27
Aug. 27	.33	.42	.52	.52	.52	.52	.76	.77	.77	.78	.81	.81
Sept. 1	.64	.95	1.10	1.14	1.35	1.64	1.85	1.94	1.99	2.04	2.07	2.07
Sept. 23	.31	.34	.35	.35	.39	.52	.55	.58	.60	.61	.61	.61
Sept. 24	.42	.82	1.10	1.33	1.40	1.42	1.45	1.45	1.45	1.45	1.45	1.45
Escanaba												
June 18	.24	.30	.35	.37	.41	.42	.43	.43	.43	.43	.43	.50
June 27	.30	.49	.52	.55	.57	.58	.60	.63	.63	.63	.63	.63
July 23	.15	.25	.35	.42	.52	.62	.80	.95	1.16	1.25	1.32	1.35
Aug. 18	.25	.30	.32	.33	.33	.33	.33	.33	.39	.40	.42	.46
Aug. 26	.43	.62	.63	.64	.65	.65	.65	.65	.65	.65	.65	.65
Flint Airport												
June 14	.14	.22	.28	.41	.44	.54	.57	.58	.66	.80	.91	.94
July 28	.18	.30	.36	.48	.52	.53	.65	.80	1.01	1.02	1.08	1.08
Aug. 19	.40	.60	.70	.78	.90	1.35	1.72	2.02	2.06	2.08	2.08	2.08
Aug. 24	.35	.50	.64	.64	.64	.64	.64	.64	.64	.64	.64	.64
Aug. 28	.26	.33	.35	.38	.38	.38	.38	.40	.40	.40	.40	.40
Aug. 28	.30	.45	.48	.50	.71	.73	.73	.73	.73	.73	.73	.73
Sept. 30	.28	.35	.38	.40	.43	.44	.45	.45	.47	.48	.48	.50
Grand Rapids AP												
July 15	.17	.27	.41	.44	.57	.61	.64	.70	.74	.76	.79	.84
July 28	.22	.32	.36	.38	.39	.42	.43	.45	.46	.46	.46	.47
Aug. 19	.28	.47	.51	.52	.54	.54	.54	.54	.54	.54	.54	.54
Sept. 12-13	.20	.26	.46	.56	.62	.66	.67	.68	.82	1.18	1.30	1.34
Sept. 25	.23	.32	.48	.56	.77	.98	1.20	1.57	1.76	2.02	2.28	2.52
Lansing Airport												
June 13	.30	.43	.55	.58	.81	.90	.91	.93	.93	.93	.93	.93
July 2	.13	.25	.36	.37	.37	.39	.41	.47	.48	.48	.48	.48
Aug. 24	.21	.33	.33	.33	.33	.33	.33	.36	.43	.45	.46	.46
Sept. 25	.15	.27	.37	.45	.55	.63	.71	.74	.80	.92	1.08	1.12
Marquette												
June 28	.35	.65	.83	.92	1.02	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Sept. 10	.31	.34	.35	.35	.36	.36	.36	.36	.37	.47	.51	.52
Muskegon Airport												
Apr. 24	.30	.45	.50	.55	.62	.67	.75	.80	.81	.82	.85	.85
Aug. 4	.20	.31	.35	.37	.40	.65	.74	.76	.76	.76	.76	.76
Sept. 6	.09	.18	.27	.36	.53	.79	.80	.89	.94	.95	.95	.95
Sept. 21	.25	.38	.45	.45	.45	.45	.45	.45	.50	.85	.90	.90
Sault Ste. Marie AP							None					
MINNESOTA												
Duluth Airport												
June 23	.26	.26	.26	.26	.26	.26	.26	.26	.26	.26	.26	.26
July 13	.31	.40	.46	.51	.52	.53	.54	.54	.54	.54	.54	.54
July 29	.49	.54	.58	.60	.64	.72	.73	.73	.73	.73	.73	.73
International Falls AP												
June 8	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43
July 18	.25	.41	.55	.62	.70	.73	.73	.73	.73	.73	.89	.89
July 21	.37	.39	.40	.40	.40	.40	.40	.42	.44	.44	.44	.44
Aug. 24	.32	.33	.34	.45	.63	.71	.75	.80	.81	.84	.85	.85
Aug. 31	.27	.38	.43	.45	.47	.47	.47	.47	.47	.47	.47	.47
Sept. 1	.50	.79	.83	.89	.94	.95	.97	.98	.99	1.00	1.00	1.00
Sept. 1	.29	.50	.57	.68	.85	1.05	1.31	1.53	1.59	1.63	1.64	1.65
Sept. 10	.25	.47	.54	.70	.79	1.00	1.12	1.19	1.20	1.20	1.20	1.21
Minneapolis AP												
July 30	.18	.24	.35	.40	.52	.66	.90	.97	1.00	1.03	1.05	1.05
Sept. 8	.25	.44	.59	.63	.64	.66	.72	.72	.73	.76	.96	.97
Rochester Airport												
May 31	.56	1.04	1.24	1.34	1.50	1.58	1.60	1.66	1.69	1.71	1.75	1.76
June 10	.76	1.12	1.39	1.51	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55
June 19	.19	.25	.34	.40	.56	.62	.64	.66	.69	.73	.73	.73
July 1	.30	.59	.75	.84	.90	.92	.93	.99	1.18	1.21	1.28	1.30
July 1	.27	.38	.43	.51	.59	.61	.65	.73	.79	.84	.92	.92
July 30	.30	.48	.68	.86	.98	1.24	1.31	1.32	1.36	1.38	1.38	1.38
Aug. 16	.22	.42	.57	.68	.88	.92	.92	.92	.92	.92	.92	.92
Sept. 2	.38	.46	.49	.62	.82	.94	1.28	1.33	1.33	1.34	1.35	1.36
Oct. 10	.27	.31	.35	.43	.51	.64	.78	.83	.86	.88	.93	.99
Saint Cloud AP												
June 12	.20	.37	.42	.45	.46	.59	.66	.67	.67	.67	.67	.68
June 30	.35	.52	.63	.72	.75	.78	.79	.80	.80	.80	.80	.80
July 18	.20	.35	.45	.55	.58	.60	.62	.63	.64	.67	.73	.78
Aug. 9	.22	.36	.38	.39	.43	.50	.59	.82	.84	.85	.86	.87

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
MISSISSIPPI												
Jackson Airport												
Mar. 13	0.18	0.35	0.43	0.43	0.43	0.44	0.44	0.44	0.44	0.44	0.49	0.59
Mar. 28	.28	.55	.72	.76	.80	.88	1.24	1.35	1.45	1.49	1.54	1.59
Mar. 29	.20	.30	.34	.35	.36	.37	.38	.41	.41	.41	.41	.41
May 8	.50	.75	.88	.96	1.33	1.77	1.92	1.99	2.01	2.02	2.02	2.02
June 7	.27	.36	.42	.49	.56	.56	.56	.56	.56	.56	.56	.56
June 11	.28	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
July 12	.31	.50	.73	.84	.89	.93	.96	1.00	1.23	1.29	1.33	1.35
July 21	.38	.60	.82	.93	1.10	1.14	1.14	1.14	1.14	1.14	1.14	1.14
July 24	.33	.37	.38	.38	.38	.38	.38	.63	.83	.86	.86	.86
July 27	.20	.40	.45	.60	.72	.72	.72	.72	.72	.72	.72	.72
July 28	.17	.28	.35	.48	.56	.68	.77	.81	.81	.81	.81	.81
July 31	.20	.33	.45	.48	.56	.60	.60	.60	.60	.60	.60	.60
Aug. 13	.22	.30	.37	.53	.73	.76	.79	.89	.91	.93	1.02	1.05
Aug. 24	.23	.40	.46	.46	.52	.56	.57	.57	.58	.59	.61	.62
Aug. 29	.16	.30	.41	.50	.63	.75	.80	.84	.85	.87	1.01	1.02
Sept. 2	.23	.35	.38	.39	.40	.46	.47	.48	.50	.51	.53	.53
Nov. 13	.28	.32	.32	.32	.32	.32	.32	.32	.32	.34	.34	.34
Nov. 15	.22	.25	.40	.42	.44	.44	.44	.45	.46	.46	.49	.52
Nov. 22	.25	.41	.55	.65	.77	1.07	1.54	1.68	1.70	1.77	1.88	1.98
Dec. 9	.35	.48	.60	.66	.72	.73	.74	.75	.76	.77	.88	1.02
Dec. 11	.36	.37	.38	.38	.42	.56	.60	.60	.61	.61	.61	.61
Dec. 12	.17	.29	.36	.46	.73	1.03	1.13	1.16	1.17	1.18	1.19	1.20
Meridian Airport												
Feb. 19	.18	.32	.43	.49	.54	.62	.64	.66	.70	.76	.77	.81
Feb. 21	.30	.45	.67	.73	.97	1.10	1.15	1.34	1.51	2.03	2.12	2.44
Mar. 17	.24	.43	.54	.64	.71	.75	.85	.92	.97	.98	1.02	1.02
Mar. 28	.20	.33	.38	.43	.52	.76	.87	1.00	1.10	1.18	1.29	1.36
Mar. 29	.38	.54	.62	.64	.66	.68	.70	.74	.78	.81	.81	.81
Mar. 31	.30	.43	.52	.60	.82	.95	1.00	1.05	1.07	1.10	1.10	1.30
May 15	.25	.46	.49	.53	.58	.68	.68	.68	.70	.70	.70	.70
June 11	.24	.38	.46	.53	.56	.58	.59	.60	.60	.60	.60	.60
June 24	.25	.46	.53	.56	.56	.56	.56	.56	.57	.57	.59	.60
July 12	.22	.40	.46	.46	.51	.55	.60	.83	.84	.84	.84	.84
Aug. 8	.45	.75	.90	1.05	1.12	1.24	1.30	1.32	1.35	1.35	1.35	1.35
Dec. 12	.60	.75	.80	.80	1.25	1.30	1.55	1.70	1.70	1.75	1.75	1.88
Vicksburg												
Feb. 19	.32	.47	.56	.59	.74	.78	.79	.79	.79	.79	.80	.84
Feb. 28	.22	.32	.36	.38	.41	.51	.73	.83	.85	.92	.92	.92
Mar. 5	.27	.35	.42	.49	.59	.79	.87	.99	1.09	1.13	1.18	1.21
Mar. 6	.22	.32	.44	.46	.46	.46	.46	.46	.48	.63	.65	.65
Mar. 17	.40	.48	.52	.56	.67	.73	.77	.80	.90	.93	.95	.96
Mar. 27	.15	.21	.28	.31	.53	.65	.72	.76	.78	.80	.84	.85
Mar. 28	.32	.55	.73	.95	1.13	1.16	1.19	1.39	1.44	1.49	1.56	1.59
Mar. 29	.21	.30	.33	.37	.46	.51	.57	.59	.59	.60	.60	.60
Apr. 9	.18	.31	.37	.40	.45	.48	.53	.60	.67	.74	.80	.80
Apr. 11	.34	.50	.51	.52	.54	.58	.60	.92	.96	.99	1.05	1.09
May 9	.25	.49	.61	.76	.93	1.06	1.07	1.07	1.07	1.07	1.07	1.07
June 19-20	.14	.26	.37	.40	.45	.49	.55	.68	.77	.93	1.12	1.34
July 16	.16	.27	.35	.43	.46	.46	.47	.48	.67	.72	.76	1.07
Aug. 3	.31	.42	.62	.74	.79	.80	.80	.80	.80	.81	.81	.82
Aug. 31	.17	.33	.46	.53	.57	.57	.58	.59	.59	.59	.59	.59
Sept. 13	.40	.57	.61	.63	.64	.65	.66	.66	.66	.66	.66	.66
Oct. 2	.19	.33	.47	.53	.68	.90	.97	.99	.99	.99	.99	.99
Nov. 13	.27	.40	.53	.70	.85	.95	1.02	1.07	1.11	1.15	1.23	1.32
Nov. 15	.23	.40	.53	.65	.73	.84	.89	.92	.92	.92	.93	.93
Nov. 23	.28	.43	.53	.59	.68	.75	.79	.85	1.02	1.07	1.14	1.18
Dec. 11	.22	.43	.59	.67	.72	.77	.81	.85	.88	.89	.89	.90
Dec. 12	.17	.27	.32	.36	.51	.58	.59	.61	.62	.63	.64	.64
Dec. 16	.30	.53	.72	.91	1.07	1.36	1.56	1.69	1.74	1.76	1.77	1.78
Dec. 17	.26	.26	.33	.40	.44	.46	.52	.63	.67	.82	.85	.87
MISSOURI												
Kansas City Airport												
Feb. 17	.19	.33	.39	.40	.45	.54	.62	.89	1.01	1.05	1.19	1.29
Mar. 5	.38	.55	.56	.56	.58	.63	.71	.81	.84	.89	.89	.89
Mar. 26	.20	.27	.32	.36	.54	.71	.84	1.04	1.05	1.06	1.15	1.19
May 7	.18	.31	.36	.39	.40	.41	.45	.45	.46	.46	.46	.46
May 7	.29	.43	.47	.56	.57	.67	.89	.93	.93	.93	.93	.93
May 17	.20	.29	.35	.41	.48	.54	.68	.73	.78	.79	.79	.79
June 13	.40	.66	.90	1.05	1.10	1.20	1.32	1.49	1.51	1.52	1.56	1.56
June 13	.18	.36	.46	.64	.77	.96	1.10	1.13	1.22	1.26	1.30	1.31
June 14	.30	.55	.65	.76	.93	.97	1.00	1.10	1.17	1.23	1.27	1.29
June 27	.36	.43	.51	.61	.76	.84	.96	.98	.98	.98	.98	.98
July 6	.41	.76	1.00	1.11	1.24	1.37	1.56	2.28	2.41	2.43	2.52	2.89
July 20	.26	.46	.58	.60	.65	.82	.96	.98	1.02	1.07	1.18	1.20
July 23	.18	.27	.36	.42	.44	.70	.79	.80	.89	.90	.99	1.00
Aug. 1	.26	.49	.65	.71	.77	.79	.80	.81	.81	.83	.88	.90
Sept. 3	.18	.28	.35	.46	.63	.77	.88	.98	1.01	1.03	1.04	1.05
Sept. 11	.24	.38	.63	.64	.71	.80	.80	.80	.80	.82	.84	.84
Sept. 13	.16	.29	.41	.48	.59	.90	1.14	1.50	1.62	1.96	2.41	2.66
Sept. 24	.16	.28	.36	.43	.52	.55	.55	.56	.57	.58	.59	.59
Oct. 30	.30	.40	.54	.67	.78	.89	1.00	1.05	1.05	1.05	1.11	1.18
Nov. 2	.24	.35	.42	.43	.44	.47	.50	.52	.54	.58	.64	.73
Nov. 12	.17	.28	.36	.41	.55	.61	.64	.70	.74	.76	.80	.81
St. Joseph Airport												
Mar. 5	.27	.47	.49	.51	.56	.69	.78	.95	1.11	1.12	1.14	1.21
May 7	.35	.55	.58	.60	.61	.62	.63	.75	.76	.76	.77	.86
June 13	.30	.50	.60	.62	.64	.67	.67	.68	.68	.68	.68	.68
June 14	.30	.40	.45	.48	.52	.55	.58	.63	.68	.73	.73	.73
June 19	.25	.35	.43	.46	.53	.58	.65	.73	.74	.75	.80	.85
June 27	.25	.37	.50	.65	.80	.97	1.04	1.05	1.06	1.06	1.07	1.09
July 5	.45	.75	1.00	1.10	1.35	1.55	1.60	2.10	2.35	2.35	2.35	3.23
July 20	.35	.65	.92	1.17	1.25	1.30	1.35	1.38	1.47	1.50	1.55	1.58
July 23	.30	.60	.75	.85	.85	.85	.85	.85	.85	.85	.85	.85
Aug. 1	.55	.88	1.00	1.10	1.25	1.26	1.27	1.29	1.33	1.36	1.38	1.40
Sept. 3	.16	.30	.40	.43	.50	.60	.67	.90	1.13	1.23	1.70	1.80
Sept. 12-13	.10	.20	.30	.40	.55	.80	.90	1.25	1.37	1.51	1.71	1.81
Sept. 23	.20	.39	.55	.65	.75	.83	.87	.91	.93	.94	1.05	1.10
Oct. 29	.85	1.40	1.75	1.90	1.93	2.00	2.06	2.29	2.39	2.46	2.55	2.62
St. Louis Airport												
Apr. 25	.20	.26	.36	.45	.50	.52	.55	.64	.64	.66	.66	.66
May 7	.21	.31	.38	.44	.52	.58	.65	.68	.70	.74	.83	.84
June 30	.17	.27	.40	.46	.72	.97	1.09	1.28	1.28	1.28	1.28	1.42
July 12	.25	.41	.56	.61	.67	.71	.79	.96	1.02	1.09	1.13	1.17
July 19	.25	.33	.37	.44	.50	.55	.61	.67	.70	.73	.75	.96
July 25	.31	.53	.65	.69	.92	1.06	1.24	1.47	1.50	1.50	1.58	2.18
Aug. 5	.19	.34	.42	.45	.45	.45	.45	.45	.45	.45	.45	.45
Springfield Airport												
Mar. 5	.20	.26	.34	.44	.60	.88	1.00	1.16	1.25	1.27	1.29	1.48

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
MISSOURI (Cont'd												
Springfield AP (Cont'd.)												
Mar. 5	0.24	0.40	0.50	0.63	0.75	0.82	0.89	0.96	0.99	1.04	1.05	1.05
Apr. 21	.29	.38	.54	.57	.78	.92	1.06	1.26	1.38	1.68	1.75	1.84
May 7	.52	.69	.69	.69	.69	.69	.70	.70	.71	.71	.71	.84
May 8	.16	.24	.35	.42	.48	.50	.51	.54	.67	.76	.90	1.01
May 25	.21	.36	.44	.47	.50	.54	.59	.64	.68	.69	.70	.70
July 12	.30	.32	.42	.56	.72	.82	.82	.82	.82	.82	.87	.89
Sept. 3	.38	.72	.75	.78	.85	.94	.97	1.00	1.04	1.04	1.11	1.12
Sept. 4	.24	.40	.57	.74	.83	.89	.94	.94	.94	.94	.94	.94
Sept. 13	.17	.30	.40	.49	.66	.86	1.02	1.20	1.32	1.40	1.46	1.53
Oct. 13	.21	.34	.46	.51	.57	.65	.67	.69	.70	.70	.73	.78
Oct. 24	.23	.41	.43	.50	.54	.57	.59	.64	.67	.70	.71	.73
MONTANA												
Billings Airport						None						
Glasgow Airport						None						
Great Falls AP												
June 29	.26	.43	.50	.50	.50	.52	.60	.60	.60	.60	.60	.60
Havre												
June 29	.38	.49	.56	.57	.57	.57	.58	.58	.58	.58	.58	.58
Helena Airport						None						
Kalispell Airport												
July 5	.13	.19	.32	M	.53	M	.63	M	M	.64	M	.64
Missoula Airport						None						
NEBRASKA												
Grand Island AP												
May 13	(.67)	(.95)	(1.10)	(1.35)	(1.70)	(1.81)	(1.89)	(1.92)	(1.94)	(1.95)	(1.97)	(1.97)
June 4	.40	.70	.90	.95	1.08	1.11	1.16	1.16	1.19	1.19	1.19	1.19
June 5	.45	.80	.97	1.05	1.07	1.08	1.08	1.08	1.08	1.10	1.11	1.12
July 11	.45	.75	1.00	1.40	1.85	2.43	2.75	2.78	2.80	2.80	2.80	2.80
Aug. 17	.17	.27	.35	.43	.52	.58	.59	.64	.66	.73	.78	.84
Lincoln												
May 30	.19	.35	.44	.46	.51	.57	.59	.60	.60	.60	.60	.62
July 11	.29	.38	.41	.42	.43	.43	.44	.47	.51	.57	.66	.69
July 27	.19	.33	.44	.55	.66	.69	.69	.69	.70	.71	.71	.71
Aug. 18	.36	.61	.78	.91	1.09	1.12	1.12	1.14	1.15	1.16	1.16	1.16
Aug. 21	.50	.73	.92	1.09	1.28	1.39	1.44	1.47	1.48	1.48	1.48	1.49
Sept. 10	.18	.31	.41	.45	.50	.56	.59	.65	.70	.78	.88	.94
Oct. 10	.23	.32	.41	.56	.60	.63	.64	.64	.65	.66	.66	.66
Norfolk Airport												
May 30	.25	.40	.45	.50	.60	.70	.79	.81	.83	.84	.85	.85
May 30	.35	.53	.61	.72	.85	.93	.95	.98	1.01	1.04	1.11	1.11
June 7	.44	.61	.67	.77	.85	.92	1.11	1.13	1.13	1.26	1.27	1.27
July 10	.35	.62	.75	.87	1.00	1.50	1.52	1.53	1.53	1.53	1.53	1.53
July 27	.47	.82	1.08	1.24	1.38	1.44	1.48	1.50	1.52	1.53	1.53	1.53
July 31	.45	.76	.86	1.08	1.45	1.60	1.65	1.67	1.68	1.72	1.75	1.87
North Platte AP												
May 13	.20	.35	.47	.57	.65	.80	.85	.86	.86	.86	.87	.87
May 30	.25	.26	.27	.27	.27	.27	.27	.27	.27	.27	.27	.27
May 31	.22	.32	.35	.36	.36	.37	.37	.37	.37	.37	.37	.37
June 14	.38	.62	.85	1.05	1.18	1.23	1.25	1.26	1.27	1.29	1.34	1.37
June 30	.15	.25	.35	.36	.37	.38	.38	.38	.38	.38	.38	.38
July 17	.25	.37	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38
Aug. 26	.15	.28	.35	.36	.37	.37	.38	.39	.41	.41	.41	.41
Omaha Airport												
May 30	.90	1.20	1.39	1.56	1.85	2.34	2.60	2.78	2.87	3.00	3.00	3.00
May 31	.23	.29	.32	.43	.46	.48	.48	.48	.48	.48	.48	.48
June 5	.48	.53	.55	.58	.68	.90	.90	.91	.91	.91	.92	1.10
July 27	.28	.52	.56	.58	.59	.61	.62	.63	.64	.64	.64	.64
Oct. 29	.60	.85	1.15	1.25	1.45	1.55	1.60	1.75	1.82	1.91	1.91	1.91
Scottsbluff AP						None						
Valentine AP												
May 13	.22	.35	.38	.50	.60	.72	.75	.75	.76	.79	.81	.82
June 13	.36	.66	.72	.73	.74	.75	.75	.75	.75	.75	.75	.75
July 27	.40	.65	.73	.75	.80	.86	.90	1.04	1.04	1.04	1.04	1.04
Aug. 10	.25	.47	.51	.53	.53	.62	.65	.65	.65	.65	.65	.65
Aug. 17	.20	.35	.37	.42	.45	.47	.48	.48	.48	.48	.48	.48
Aug. 21	.30	.43	.70	.83	.88	.90	.92	.96	.96	1.01	1.03	1.03
NEVADA												
Elko Airport												
Aug. 6	.20	.35	.40	.49	.62	.62	.62	.77	.79	.79	.79	.79
Ely Airport						None						
Reno Airport						None						
Winnemucca AP						None						
NEW HAMPSHIRE												
Concord Airport												
July 2	.31	.43	.46	.46	.47	.48	.48	.48	.48	.48	.48	.48
NEW JERSEY												
Atlantic City AP												
June 9	.18	.34	.48	.56	.56	.58	.70	.94	.97	.97	.97	1.12
Newark Airport												
July 20	.55	.69	.75	.77	.79	1.05	1.37	1.45	1.48	1.53	1.56	1.56
July 20	.17	.32	.44	.56	.78	.98	1.12	1.21	1.25	1.26	1.29	1.30
July 31	.20	.36	.45	.52	.68	.81	.95	1.09	1.33	1.47	1.48	1.48
Aug. 26	.28	.48	.67	.69	.70	.84	.93	.93	.95	.95	.95	.95
Trenton												
Apr. 25	.18	.30	.36	.40	.48	.54	.55	.55	.55	.55	.55	.55
June 14	.25	.37	.49	.52	.52	.52	.53	.53	.54	.54	.54	.54
June 25	.26	.30	.31	.32	.32	.32	.32	.32	.32	.32	.32	.32

M Missing
( ) Estimated Data

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
NEW JERSEY (Cont'd.)												
Trenton (Cont'd.)												
July 15	0.20	0.25	0.31	0.45	0.53	0.60	0.61	0.61	0.61	0.62	----	----
July 15	.35	.61	.89	1.08	1.60	1.87	1.99	2.22	2.23	2.23	2.25	2.35
July 29	----	----	----	----	----	----	*.81	----	----	*1.62	----	*1.82
July 31	.47	.77	1.00	1.05	1.06	1.06	1.06	1.07	1.07	1.12	1.43	1.49
Aug. 23	.20	.32	.35	.40	.48	.62	.75	.89	1.01	1.06	1.12	1.14
NEW MEXICO												
Albuquerque AP												
July 8	.36	.58	.76	1.05	1.39	1.61	1.63	1.63	1.63	1.63	1.63	1.63
July 10	.25	.36	.39	.45	.50	.50	.50	.50	.50	.50	.50	.50
Aug. 14	.18	.30	.35	.40	.46	.49	.51	.51	.51	.52	.52	.52
Sept. 18	.20	.32	.39	.41	.41	.41	.41	.41	.41	.41	.42	.43
Raton Airport												
May 22	.28	.53	.74	.94	1.08	1.12	1.16	1.19	1.21	1.22	1.23	1.24
June 22	.17	.30	.45	.55	.67	.70	.72	.72	.72	.72	.72	.74
July 7	.26	.50	.64	.71	.77	.79	.80	.80	.82	.84	.85	.87
July 12	.52	.68	.75	.79	.84	.85	.85	.85	.85	.85	.85	.85
Aug. 2	.15	.22	.33	.42	.57	.67	.67	.67	.69	.70	.74	.75
Aug. 18	.15	.21	.35	.45	.54	.57	.64	.70	.72	.72	.72	.72
Aug. 23	.21	.37	.41	.47	.52	.53	.53	.53	.53	.53	.53	.53
Roswell Airport						None						
NEW YORK												
Albany Airport												
May 9	.25	.36	.46	.53	.56	.70	.76	.80	.82	.82	.83	.84
June 8	.43	.60	.77	.93	1.05	1.09	1.12	1.15	1.16	1.18	1.20	1.23
July 2	.18	.34	.41	.43	.45	.47	.49	.50	.51	.51	.51	.51
July 13	.15	.27	.34	.44	.47	.47	.47	.49	.49	.49	.59	.74
Aug. 25	.26	.40	.41	.43	.66	.87	.88	.90	.91	.92	.94	.94
Aug. 26	.27	.40	.52	.58	.59	.65	.91	1.19	1.24	1.27	1.60	1.92
Sept. 2	.30	.52	.60	.82	1.07	1.16	1.18	1.18	1.18	1.18	1.18	1.18
Binghamton Airport												
Apr. 24	.17	.31	.38	.40	.44	.45	.46	.47	.52	.62	.81	.91
June 8	.28	.50	.59	.62	.81	.86	.88	.93	.95	.99	1.03	1.16
July 2	.34	.53	.59	.63	.65	.66	.67	.68	.71	.87	1.20	1.23
July 7	.37	.39	.39	.39	.39	.47	.54	.56	.58	.58	.68	.69
July 25	.18	.27	.39	.40	.40	.40	.40	.40	.40	.40	.40	.40
July 30	.34	.54	.64	.71	.78	.78	.78	.80	.80	.80	.80	.80
Aug. 11	.29	.34	.35	.35	.35	.35	.36	.42	.58	.58	.58	.58
Aug. 25	.26	.45	.64	.78	.83	.88	.94	.96	.98	.98	1.02	1.02
Buffalo Airport												
June 1	.20	.30	.34	.35	.39	.45	.48	.57	.66	.69	.80	.82
July 2	.16	.26	.39	.40	.46	.48	.48	.49	.49	.49	.64	.68
Aug. 2	.26	.50	.63	.83	1.01	1.15	1.26	1.33	1.44	1.44	1.52	1.56
Sept 13	.28	.43	.47	.62	.84	1.15	1.55	1.57	1.64	1.77	1.77	1.77
New York												
May 22	.28	.36	.38	.40	.40	.40	.40	.40	.40	.40	.40	.40
July 31	.45	.65	.70	.71	.71	.79	.88	1.00	1.02	1.02	1.05	1.10
Aug. 26	.29	.40	.40	.40	.42	.55	.55	.55	.55	.55	.55	.55
New York Airport												
May 26	.16	.27	.38	.47	.55	.65	.71	.73	.74	.75	.80	.87
July 20	.31	.39	.39	.40	.43	.60	.82	.90	1.04	1.05	1.05	1.05
July 29	.36	.60	.61	.61	.62	.67	.77	.90	.90	.91	.96	.99
Aug. 21	.19	.31	.35	.36	.37	.38	.48	.50	.53	.55	.58	.63
Aug. 26	.25	.36	.47	.48	.48	.48	.48	.48	.48	.48	.48	.48
Rochester Airport												
May 15	.35	.39	.42	.43	.45	.50	.59	.61	.61	.62	.62	.75
June 29	.34	.36	.49	.57	.57	.57	.57	.57	.57	.57	.57	.57
July 3	.30	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35
July 16	.16	.25	.33	.34	.49	.63	.63	.64	.66	.67	.67	.67
Aug. 6	.25	.43	.55	.65	.72	.76	.76	.76	.76	.76	.76	.76
Syracuse Airport												
June 21	.30	.41	.42	.43	.44	.46	.46	.47	.47	.48	.50	.50
July 7	.30	.37	.50	.54	.57	.58	.60	.60	.60	.60	.61	.61
July 14	.36	.66	.86	.88	1.17	1.19	1.20	1.20	1.22	1.23	1.24	1.24
July 24	.25	.42	.50	.57	.72	.78	.79	.81	.82	.83	.83	.84
July 29	.32	.40	.40	.40	.40	.40	.41	.41	.41	.41	.41	.41
NORTH CAROLINA												
Asheville												
June 5	.25	.28	.28	.28	.28	.31	.31	.33	.33	.34	.34	.34
June 13	.23	.44	.57	.60	.61	.61	.62	.62	.62	.63	.64	.64
July 2	.28	.47	.67	.72	.75	.76	.76	.76	.76	.76	.76	.76
Aug. 2	.21	.28	.35	.45	.49	.50	.51	.51	.51	.51	.51	.51
Aug. 24	.19	.38	.56	.67	.74	.94	1.07	1.17	1.21	1.29	1.43	1.54
Aug. 26	.26	.43	.60	.78	.98	1.02	1.06	1.08	1.09	1.09	1.10	1.24
Cape Hatteras												
Jan. 14	.16	.30	.37	.45	.58	.77	.80	.86	.88	.91	.97	.99
May 13	.38	.51	.58	.63	.84	.85	.86	.88	.88	.88	.88	.88
June 11	.14	.21	.36	.44	.51	.53	.55	.56	.56	.58	.58	.58
July 19	.29	.41	.49	.50	.53	.70	.71	.71	.71	.71	.71	.71
Aug. 4	.35	.65	.90	1.10	1.50	1.67	1.74	1.76	1.89	1.96	1.97	1.99
Aug. 5	.30	.50	.75	.88	.92	.93	.95	.95	.95	.95	.95	.95
Nov. 23	.33	.54	.61	.66	.73	.85	.90	1.02	1.13	1.14	1.14	1.14
Dec. 28	.28	.48	.50	.58	.81	1.08	1.11	1.20	1.20	1.36	1.42	1.42
Charlotte Airport												
Feb. 20	.17	.30	.38	.46	.55	.68	.74	.80	.82	.98	1.07	1.16
Apr. 9	.38	.50	.58	.60	.63	.64	.66	.71	.81	.95	1.13	1.23
June 5	.40	.80	1.00	1.30	1.60	1.78	1.80	1.80	1.80	1.80	1.80	1.80
June 25	.26	.40	.51	.65	1.08	1.16	1.16	1.24	1.27	1.28	1.28	1.28
Nov. 23	.27	.30	.31	.33	.36	.40	.47	.56	.60	.68	.75	.77
Greensboro AP												
Apr. 9	.18	.30	.35	.36	.38	.45	.51	.60	.66	.74	.94	1.05
Apr. 16	.18	.26	.31	.40	.56	.76	.87	.96	1.03	1.09	1.14	1.17
June 12	.55	.93	1.09	1.21	1.47	1.59	1.64	1.69	1.69	1.69	1.69	1.69
July 23	.25	.47	.64	.71	.89	.95	.95	.95	.95	.95	.95	.95
Aug. 5	.44	.56	.59	.62	.62	.62	.63	.63	.63	.65	.75	.75
Aug. 6	.27	.35	.35	.35	.35	.35	.39	.39	.40	.40	.40	.40
Aug. 7	.21	.31	.31	.31	.36	.44	.48	.49	.49	.53	.53	.53
Aug. 9	.27	.37	M	M	.63	.63	.64	.65	.65	.65	.65	.65

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
NORTH CAROLINA (Cont'd.)												
Greensboro AP (Cont'd.)												
Aug. 24	0.26	0.41	0.51	0.54	0.57	0.81	1.10	1.19	1.20	1.21	1.22	1.25
Aug. 25	.23	.34	.46	.50	.57	.63	.64	.64	.64	.64	.65	.65
Raleigh Airport												
Feb. 23	.15	.30	.39	.44	.48	.54	.76	.92	.93	.95	.98	.99
June 14	.16	.22	.36	.36	.36	.37	.37	.38	.45	.45	.45	.45
June 25	.16	.36	.35	.41	.45	.50	.54	.55	.57	.61	.65	.66
June 26	.20	.30	.35	.38	.38	.38	.38	.38	.38	.38	.38	.38
July 3	.16	.32	.40	.51	.60	.60	.61	.62	.62	.62	.62	.62
July 16	.29	.36	.36	.36	.37	.38	.38	.38	.38	.38	.38	.38
July 24	.30	.43	.47	.48	.48	.49	.67	.67	.67	.70	.73	.73
Aug. 20	.25	.38	.47	*.48	*.78	*.97	*1.00	*1.07	*1.09	*1.10	*1.13	1.14
Aug. 29	.25	.50	.50	.52	.52	.52	.52	.52	.52	.52	.52	.52
Sept. 2	.35	.42	.55	.62	.62	.62	.62	.62	.62	.62	.62	.62
Sept. 14	.25	.30	.33	.36	.36	.36	.36	.36	.36	.36	.36	.36
Dec. 18	.22	.31	.42	.43	.43	.44	.44	.44	.45	.45	.46	.49
Wilmington AP												
Feb. 8	.33	.39	.47	.48	.49	.49	.50	.52	.54	.54	.55	.55
Feb. 19	.26	.37	.39	.43	.45	.46	.46	.46	.46	.50	.52	.52
Mar. 22	.25	.30	.32	.34	.37	.39	.40	.67	.71	.71	.71	.71
Apr. 1	.15	.26	.36	.45	.63	.69	.71	.71	.71	.71	.72	.73
Apr. 9	.40	.74	.91	.99	1.19	1.67	1.84	1.97	2.17	2.22	2.70	2.95
Apr. 16	.28	.30	.32	.32	.32	.32	.32	.32	.32	.32	.32	.35
June 10	.32	.33	.34	.35	.36	.36	.36	.36	.36	.36	.43	.45
June 13	.27	.51	.73	.94	1.21	1.53	1.99	2.29	2.48	2.53	2.59	2.59
June 14	.26	.32	.45	.54	.56	.56	.57	.73	.73	.73	.73	.73
June 15	.25	.40	.52	.64	.69	.73	.74	1.19	1.43	1.49	1.54	1.74
June 21	.24	.35	.50	.53	.58	.65	.71	.76	.87	.87	.87	.87
June 26	.17	.25	.35	.53	.56	.72	.84	.87	.96	.98	1.12	1.42
June 28	.13	.22	.27	.32	.52	.77	.86	.92	.94	.95	.97	1.02
Aug. 4	.29	.57	.84	1.09	1.19	1.46	1.49	1.50	1.50	1.51	1.51	1.54
Aug. 13	.26	.31	.32	.32	.32	.32	.32	.32	.32	.32	.32	.32
Aug. 19	.29	.43	.46	.59	.70	1.09	1.29	1.43	1.53	1.62	1.65	1.65
Aug. 20	.25	.39	.47	.65	.75	.75	.75	.75	.75	.75	.75	.75
Aug. 22	.42	.82	.86	.90	.97	1.07	1.57	1.67	1.69	1.69	1.70	1.75
Sept. 4	.28	.38	.45	.52	.60	.65	.65	.65	.65	.65	.65	.65
Sept. 4	.27	.45	.55	.64	.88	1.01	1.02	1.03	1.03	1.09	1.24	1.25
Sept. 14	.38	.48	.52	.56	.60	.79	.82	.86	.88	1.03	1.04	1.05
Sept. 29	.20	.35	.36	.36	.36	.36	.36	.36	.36	.36	.36	.36
Nov. 23	.48	.54	.57	.62	.70	.77	.84	.95	1.03	1.05	1.10	1.22
NORTH DAKOTA												
Bismarck AP												
June 30	.42	.82	1.08	1.18	1.38	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Fargo Airport												
July 29	.22	.41	.43	.44	.46	.46	.48	.48	.49	.51	.58	.68
Sept. 9-10	.28	.48	.65	.75	1.02	1.18	1.33	1.41	1.49	1.57	1.63	1.68
Williston												
July 27	.16	.30	.42	.52	.53	.54	.54	.54	.54	.54	.58	.74
OHIO												
Akron Airport												
May 15	.28	.44	.47	.49	.51	.54	.65	.68	.68	.68	.68	.68
June 13	.32	.40	.42	.42	.46	.47	.47	.48	.48	.49	.49	.49
July 2	.20	.33	.38	.39	.46	.46	.46	.46	.46	.46	.46	.46
July 16	.20	.48	.52	.54	.54	.54	.54	.54	.54	.55	.56	.56
July 19	.28	.56	.63	.93	1.06	1.16	1.70	1.72	1.92	1.94	1.94	2.09
Aug. 19	.32	.56	.64	.76	.86	.91	.96	1.10	1.10	1.10	1.10	1.10
Sept. 6	.20	.36	.46	.50	.56	.65	.70	.80	.82	.83	.84	.84
Sept. 13	.29	.29	.29	.29	.29	.29	.29	.29	.29	.29	.29	.29
Cincinnati Abbe Obs.												
Mar. 13	.36	.48	.54	.54	.55	.55	.56	.62	.64	.64	.64	.64
Apr. 25	.25	.37	.39	.40	.43	.46	.47	.48	.48	.48	.48	.48
June 9	.26	.43	.58	.75	.84	.86	.90	.90	.90	.90	.90	.90
June 13	.31	.35	.35	.35	.35	.37	.65	.65	.65	.65	.65	.65
June 14	.30	.51	.64	.67	.87	.92	.95	.97	1.08	1.09	1.13	1.15
July 4	.37	.71	1.12	1.16	1.21	1.65	1.71	1.99	2.26	2.39	2.48	2.50
July 21	.15	.28	.37	.43	.53	.58	.58	.58	.58	.58	.58	.58
Cleveland Airport												
Apr. 24	.26	.38	.40	.42	.41	.44	.44	.44	.44	.44	.44	.46
Apr. 24	.42	.62	.64	.78	.84	.92	.94	.94	.94	.96	.96	.96
June 9	.16	.30	.38	.48	.64	.69	.72	.72	.72	.72	.72	.72
July 19	.34	.42	.43	.44	.62	.69	.73	.90	.93	.96	.96	.96
July 24	.27	.31	.32	.37	.37	.37	.37	.37	.37	.37	.37	.37
July 30	.50	.62	.64	.66	.68	.78	.78	.78	.78	.78	.78	.78
Aug. 5	.47	.55	.55	.55	.55	.56	.57	.58	.70	.71	.72	.72
Aug. 21	.20	.30	.34	.40	.42	.43	.49	.49	.49	.49	.49	.49
Aug. 21	.25	.44	.61	.71	.96	1.12	1.24	1.40	1.50	1.71	1.79	1.86
Sept. 6	.18	.34	.42	.46	.51	.60	.64	.67	.72	.79	.82	.86
Columbus Airport												
May 8	.35	.38	.55	.56	.57	.60	.62	.63	.63	.63	.63	.63
June 6	.30	.48	.78	.81	.85	.88	.89	.89	.89	.92	.93	.93
June 9	.32	.62	.75	.81	.87	.96	.98	1.05	1.08	1.11	1.12	1.12
July 19	.18	.30	.37	.40	.41	.41	.41	.41	.41	.41	.41	.41
July 29	.25	.43	.52	.55	.72	.79	.79	.79	.79	.79	.79	.79
July 31	.35	.50	.50	.50	.50	.52	.52	.53	.54	.55	.56	.56
Aug. 2	.20	.30	.36	.49	.55	.70	.71	.71	.71	.71	.71	.71
Aug. 19	.28	.41	.48	.48	.48	.49	.50	.50	.50	.50	.50	.50
Dayton Airport												
Feb. 18	.20	.34	.36	.37	.37	.37	.37	.37	.37	.37	.37	.37
June 8	.21	.27	.36	.38	.41	.60	.81	.82	.83	.85	.85	.85
July 10	.20	.30	.31	.32	.33	.33	.33	.33	.33	.33	.33	.33
July 21	.50	.92	1.22	1.34	1.37	1.38	1.42	1.43	1.43	1.43	1.43	1.43
Aug. 10	.22	.39	.48	.53	.92	1.02	1.03	1.04	1.06	1.07	1.07	1.11
Aug. 24	.20	.36	.40	.43	.52	.54	.61	.61	.61	.61	.61	.61
Sept. 1	.42	.56	.68	.88	1.16	1.35	1.48	1.66	1.74	1.85	1.95	2.00
Sept. 25	.31	.46	.50	.58	.70	.76	.81	1.00	1.07	1.15	1.19	1.19
Mansfield AP												
June 14	.34	.38	.42	.44	.48	.60	.74	.86	.90	.95	1.04	1.14
July 19	.21	.36	.36	.45	.74	.77	.81	.83	.84	.84	.84	.84
July 24	.25	.42	.56	.61	.66	.71	.80	.85	.86	.86	.86	.86
Aug. 1	.28	.55	.80	.88	.90	.92	.95	.95	.95	.95	.95	.95
Sept. 6	.31	.62	.88	1.04	1.29	1.40	1.50	1.52	1.53	1.56	1.68	1.77
Sept. 25	.24	.45	.55	.58	.60	.60	.60	.60	.60	.60	.60	.60

* Register inoperative - hourly measure made.
M Missing

* Amounts interpolated

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
OHIO (Cont'd.)												
Mansfield AP (Cont'd.)												
Sept. 25	0.17	0.33	0.39	0.43	0.50	0.56	0.63	0.77	0.78	0.78	0.78	0.78
Sandusky												
Apr. 24	.30	.42	.51	.52	.54	.55	.55	.57	.63	.63	.63	.63
July 19	.23	.33	.44	.55	.69	.95	1.30	1.63	2.23	2.29	2.31	2.32
Sept. 1	.31	.51	.57	.64	1.15	1.28	1.87	2.02	2.17	2.42	2.51	2.76
Toledo Airport												
June 1	.30	.30	.35	.36	.38	.39	.39	.39	.39	.56	.57	.58
June 11	.25	.38	.38	.40	.43	.43	.43	.43	.43	.43	.43	.43
Aug. 5	.20	.40	.55	.57	.60	.65	.72	.80	.87	.95	.99	1.00
Sept. 23	.25	.40	.60	.80	.92	1.08	1.15	1.20	1.20	1.20	1.20	1.20
Youngstown AP												
June 1	.26	.30	.35	.40	.44	.48	.51	.52	.52	.52	.52	.52
June 14	.21	.33	.38	.44	.55	.67	.71	.88	.95	.98	.98	.98
June 23	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
June 30	.23	.38	.52	.62	.74	.80	.88	.91	.97	1.01	1.02	1.02
July 2	.29	.55	.70	.85	1.05	1.34	1.52	1.54	1.56	1.57	1.58	1.59
July 16	.23	.38	.49	.53	.57	.59	.61	.63	.63	.63	.63	.65
July 19	.22	.42	.52	.57	.90	1.28	1.29	1.30	1.30	1.30	1.32	1.32
July 24	.21	.39	.42	.45	.61	.89	.95	.95	.95	.95	.95	.95
Aug. 19	.27	.34	.35	.38	.39	.40	.40	.40	.40	.40	.63	.67
Sept. 2	.38	.60	.69	.77	.77	.77	.77	.77	.77	.77	.77	.81
Sept. 12	.31	.59	.70	.74	.75	.75	.75	.75	.75	.75	.75	.75
OKLAHOMA												
Oklahoma City AP												
Feb. 17	.30	.45	.65	.80	.88	.88	.88	.88	.88	.88	.88	.88
Mar. 16	.24	.40	.46	.50	.63	.69	.72	.74	.76	.77	.78	.79
May 21	.17	.25	.34	.43	.58	.61	.61	.61	.61	.61	.61	.61
June 7	.22	.35	.44	.46	.48	.50	.51	.55	.59	.62	.68	.80
June 14	.12	.22	.33	.44	.56	.80	1.05	1.11	1.20	1.25	1.30	1.35
July 12	.22	.43	.47	.49	.52	.57	.60	.64	.64	.64	.64	.64
July 13	.35	.60	.74	.83	.98	1.21	1.30	1.35	1.37	1.37	1.37	1.37
July 14	.50	.60	.66	.68	.71	.71	.71	.71	.71	.71	.71	.71
July 21	.27	.31	.34	.39	.44	.49	.51	.55	.58	.59	.59	.59
Aug. 6	.25	.30	.40	.47	.55	.60	.63	.65	.66	.66	.66	.66
Aug. 13	.20	.37	.40	.43	.45	.46	.46	.46	.46	.46	.46	.46
Sept. 7	.25	.40	.44	.45	.47	.48	.49	.49	.50	.50	.50	.50
Sept. 27	.28	.35	.55	.58	.65	.66	.67	.67	.67	.67	.67	.67
Oct. 9	.25	.34	.43	.50	.63	.85	.97	1.01	1.09	1.09	1.12	1.48
Nov. 1	.25	.37	.45	.53	.72	.85	.95	1.01	1.05	1.09	1.17	1.30
†												
OREGON												
Astoria Airport						None						
Burns						None						
Eugene Airport						None						
Meacham Airport						None						
Medford Airport												
Sept. 16	.37	.37	.37	.38	.38	.39	.39	.40	.41	.41	.43	.47
Pendleton Airport						None						
Portland						None						
Roseburg Airport						None						
Sexton Summit						None						
PACIFIC AREA												
Canton Island AP												
May 19	.15	.30	.35	.35	.35	.35	.35	.35	.35	.35	.39	.49
June 9	.19	.30	.40	.46	.46	.46	.46	.46	.46	.46	.46	.46
June 9	.40	.60	.66	.74	.86	.97	1.14	1.17	1.19	1.22	1.26	1.33
June 15	.15	.28	.33	.42	.44	.45	.45	.48	.58	.58	.58	.58
July 24	.20	.27	.36	.41	.55	.75	.85	.88	.88	.88	.88	.88
Sept. 18	.28	.36	.37	.53	.74	.75	.78	.78	.78	.78	.78	.78
Eniwetok *												
July 15	.15	.25	.35	.45	.60	.61	.61	.61	.61	.61	.69	.74
July 16	.16	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31
July 24	.20	.40	.50	.55	.59	.62	.64	.64	.64	.64	.64	.64
July 29	.27	.50	.61	.65	.66	.70	.77	.80	1.10	1.22	1.23	1.32
Aug. 10	.25	.27	.30	.33	.34	.34	.34	.38	.40	.40	.41	.41
Sept. 25	M	M	M	M	M	1.35	1.35	1.63	1.63	1.73	1.81	1.81
Sept. 29	.40	.48	.55	.60	.65	.88	.88	.88	.89	.90	.91	.93
Oct. 3	M	M	.65	.84	1.03	1.10	1.22	1.33	1.38	1.45	1.50	1.61
Nov. 10	.21	.32	.38	.44	.57	.61	.74	.74	.74	.75	.75	.75
Nov. 13	.33	.55	.67	.78	.82	.97	.98	1.03	1.10	1.10	1.10	1.10
Johnston Island AP												
Apr. 17	.16	.30	.44	.54	.63	.67	.70	.76	.81	.83	.93	1.19
Oct. 2	.41	.78	1.06	1.28	1.70	2.56	3.29	3.81	4.61	4.99	6.16	M
Koror												
Jan. 3	.18	.29	.39	.41	.41	.42	.49	.50	.50	.50	.50	.50
Jan. 3	.28	.40	.42	.42	.42	.42	.42	.42	.42	.42	.42	.42
Jan. 14	.19	.37	.52	.64	.78	.92	1.04	1.29	1.68	1.89	2.17	2.44
Jan. 21	.34	.60	.84	1.03	1.19	1.43	1.81	2.12	2.35	2.65	2.76	2.82
Jan. 24	.26	.39	.48	.53	.61	.64	.67	.68	.69	.72	1.29	1.36
Feb. 9	.26	.35	.37	.37	.37	.37	.37	.37	.42	.42	.42	.42
Feb. 11	.17	.28	.35	.36	.36	.36	.36	.36	.36	.36	.36	.36
Feb. 11	.27	.46	.50	.51	.51	.51	.51	.51	.51	.51	.51	.58
Feb. 14	.17	.28	.39	.54	.76	.92	.93	.97	1.16	1.17	1.17	1.18
Feb. 24	.31	.43	.45	.46	.58	.66	.68	.71	.72	.72	.90	1.08
Mar. 22	.36	.45	.47	.50	.55	.63	.72	.85	.98	1.27	1.32	1.66
Mar. 22	.18	.28	.36	.43	.44	.44	.44	.45	.50	.56	.82	.92
Apr. 27	.27	.41	.44	.46	.47	.47	.50	.54	.54	.55	.55	.55
Apr. 28	.31	.41	.41	.41	.41	.41	.41	.41	.41	.49	.68	.68
Apr. 30	.20	.32	.37	.39	.39	.39	.39	.39	.39	.39	.39	.39
May 3	.24	.29	.34	.36	.51	.54	.55	.55	.55	.55	.55	.55
May 16	.21	.31	.38	.42	.47	.48	.48	.48	.48	.48	.70	.73
May 18	.27	.48	.58	.64	.73	.83	.89	.98	1.07	1.36	1.63	1.71
May 21	.19	.26	.35	.46	.63	.85	1.03	1.27	1.33	1.46	1.70	1.76
May 25	.28	.49	.74	.82	.90	.92	1.00	1.14	1.21	1.22	1.22	1.22
May 26	.24	.46	.61	.69	.71	.71	.71	.71	.71	.71	.72	.72

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
PACIFIC AREA (Cont'd.)												
Koror (Cont'd.)												
May 27	0.20	0.32	0.39	0.43	0.52	0.54	0.54	0.54	0.54	0.54	0.54	0.54
June 4	.44	.68	.76	.84	.99	1.16	1.18	1.27	1.30	1.34	1.39	1.47
June 7	.38	.64	.79	.91	1.05	1.12	1.13	1.13	1.13	1.13	1.13	1.13
June 7	.32	.62	.85	1.14	1.51	1.70	2.22	2.81	2.88	2.97	2.98	2.98
June 14	.28	.53	.77	1.00	1.26	1.47	1.62	1.73	1.74	1.74	1.74	1.74
June 17	.27	.53	.74	.93	1.11	1.29	1.39	1.49	1.50	1.50	1.50	1.50
June 18	.22	.34	.48	.56	.74	.87	.88	.89	.89	.89	.89	.89
June 22	.26	.30	.30	.31	.33	.47	.69	.95	1.13	1.20	1.24	1.25
June 24	.22	.37	.41	.43	.44	.44	.44	.44	.78	.78	1.02	1.04
June 25	.28	.53	.58	.63	.63	.63	.63	.63	.63	.63	.63	.63
July 1	.25	.29	.32	.32	.33	.34	.34	.34	.34	.34	.35	.35
July 2	.22	.34	.39	.44	.59	.67	.70	.73	.74	.74	.75	.81
July 8	.19	.36	.47	.51	.56	.56	.57	.58	.59	.59	.59	.59
July 13	.31	.48	.64	.80	.99	1.16	1.21	1.25	1.26	1.26	1.26	1.26
July 13	.21	.34	.46	.64	.84	1.00	1.05	1.21	1.36	1.50	1.60	1.65
July 22	.26	.38	.40	.42	.43	.44	.44	.44	.45	.45	.45	.45
July 27	.33	.46	.63	.81	.86	.97	1.04	1.06	1.13	1.16	1.18	1.21
July 30	.24	.36	.47	.50	.50	.53	.58	.58	.58	.58	.58	.58
Aug. 4	.25	.38	.41	.41	.41	.41	.41	.41	.59	.60	.60	.60
Aug. 4	.33	.49	.57	.62	.65	.66	.67	.67	.67	.71	.92	1.00
Aug. 5	.20	.35	.47	.57	.80	1.01	1.13	1.34	1.63	1.79	2.02	2.28
Aug. 9	.30	.38	.47	.49	.50	.51	.51	.51	.51	.51	.51	.51
Aug. 18	.22	.39	.57	.72	1.03	1.44	1.90	2.48	2.92	2.99	3.13	3.21
Aug. 22	.30	.44	.46	.48	.49	.49	.50	.59	.61	.62	.69	.74
Aug. 22	.20	.35	.43	.46	.51	.54	.56	.59	.64	.71	.83	.94
Aug. 30	.23	.42	.51	.57	.61	.66	.71	.76	.77	.81	.88	.92
Sept. 3	.14	.26	.36	.43	.64	.77	.85	.87	1.05	1.23	1.36	1.51
Sept. 11	.20	.33	.46	.53	.58	.67	.97	1.21	1.35	1.41	1.51	1.57
Sept. 12	.18	.23	.28	.37	.51	.71	.80	.83	.85	.85	.85	.86
Sept. 12	.25	.28	.30	.32	.32	.32	.32	.32	.32	.32	.32	.32
Sept. 12	.30	.48	.52	.52	.65	.65	.65	.65	.65	.65	.65	.65
Oct. 4	.24	.37	.42	.57	.70	.82	.92	1.02	1.21	1.31	1.32	1.32
Oct. 16	.29	.45	.58	.63	.63	.68	.73	.73	.73	.74	.74	.74
Oct. 16	.20	.34	.47	.52	.60	.63	.64	.64	.66	.67	.67	.67
Oct. 17	.35	.64	.81	1.05	1.48	1.91	2.17	2.49	2.50	2.51	2.54	2.59
Oct. 21	.35	.61	.85	1.06	1.13	1.18	1.19	1.19	1.19	1.19	1.19	1.19
Oct. 22	.50	.90	1.18	1.47	1.74	1.92	1.99	2.03	2.08	2.17	2.23	2.25
Oct. 23	.14	.24	.35	.40	.46	.53	.64	.85	.90	.95	1.02	1.04
Oct. 25	.21	.31	.37	.37	.37	.37	.53	.56	.71	.74	.79	.79
Oct. 27	.22	.37	.43	.50	.56	.59	.62	.63	.66	.67	.67	.67
Nov. 3	.15	.28	.39	.43	.48	.63	.76	.94	1.24	1.34	1.38	1.83
Nov. 16	.15	.29	.36	.40	.49	.49	.49	.49	.49	.49	.49	.49
Nov. 20	.25	.35	.44	.57	.74	.90	1.01	1.08	1.33	1.48	1.63	2.13
Nov. 27	.27	.32	.33	.33	.33	.33	.33	.33	.33	.33	.33	.33
Dec. 4	.26	.37	.46	.56	.60	.75	.79	.97	1.04	1.06	1.25	1.36
Dec. 11	.23	.36	.45	.50	.53	.53	.53	.53	.53	.53	.53	.53
Dec. 23	.25	.38	.40	.44	.46	.47	.50	.53	.65	.73	.80	.82
Dec. 26	.20	.27	.36	.41	.44	.44	.44	.44	.44	.44	.44	.44
Majuro Airport												
Jan. 9	.28	.33	.36	.40	.49	.60	.84	.92	.93	1.02	1.10	1.25
Jan. 13	.14	.23	.33	.40	.46	.57	.65	.65	.65	.74	.75	.75
Jan. 14	.32	.54	.73	.80	1.04	1.47	1.64	1.80	2.20	2.37	2.46	2.49
Jan 23	.18	.34	.46	.53	.59	.74	.79	1.01	1.32	1.35	1.36	1.39
Jan. 28	.27	.51	.70	.89	1.22	1.62	2.18	2.84	3.34	3.98	4.53	5.41
Feb. 5	.29	.48	.62	.65	.66	.66	.66	.66	.66	.66	1.00	1.12
Mar. 20	.32	.45	.47	.47	.47	.47	.47	.47	.47	.47	.47	.47
Mar. 30	.40	.69	.99	1.07	1.09	1.19	1.22	1.24	1.27	1.46	1.49	1.49
Apr. 8	.17	.28	.38	.44	.47	.55	.55	.55	.55	.55	.55	.55
Apr. 13	.18	.33	.38	.43	.50	.54	.56	.57	.57	.58	.58	.60
Apr. 13	.25	.46	.54	.61	.71	.80	.81	.98	1.27	1.40	1.42	1.43
Apr. 13	.34	.39	.40	.42	.42	.42	.42	.42	.42	.42	.42	.42
Apr. 14	.23	.36	.44	.58	.81	.85	.85	.88	.88	.91	.96	1.03
May 4	.31	.36	.36	.36	.38	.40	.40	.40	.41	.43	.44	.46
May 12	.19	.35	.47	.55	.60	.61	.61	.61	.61	.61	.61	.61
May 18	.24	.39	.51	.56	.74	.83	.84	.87	.91	.95	1.03	1.06
May 19	.30	.42	.47	.50	.54	.62	.68	.69	.69	.69	.69	.69
May 25	.21	.36	.54	.66	.75	.77	.79	.80	.80	.80	.80	.80
June 8	.34	.52	.68	.80	1.09	1.27	1.42	1.44	1.45	1.45	1.56	1.60
June 24	.27	.48	.52	.52	.52	.52	.53	.53	.53	.53	.54	.54
June 26	.34	.47	.56	.60	.64	.66	.66	.66	.96	1.01	1.01	1.12
June 26	.20	.36	.40	.40	.40	.40	.40	.40	.44	.61	.64	1.06
June 27	.25	.34	.37	.41	.50	.60	.64	.71	.77	.91	1.16	1.39
June 30	.23	.43	.51	.52	.62	.64	.64	.64	.64	.65	.65	.65
July 1	.27	.46	.53	.58	.59	.59	.59	.59	.59	.59	.59	.59
Aug. 1	.16	.30	.41	.47	.54	.62	.72	.79	.88	.95	1.08	1.18
Aug. 18	.27	.36	.42	.55	.61	.68	.68	.68	.68	.68	.68	.68
Aug. 25	.30	.57	.74	.88	1.10	1.31	1.43	1.51	1.55	1.57	1.58	1.59
Aug. 25	.27	.47	.57	.60	.61	.61	.61	.61	.61	.61	.61	.70
Aug. 26	.41	.61	.70	.72	.73	.82	1.01	1.03	1.08	1.09	1.11	1.11
Aug. 31	.27	.52	.65	.72	.82	.83	.83	.83	.83	.83	.83	.83
Sept. 5	.30	.46	.67	.82	.90	1.02	1.10	1.14	1.18	1.20	1.23	1.25
Sept. 16	.24	.33	.39	.53	.74	.82	.91	.91	.91	.91	.91	.91
Sept. 19	.25	.49	.65	.76	.88	1.07	1.20	1.21	1.22	1.22	1.22	1.22
Sept. 22	.28	.38	.48	.50	.58	.63	.71	.78	.79	.85	1.00	1.09
Sept. 30	.27	.41	.50	.53	.55	.57	.57	.57	.57	.64	.66	.66
Oct. 1	.35	.61	.83	.98	1.13	1.15	1.16	1.16	1.16	1.16	1.16	1.16
Oct. 1	.22	.27	.38	.47	.65	.77	.87	.95	1.01	1.04	1.04	1.04
Oct. 11	.26	.35	.39	.39	.39	.39	.39	.39	.39	.39	.39	.56
Oct. 14	.28	.40	.48	.48	.48	.60	.61	.61	.61	.61	.61	.61
Oct. 15	.38	.62	.77	.94	1.04	1.57	1.89	2.29	2.30	2.32	2.35	2.37
Oct. 15	.18	.30	.35	.41	.54	.65	.77	.88	.96	1.00	1.14	1.19
Nov. 2	.25	.36	.36	.36	.36	.36	.36	.36	.36	.36	.36	.36
Nov. 13	.17	.30	.41	.52	.57	.58	.58	.60	.60	.60	.61	.61
Nov. 14	.35	.44	.49	.51	.54	.55	.56	.56	.56	.56	.56	.59
Nov. 14	.27	.31	.32	.33	.33	.34	.37	.38	.38	.38	.38	.38
Nov. 18	.21	.30	.35	.36	.39	.40	.40	.40	.40	.40	.42	.42
Nov. 20	.15	.26	.33	.42	.66	.74	.78	.84	.94	1.01	1.13	1.24
Nov. 21	.40	.70	.73	.74	.74	.74	.74	.74	.74	.74	.74	.74
Nov. 25	.23	.33	.42	.44	.44	.45	.45	.47	.51	.73	.87	.88
Nov. 28	.16	.28	.34	.34	.51	.51	.62	.64	.65	.65	.65	.65
Dec. 8	.20	.31	.37	.38	.38	.38	.38	.38	.38	.38	.38	.38
Dec. 13	.25	.47	.67	1.01	1.16	1.42	1.55	1.58	1.58	1.58	1.62	1.62
Dec. 27	.19	.32	.50	.63	.87	1.22	1.56	1.75	1.77	1.80	1.92	2.24
Ponape												
Jan. 5	.26	.41	.57	.59	.61	.63	.63	.71	.73	.73	.73	.79
Jan. 8	.23	.31	.40	.49	.57	.58	.58	.58	.58	.62	.65	.65
Jan. 10	.20	.35	.56	.62	.70	.76	.82	.85	.92	1.05	1.09	1.11
Jan. 11	.26	.34	.46	.49	.65	.74	.82	1.03	1.08	1.25	1.60	1.63
Jan. 14	.18	.29	.41	.52	.65	.76	.78	.78	.78	.79	.79	.84
Jan. 30	.20	.35	.48	.60	.73	.75	.79	.85	.97	.97	.97	.98
Feb. 7	.17	.26	.35	.45	.58	.75	.80	.84	.88	.93	1.17	1.24
Feb. 24	.17	.30	.36	.38	.41	.59	.60	.69	.72	.73	.73	1.00

* Recording rain gage installed Mar. 1, 1961.
M Missing
† Tulsa data found at end of table.

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
PACIFIC AREA (Cont'd.)												
Ponape (Cont'd.)												
Feb. 24	0.21	.31	.37	.39	.42	.42	.42	.42	.42	.54	.83	.86
Mar. 18	.32	.45	.52	.52	.72	.82	1.14	1.39	1.44	1.45	1.79	2.36
Mar. 20	.24	.32	.50	.62	.62	.67	.68	.68	.68	.68	.68	.68
Mar. 21	.21	.32	.37	.37	.38	.38	.38	.38	.38	.46	.78	.91
Mar. 21	.27	.48	.67	.85	1.15	1.61	1.90	2.19	2.42	2.51	2.59	2.77
Mar. 28	.35	.59	.77	.93	1.07	1.08	1.09	1.10	1.13	1.14	1.15	1.65
Apr. 2	.26	.45	.61	.76	.91	1.01	1.04	1.30	1.11	1.41	1.48	1.51
Apr. 11	.22	.34	.42	.54	.61	.70	.78	.83	.88	1.03	1.05	1.05
Apr. 20	.18	.33	.36	.36	.36	.36	.36	.36	.36	.47	.48	.48
Apr. 27	.24	.34	.36	.36	.36	.36	.36	.36	.36	.36	.36	.36
May 2	.26	.49	.65	.79	.90	1.00	1.09	1.18	1.70	1.77	1.93	2.04
May 3	.22	.37	.45	.55	.62	.62	.62	.62	.62	.62	.62	.62
May 5	.23	.29	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43
May 6	.26	.43	.54	.70	.86	.86	.91	.98	1.03	1.06	1.08	1.08
May 15	.37	.66	.91	1.10	1.23	1.31	1.35	1.38	1.41	1.48	1.83	1.98
May 17	.19	.29	.41	.49	.51	.52	.52	.52	.52	.52	.52	.52
May 29	.27	.50	.63	.68	.74	.74	.77	.94	1.04	1.12	1.19	1.32
May 30	.16	.24	.35	.40	.51	.53	.53	.53	.53	.54	.54	.46
June 1	.18	.32	.37	.39	.40	.40	.40	.40	.40	.40	.40	.41
June 5	.28	.29	.29	.29	.29	.29	.29	.34	.34	.34	.34	.34
June 11	.33	.41	.43	.43	.43	.43	.43	.43	.43	.43	.43	.45
June 12	.18	.35	.41	.41	.41	.41	.41	.41	.42	.44	.51	.51
June 14	.33	.49	.74	.96	1.04	1.09	1.15	1.41	1.46	1.51	1.58	1.62
June 19	.18	.31	.40	.42	.42	.43	.43	.43	.43	.71	.71	.71
June 19	.20	.35	.43	.45	.46	.48	.51	.72	.72	.72	.74	.74
June 23	.23	.35	.45	.48	.56	.62	.64	.69	.71	.77	.88	.96
June 26	.25	.38	.39	.46	.49	.59	.63	.72	.77	.80	.83	.88
July 4	.37	.47	.52	.56	.59	.59	.62	.71	.71	.72	.72	.72
July 9	.31	.44	.62	.68	.74	.82	.86	.88	.88	.91	.93	.93
July 13	.20	.32	.35	.36	.36	.39	.44	.48	.50	.50	.50	.51
July 16	.25	.45	.47	.51	.66	.69	.69	.69	.69	.69	.69	.70
July 18	.21	.35	.39	.40	.45	.46	.47	.47	.50	.55	.61	.63
July 18	.22	.30	.31	.31	.31	.34	.34	.34	.34	.34	.34	.39
July 19	.17	.30	.36	.42	.55	.81	.84	1.09	1.19	1.27	1.31	1.46
July 28	.31	.46	.52	.64	.99	1.12	1.21	1.22	1.24	1.28	1.31	1.32
July 30	.27	.45	.50	.55	.67	.80	.91	.96	.98	1.19	1.46	1.55
Aug. 2	.25	.44	.55	.73	.84	.85	.85	.85	.85	.85	.87	.87
Aug. 3	.29	.31	.31	.32	.33	.33	.39	.60	.64	.64	.81	.84
Aug. 7	.26	.26	.26	.26	.26	.27	.27	.27	.27	.28	.28	.28
Aug. 10	.26	.45	.61	.67	.73	.93	1.01	1.11	1.13	1.15	1.29	1.35
Aug. 13	.17	.26	.35	.40	.49	.67	.74	.78	.83	.85	.91	.96
Aug. 15	.18	.30	.36	.37	.37	.37	.37	.40	.40	.40	.46	.46
Aug. 18	.25	.32	.42	.50	.64	.75	.76	.77	.78	.82	1.12	1.26
Aug. 18	(.28)	(.41)	(.45)	(.67)	.77	.77	.79	.79	.79	.79	.80	.80
Aug. 24	.27	.35	.44	.56	.68	1.07	1.14	1.21	1.26	1.32	1.40	1.41
Aug. 30	.26	.45	.46	.46	.46	.46	.46	.46	.52	.57	.59	.59
Sept. 1	.27	.33	.39	.41	.44	.44	.44	.44	.44	.44	.66	.71
Sept. 7	.19	.38	.46	.48	.49	.49	.49	.49	.49	.49	.49	.50
Sept. 9	.21	.33	.44	.48	.64	.67	.70	.79	1.01	1.11	1.12	1.67
Sept. 15	(.37)	(.66)	(.89)	(1.05)	(1.39)	(2.02)	2.61	3.08	3.19	3.40	4.04	4.10
Sept. 21	(.36)	(.61)	(.67)	(.70)	(.74)	(.93)	(1.16)	(1.41)	(1.64)	(1.93)	(2.19)	(2.39)
Sept. 25	(.44)	(.82)	(1.19)	(1.31)	2.11	2.47	2.68	2.75	2.75	2.77	2.79	2.79
Oct. 9	.22	.37	.47	.57	.66	.70	.79	.82	.82	.83	.85	.92
Oct. 13	.22	.39	.51	.58	.62	.64	.65	.75	.75	.75	.75	.75
Oct. 16	(.50)	.82	1.09	1.33	1.52	1.60	1.64	1.68	1.73	1.75	1.77	1.78
Oct. 21	.34	.62	.87	1.00	1.20	1.25	1.27	1.25	1.25	1.28	1.28	1.28
Oct. 22	.22	.33	.47	.64	.85	1.13	1.21	1.24	1.29	1.35	1.41	1.44
Nov. 5	.32	.52	.70	.79	.80	.80	.83	.83	.83	.93	.93	.93
Nov. 8	(.43)	(.78)	1.07	1.37	1.78	2.06	2.06	2.06	2.06	2.06	2.06	2.06
Nov. 9	.15	.24	.31	.40	.41	.41	.41	.41	.41	.41	.41	.41
Nov. 11	.23	.35	.37	.38	.38	.38	.38	.38	.38	.38	.38	.38
Nov. 12	.23	.41	.59	.70	.89	1.03	1.21	1.31	1.34	1.39	1.46	1.50
Nov. 16	(.43)	.62	.62	.62	1.01	1.20	1.21	1.22	1.22	1.23	1.23	1.23
Nov. 16	.36	.54	.64	.71	.72	.82	.84	.88	1.35	1.35	1.42	1.48
Nov. 17	.35	.46	.50	.55	.60	.62	.63	.63	.63	.63	.63	.63
Nov. 21	.16	.28	.35	.39	.45	.50	.50	.50	.53	.53	.53	.53
Nov. 24	.28	.44	.52	.52	.52	.62	.68	.68	.68	.74	.87	.87
Nov. 25	.28	.32	.34	.34	.34	.36	.38	.40	.40	.40	.41	.41
Nov. 27	.30	.50	.53	.53	.55	.56	.69	.73	.96	1.06	1.06	1.07
Dec. 1	.20	.30	.34	.38	.39	.52	.53	.53	.53	.54	.56	.67
Dec. 9	.21	.37	.48	.55	.58	.63	.66	.75	.86	.88	.94	.98
Dec. 19	.21	.30	.31	.31	.31	.31	.31	.31	.31	.45	.45	.45
Dec. 23	.21	.30	.39	.46	.52	.52	.52	.52	.62	.68	.69	.69
Dec. 23	.21	.27	.37	.40	.42	.42	.42	.42	.42	.42	.43	.43
Dec. 25	.19	.34	.44	.48	.62	.76	.79	.86	.84	1.14	1.31	1.87
Dec. 25	.22	.33	.41	.42	.42	.42	.42	.67	.76	.76	.76	.78
Dec. 28	.38	.59	.69	.79	1.07	1.16	1.19	1.22	1.26	1.30	1.31	1.31
Dec. 30	.37	.54	.70	.84	.96	1.08	1.11	1.20	1.20	1.21	1.21	1.21
Truk Airport												
Jan. 12	.18	.27	.34	.41	.52	.69	.75	.75	.75	.75	.76	.76
Jan. 19	.25	.38	.57	.66	.94	1.11	1.28	1.49	1.57	1.67	1.72	1.81
Jan. 24	.14	.21	.27	.32	.47	.70	.80	.82	.84	.85	1.00	1.11
Jan. 31	.31	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35	.35
Feb. 14	.22	.30	.34	.42	.42	.41	.61	.74	.76	.76	.77	.94
Feb. 20	.26	.41	.50	.53	.54	.58	.61	.62	.63	.63	.67	.71
Mar. 14	.15	.28	.39	.50	.56	.56	.56	.56	.56	.56	.56	.56
Apr. 4	.24	.42	.53	.58	.73	.86	.82	.97	1.28	1.33	1.42	1.60
Apr. 9	.27	.47	.58	.70	.86	.98	1.03	1.09	1.10	1.10	1.19	1.29
Apr. 15	.23	.33	.39	.44	.45	.48	.48	.48	.48	.49	.49	.50
Apr. 21	.29	.34	.35	.37	.37	.37	.37	.37	.37	.37	.37	.37
Apr. 25	.30	.40	.40	.41	.41	.41	.41	.41	.41	.41	.41	.43
May 2	.30	.47	.62	.68	1.06	1.23	1.40	1.52	1.57	1.57	1.63	1.65
May 5	.29	.43	.49	.52	.76	.84	.84	.84	.84	1.18	1.38	1.40
May 10	.21	.36	.38	.38	.38	.38	.65	.66	.67	.67	.69	.69
May 10	.34	.52	.63	.71	.77	.78	.78	.79	.79	.88	.90	.90
May 11	.21	.34	.38	.38	.39	.40	.42	.44	.55	.56	.56	.56
May 12	.28	.38	.47	.49	.51	.53	.53	.53	.53	.53	.53	.53
May 14	.23	.31	.41	.48	.65	.72	.72	.73	.73	.73	.73	.73
May 17	.49	.82	1.18	1.54	2.11	2.89	3.37	3.94	4.20	4.42	4.44	4.48
May 22	.24	.41	.45	.46	.46	.46	.46	.46	.47	.47	.47	.47
May 25	.35	.36	.41	.52	.62	.64	.64	.64	.64	.65	.65	.65
June 13	.25	.40	.42	.42	.42	.42	.42	.42	.42	.47	.87	.93
June 13	.28	.52	.71	.81	.93	1.03	1.10	1.17	1.27	1.39	1.51	1.57
June 19	.20	.31	.42	.52	.63	.68	.70	.73	.77	.77	.77	.77
June 23	.40	.50	.50	.50	.51	.51	.51	.51	.51	.51	.51	.51
June 28	.32	.43	.51	.55	.70	.90	.98	.99	.99	.99	1.00	1.00
July 4	.13	.22	.30	.40	.51	.57	.62	.70	.83	.97	1.04	1.09
July 8	.18	.27	.36	.44	.55	.72	.80	.84	.87	.88	1.09	1.13
July 10	.19	.35	.49	.61	.83	1.01	1.09	1.12	1.13	1.27	1.28	1.29
July 11	.28	.50	.67	.82	1.10	1.28	1.40	1.52	1.98	2.26	2.30	2.71
July 15	.26	.35	.43	.44	.44	.44	.44	.44	.44	.44	.44	.44
July 16	.43	.57	.66	.73	.89	1.03	1.03	1.06	1.06	1.08	1.34	
July 17	.25	.35	.43	.47	.51	.64	.67	.67	.67	.67	.67	.67

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
PACIFIC AREA (Cont'd.)												
Truk (Cont'd.)												
July 30	[illegible]	[illegible]	[illegible]	[illegible]	0.85	1.03	1.21	1.28	1.35	1.42	[illegible]	1.52
July 31	[illegible]	[illegible]	.72	.9[illegible]	.88	1.36	1.72	1.99	2.02	2.07	2.14	2.14
Aug. 3	.29	.51	.67	.80	.91	.98	1.00	1.01	1.01	1.02	1.02	1.02
Aug. 6	.29	.37	.54	.76	.72	.72	1.00	1.42	1.36	1.36	1.36	1.36
Aug. 8	.20	.38	.46	.51	.51	.51	.52	.52	.52	.52	.52	.52
Aug. 9	.28	.47	.65	.79	1.00	1.48	1.52	1.72	1.79	1.87	2.02	2.02
Aug. 15	.29	.46	.68	.77	.98	1.18	1.27	1.37	1.47	1.51	1.52	1.53
Aug. 18	.22	.32	.46	.55	.75	.97	1.03	1.06	1.08	1.10	1.12	1.12
Aug. 23	.27	.49	.60	.77	.78	.81	.82	.86	.93	.95	.96	.97
Aug. 24	.24	.48	.61	.61	.67	.69	.70	.70	.72	.76	1.19	1.21
Aug. 28	.28	.40	.55	.66	.94	1.07	1.07	1.07	1.07	1.07	1.08	1.08
Sept. 9	.31	.41	.55	.72	.79	.82	.86	.91	.98	1.01	1.03	1.03
Sept. 11	.29	.40	.12	.46	.47	.49	.51	.53	.66	.69	.72	.75
Sept. 12	.20	.32	.41	.45	.48	.54	.61	.79	.79	.79	.81	.82
Sept. 12	.20	.36	.46	.62	.71	.73	.73	.73	.73	.73	.73	.75
Sept. 21	.32	.54	.60	.67	.72	.86	1.09	1.47	1.58	1.63	1.64	1.74
Sept. 22	.46	.86	1.04	1.10	1.17	1.30	1.57	1.94	2.01	2.17	2.27	2.33
Sept. 26	.14	.23	.35	.43	.47	.48	.50	.52	.56	.60	.62	.64
Oct. 2	.38	.53	.60	.67	.75	.75	.79	.81	.82	.82	.84	1.03
Oct. 3	.33	.42	.45	.46	.46	.46	.48	.48	.48	.48	.48	.48
Oct. 8	.25	.43	.53	.58	.65	.66	.67	.68	.69	.69	.69	.69
Oct. 10	.29	.49	.53	.53	.53	.53	.53	.53	.53	.53	.53	.53
Oct. 11	.31	.57	1.16	1.31	1.68	1.77	1.85	2.17	2.18	2.72	2.82	2.94
Oct. 17	.20	.30	.33	.35	.49	.71	.87	.92	.96	.97	.98	.98
Oct. 20	.28	.46	.62	.82	1.09	1.32	1.35	1.36	1.37	1.38	1.40	1.40
Oct. 22	.34	.56	.72	.78	.78	.81	.87	.93	.93	.93	1.03	1.03
Oct. 24	.21	.27	.43	.51	.59	.63	.63	.63	.63	.63	.63	.63
Nov. 18	.17	.23	.34	.38	.50	.75	.80	.84	.84	.84	.86	.90
Nov. 23	.30	.54	.68	.73	1.00	1.20	1.23	1.74	1.81	1.90	2.21	2.25
Dec. 1	.22	.33	.36	.40	.47	.47	.47	.47	.48	.50	.50	.74
Dec. 2	.20	.32	.33	.33	.33	.34	.34	.34	.34	.34	.34	.34
Dec. 4	.26	.28	.30	.30	.31	.31	.31	.31	.31	.33	.66	.66
Dec. 12	.27	.32	.35	.36	.43	.71	.98	1.08	1.16	1.19	1.19	1.19
Dec. 20	.25	.32	.32	.32	.32	.32	.32	.32	.32	.32	.32	.32
Dec. 22	.28	.34	.36	.36	.36	.36	.36	.36	.36	.36	.37	.37
Dec. 26	.34	.48	.63	.69	.78	.80	.94	.94	.96	.96	.96	1.02
Wake Island AP												
July 6	.30	.36	.73	.80	.88	1.13	1.20	1.20	1.35	1.41	1.57	1.65
Aug. 5	.30	.52	.58	.62	.64	.64	.64	.64	.64	.64	1.03	1.03
Sept. 1	.32	.48	.50	.51	.67	.68	.70	.73	.75	.75	.75	1.00
Sept. 25	.28	.47	.55	.68	.79	1.18	1.60	1.80	2.10	2.23	2.27	2.37
Oct. 6	.18	.26	.34	.43	.67	.81	1.00	1.16	1.11	1.13	1.13	1.15
Oct. 12	.26	.30	.30	.30	.30	.30	.30	.34	.34	.52	.53	.64
Oct. 21	.20	.29	.40	.44	.48	.49	.60	.61	.61	.61	.61	.62
Nov. 22	.23	.47	.45	.46	.46	.46	.46	.46	.46	.46	.46	.46
Nov. 23	.32	.60	.74	.78	.86	.96	.97	1.01	1.01	1.01	1.01	1.01
Yap												
Jan. 23	.18	.34	.46	.48	.48	.48	.48	.48	.48	.48	.48	.48
Feb. 23	.22	.43	.44	.44	.45	.46	.47	.48	.48	.68	.70	.70
Mar. 25	.24	.43	.57	.64	.76	.81	.83	.84	.85	.92	1.39	1.61
Mar. 26	.22	.38	.52	.64	.92	1.09	1.23	1.35	1.37	1.43	1.44	1.45
Apr. 5	.28	.41	.42	.45	.46	.46	.46	.60	.64	.64	.65	.76
Apr. 6	.27	.39	.51	.55	.56	.59	.73	.92	.92	.93	.93	.93
Apr. 29	.20	.38	.52	.58	.60	.60	.61	.62	.62	.62	.63	.63
July 19	.17	.29	.37	.38	.39	.41	.42	.51	.62	.71	.78	.80
July 22	.23	.44	.65	.87	1.20	1.37	1.60	1.77	1.92	2.14	2.29	2.44
Aug. 3	.25	.39	.54	.61	.73	.82	.95	1.00	1.02	1.03	1.04	1.08
Aug. 8	.28	.27	.36	.46	.67	.87	.98	1.18	1.36	1.52	1.66	1.74
Aug. 13	.21	.31	.33	.33	.34	.34	.34	.35	.36	.37	.38	.38
Aug. 18	.23	.34	.44	.52	.66	.79	1.08	1.26	1.63	1.71	1.84	1.89
Aug. 20	.24	.46	.58	.67	.67	.68	.73	.92	.94	.96	.97	.99
Aug. 21	.17	.32	.49	.62	.80	.86	.90	.96	1.02	1.07	1.18	1.21
Aug. 29	.33	.55	.69	.78	.89	.90	.90	1.05	1.06	1.06	1.06	1.06
Oct. 1	.23	.32	.43	.51	.58	.59	.61	.61	.61	.61	.61	.61
Oct. 2	.21	.35	.51	.62	.90	1.31	1.62	1.87	1.93	1.95	1.95	1.95
Oct. 3	.30	.51	.66	.70	.79	.84	.93	.95	.96	.96	.96	.96
Oct. 9	.24	.39	.49	.68	.70	.74	.90	1.39	1.51	1.56	1.96	2.29
Nov. 19	.20	.29	.38	.41	.44	.46	.63	.69	.70	.71	.71	.72
Nov. 19	.23	.31	.44	.38	.41	.45	.46	.47	.48	.49	.52	.54
Dec. 1	.18	.30	.46	.49	.53	.55	.58	.58	.58	.58	.58	.58
Dec. 5	.23	.46	.68	.74	.88	.96	1.01	1.22	1.50	1.50	1.50	1.50
Dec. 10	.17	.33	.33	.34	.34	.35	.37	.37	.50	.54	.57	.60
Dec. 22	.17	.23	.42	.51	.57	.57	.74	.87	.87	.87	.87	.87
Dec. 29	.31	.62	.77	.91	.93	.93	.96	1.28	1.40	1.44	1.99	2.02
PENNSYLVANIA												
Allentown Airport												
May 9	.20	.36	.40	.41	.45	.45	.45	.45	.45	.45	.45	.48
June 23	.20	.36	.41	.43	.43	.43	.43	.43	.43	.43	.43	.43
July 12	.33	.60	.65	.75	.87	.92	1.01	1.11	1.21	1.25	1.60	1.88
July 24	.30	.50	.73	.88	1.08	1.35	1.44	1.50	1.53	1.54	1.55	1.55
Erie Airport												
June 1	.18	.35	.44	.54	.75	.84	.88	.94	.98	1.18	1.24	1.30
June 8	.26	.30	.35	.44	.36	.39	.39	.39	.39	.39	.39	.39
July 20	.20	.38	.50	.58	.80	.96	.97	.98	.98	.98	1.09	1.10
July 25	.30	.39	.45	.44	.46	.46	.46	.46	.46	.46	.46	.46
July 31	.30	.48	.56	.59	.69	.73	.73	.77	.78	.78	.78	.78
Harrisburg AP												
July 13	.23	.45	.53	.54	.60	.69	.76	.82	.86	.92	1.01	1.01
July 19	.16	.32	.41	.99	1.29	1.62	2.40	2.52	2.55	2.55	2.56	2.57
July 29	.30	.56	.76	.84	1.11	1.13	1.15	1.17	1.26	1.29	1.32	1.33
Aug. 24	.29	.44	.44	.46	.46	.46	.56	.66	.69	.70	.70	.70
Aug. 25	.22	.41	.44	.36	.39	.47	.48	.52	.63	.77	.84	.84
Aug. 25	.28	.42	.52	.62	.70	.84	1.06	1.45	1.48	1.50	1.52	1.52
Sept. 2	.25	.38	.41	.42	.57	.73	.74	.76	.78	.80	.80	.80
Philadelphia AP												
May 15	.17	.30	.40	.43	.46	.46	.46	.46	.46	.46	.46	.46
May 26	.12	.43	.43	.58	.65	.74	.79	.82	.85	.85	.85	.93
June 14	.20	.40	.41	.41	.42	.43	.43	.43	.43	.43	.43	.43
July 17	.06	.30	.41	.32	.32	.32	.32	.32	.32	.32	.32	.32
July 24	.06	.47	.64	.76	.94	1.21	1.34	1.35	1.36	1.36	1.36	1.36
July 29	.13	.69	.77	.97	1.12	1.34	1.36	1.36	1.36	1.36	1.36	1.36
Aug. 11	.20	.38	.38	.38	.39	.39	.39	.40	.40	.40	.40	.40
Pittsburgh												
May 6	.18	.28	.30	.42	.45	.45	.46	.46	.46	.46	.46	.46
June 2	.2[illegible]	.32	.4[illegible]	.59	.66	.86	.89	.91	.96	1.01	1.05	1.21
July 19	.30	.56	.60	.64	.66	.67	.91	.92	.93	.95	.95	.95

( ) Estimated Data

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
PENNSYLVANIA (Cont'd.)												
Pittsburgh (Cont'd.)												
Aug. 2	0.28	0.37	0.39	0.39	0.41	0.47	0.49	0.49	0.49	0.49	0.49	0.49
Aug. 16	.24	.39	.43	.43	.43	.43	.43	.43	.43	.43	.43	.43
Pittsburgh AP												
June 23	.28	.36	.40	.41	.43	.47	.48	.48	.48	.48	.48	.48
July 17	.38	.59	.72	.78	.81	.82	.82	.82	.82	.82	.82	.82
July 24	.23	.35	.55	.67	.95	1.08	1.12	1.19	1.19	1.19	1.19	1.19
Aug. 2	.44	.67	.70	.71	.71	.71	.71	.72	.76	.77	.77	.77
Sept. 1	.21	.33	.40	.56	.72	.81	.84	.84	.85	.85	.85	.85
Oct. 25	.25	.28	.30	.32	.33	.35	.35	.35	.35	.35	.35	.35
Reading												
Apr. 25	.11	.18	.28	.37	.48	.65	.76	.90	.93	.93	.93	.93
May 8	.44	.62	.70	.76	.85	.92	.92	.95	.95	.95	.95	.95
May 9	.29	.39	.51	.58	.61	.63	.63	.63	.63	.63	.63	.63
May 26	.24	.35	.42	.45	.47	.52	.58	.59	.59	.59	.59	.59
July 20	.30	.52	.63	.73	.79	.80	.80	.80	.80	.80	.80	.80
July 29	.24	.35	.43	.52	.67	.88	1.18	1.25	1.26	1.29	1.34	1.41
Aug. 26	.20	.30	.35	.36	.38	.39	.42	.48	.49	.50	.50	.52
Sept. 3	.36	.49	.55	.56	.58	.59	.59	.59	.59	.59	.59	.59
Sept. 7	.25	.43	.49	.53	.61	.70	.72	.73	.74	.75	.75	.75
Scranton AP												
May 8	.25	.48	.53	.55	.58	.59	.59	.59	.59	.59	.59	.59
May 9	.20	.35	.44	.51	.59	.60	.75	.80	.81	.81	.81	.81
June 12	.39	.57	.60	.61	.61	.61	.61	.61	.61	.61	.61	.61
June 21	.13	.25	.32	.37	.62	.71	.83	.91	.98	1.03	1.12	1.17
July 24	.40	.60	.73	.76	.80	1.00	1.10	1.12	1.17	1.22	1.29	1.30
July 24	.20	.30	.38	.42	.43	.47	.47	.47	.47	.49	.53	.62
July 31	.27	.43	.53	.68	.72	.74	.76	.76	.76	.76	.78	.78
Aug. 25	.28	.55	.67	.75	.86	1.00	1.06	1.15	1.25	1.30	1.40	1.42
Aug. 26	.25	.40	.44	.47	.51	.55	.62	.66	.67	.67	.67	.67
RHODE ISLAND												
Providence AP												
Apr. 16	.18	.26	.30	.46	.48	.51	.68	.75	.78	.91	1.05	1.13
July 20	.42	.58	.68	.78	.88	.88	.88	.89	.89	.89	.89	.89
Aug. 24	.18	.33	.37	.39	.47	.56	.57	.58	.58	.62	.63	.65
Sept. 21	.27	.38	.41	.45	.64	.68	.73	.97	1.03	1.09	1.20	1.51
Sept. 25	.16	.26	.31	.38	.55	.78	.95	1.04	1.10	1.13	1.21	1.25
SOUTH CAROLINA												
Charleston												
Apr. 12	.32	.43	.51	.58	.86	1.11	1.19	1.26	1.35	1.53	1.65	1.70
May 26	.19	.32	.39	.47	.56	.63	.67	.71	.74	.77	.78	.79
June 10	.32	.47	.50	.50	.51	.51	.51	.51	.58	.70	.79	.80
June 10	.19	.31	.40	.56	.63	.66	.68	.68	.68	.75	.75	.75
June 26	.27	.45	.58	.64	.72	.73	.74	.80	.88	.95	1.06	1.17
June 27	.16	.25	.35	.42	.49	.54	.55	.57	.57	.57	.57	.57
June 28	.43	.82	1.12	1.24	1.58	1.62	1.62	1.64	1.67	1.67	1.68	1.68
Aug. 4	.26	.42	.54	.66	.93	1.26	1.58	1.91	2.20	2.30	2.50	2.88
Aug. 5	.55	.90	1.14	1.19	1.20	1.30	1.61	1.74	2.15	2.31	2.91	3.06
Aug. 26	(.35)	(.40)	(.45)	(.50)	(.55)	(.70)	(.89)	(.89)	(.89)	(.89)	(.89)	(.89)
Sept. 4	.17	.29	.36	.41	.50	.56	.61	.62	.62	.63	.63	.63
Oct. 1-2	.13	.25	.37	.46	.59	.74	.87	.98	1.25	1.45	1.72	1.90
Oct. 3	.19	.34	.36	.46	.56	.57	.57	.57	.57	.57	.57	.57
Nov. 23	.28	.39	.46	.46	.47	.47	.49	.55	.63	.66	.68	.76
Columbia AP	—	—	—	—	—	—	—	—	—	—	—	—
Feb. 18	.25	.36	.40	.46	.67	.80	1.00	1.10	1.17	1.19	1.24	1.27
Feb. 24	.33	.60	.75	.98	1.12	1.40	1.73	1.85	1.95	2.22	2.39	2.50
Mar. 6-7	.25	.30	.32	.34	.35	.36	.40	.40	.42	.45	.56	.67
Apr. 12	.21	.28	.40	.43	.50	.61	.75	.85	1.00	1.11	1.33	1.50
July 18	.31	.39	.58	.72	.90	.90	.90	.90	.90	.90	.90	.90
July 27	.29	.54	.68	.70	.76	.80	.80	1.36	1.55	1.56	2.09	2.30
Aug. 2	.36	.58	.90	1.15	1.50	1.62	1.70	1.70	1.70	1.70	1.70	1.70
Aug. 3	.32	.58	.78	1.00	1.40	2.00	2.35	2.60	2.85	2.95	3.00	3.03
Aug. 4	.25	.35	.42	.47	.52	.54	.55	.66	.68	.70	.73	.75
Aug. 6	.20	.35	.40	.48	.64	.64	.64	.64	.64	.64	.64	.64
Aug. 9	.34	.45	.49	.60	.71	.83	.99	1.17	1.25	1.27	1.27	1.27
Aug. 22	.39	.74	.80	.90	1.12	1.18	1.25	1.26	1.26	1.26	1.26	1.26
Aug. 30	.30	.50	.70	.90	1.06	1.17	1.45	1.55	1.56	1.57	1.58	1.58
Aug. 31	.35	.70	.90	1.05	1.22	1.28	1.32	1.32	1.33	1.33	1.33	1.33
Sept. 5	.30	.55	.61	.65	.67	.68	.68	.68	.68	.68	.68	.68
Florence Airport												
Feb. 24	.17	.26	.37	.44	.50	.60	.64	.75	.75	.75	.75	.75
May 10	.21	.33	.43	.48	.60	.73	.87	1.01	1.14	1.20	1.27	1.31
May 12	.33	.55	.75	.86	.95	.97	.99	1.00	1.00	1.00	1.00	1.03
June 9	.32	.52	.60	.66	.74	.81	.83	.84	.84	.90	.92	.94
June 11	.29	.41	.46	.50	.65	.77	.81	.82	.82	.84	.84	.84
June 12	.60	.85	1.00	1.10	1.11	1.12	1.13	1.42	1.42	1.42	1.42	1.51
June 15	.24	.33	.42	.48	.64	.84	.89	1.05	1.17	1.25	1.31	1.31
June 26	.39	.56	.68	.77	.89	1.05	1.32	1.32	1.40	1.78	2.41	2.45
June 27	.24	.33	.39	.40	.44	.44	.44	.44	.44	.44	.44	.44
July 7	.40	.46	.47	.47	.48	.57	.61	.61	.71	.75	.79	.80
July 15	.55	.77	.88	.98	1.09	1.12	1.12	1.14	1.14	1.14	1.14	1.14
July 16	.36	.47	.55	.62	.73	.76	.76	.76	.76	.76	.76	.76
July 27	.13	.25	.38	.43	.47	.47	.47	.47	.47	.47	.47	.47
Aug. 26	.33	.40	.50	.52	.70	.96	1.12	1.15	1.19	1.20	1.25	1.26
Aug. 30	.23	.39	.41	.41	.57	.63	.65	.65	.66	.66	.66	.66
Sept. 4	M	M	M	M	M	.99	.99	.99	.99	.99	.99	.99
Sept. 6	.15	.27	.37	.50	.66	.67	.67	.67	.67	.67	.67	.67
Nov. 23	.35	.46	.49	.50	.51	.55	.60	.64	.72	.81	.95	1.05
Greenville AP												
Feb. 20	.17	.27	.34	.41	.48	.55	.67	.81	.95	1.10	1.25	1.42
Mar. 8	.16	.24	.30	.35	.55	.78	.87	.91	.93	.94	.94	.94
June 26	.15	.26	.35	.43	.61	.67	.73	.81	.85	.87	.88	.90
July 7	.35	.59	.74	.95	1.29	1.67	1.71	1.76	1.78	1.79	1.92	2.02
July 16	.27	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30	.31
Aug. 2	.25	.44	.56	.77	.97	1.12	1.13	1.39	1.39	1.39	1.39	1.39
Aug. 4	.17	.32	.42	.50	.54	.54	.54	.54	.54	.54	.54	.54
Aug. 4	.20	.38	.52	.60	.69	.74	.75	.78	.80	.81	.81	.81
Aug. 24	.33	.57	.72	.77	.97	1.15	1.26	1.36	1.40	1.45	1.53	1.60
Aug. 25	.18	.31	.44	.51	.57	.60	.61	.61	.61	.61	.61	.61
Dec. 18	.26	.42	.53	.62	.68	.69	.70	.70	.71	.72	.76	.86
Spartanburg AP												
June 11	.40	.57	.87	1.03	1.23	1.32	1.32	1.49	1.67	1.67	1.87	2.70
June 15	.30	.60	.83	1.01	1.41	1.44	1.44	1.44	1.44	1.44	1.44	1.44
June 26	.27	.33	.35	.38	.43	.48	.51	.55	.59	.59	.59	.62

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
SOUTH CAROLINA (Cont'd.)												
Spartanburg AP (Cont'd.)												
July 6	0.31	0.55	0.67	0.73	0.78	0.78	0.80	1.06	1.07	1.07	1.07	1.08
July 25	.40	.69	.87	.89	.93	.94	.94	.94	.94	.94	.94	.94
Aug. 1	.20	.28	.43	.51	.52	.57	.58	.58	.58	.58	.58	.58
Aug. 4	.28	.40	.47	.49	.49	.50	.51	.53	.53	.63	1.00	1.02
Aug. 5	.29	.50	.78	1.18	1.85	2.68	3.05	3.15	3.22	3.29	3.36	3.40
Aug. 30	.25	.43	.68	.82	1.17	1.43	1.61	1.77	1.78	1.78	1.78	1.78
SOUTH DAKOTA												
Huron Airport												
June 12	.50	.87	1.12	1.28	1.46	1.54	1.57	1.57	1.57	1.57	1.57	1.57
Oct. 10	.33	.39	.40	.42	.51	.62	.76	.85	.89	1.06	1.34	1.46
Rapid City AP												
July 1	.14	.28	.37	.47	.75	.82	.85	.88	.89	.90	.90	.92
Sioux Falls AP												
May 5	.32	.54	.74	.81	1.00	1.12	1.13	1.17	1.30	1.30	1.30	1.30
June 13	.15	.30	.40	.47	.49	.50	.54	.58	.63	.67	.73	.78
July 1	.24	.40	.59	.74	.77	.84	.86	.88	.89	.94	.96	.96
Oct. 28	.30	.35	.38	.46	.52	.88	.93	1.02	1.03	1.07	1.12	1.16
TENNESSEE												
Bristol Airport												
May 11	.27	.30	.31	.31	.31	.31	.31	.31	.31	.31	.31	.31
May 15	.35	.36	.36	.36	.36	.36	.36	.36	.36	.36	.36	.36
June 9	.26	.42	.42	.42	.42	.50	.50	.50	.50	.50	.50	.50
June 12	.25	.45	.60	.80	1.10	1.52	1.69	1.70	1.70	1.70	1.70	1.70
June 23	.26	.28	.29	.29	.30	.31	.35	.36	.37	.38	.39	.39
July 8	.56	.62	.70	.78	.83	.88	.88	.88	.96	.99	.99	.99
July 15	.23	.38	.52	.55	.56	.57	.58	.58	.58	.58	.58	.58
Chattanooga AP												
Feb. 18	.36	.44	.46	.48	.52	.61	.64	.64	.66	.66	.66	.71
Mar. 7	.28	.34	.41	.57	.69	.95	1.08	1.09	1.13	1.17	1.21	1.49
Mar. 8	.19	.36	.53	.58	.75	.80	.84	.86	.99	1.16	1.28	1.32
May 11	.30	.44	.54	.63	.66	.66	.66	.66	.66	.66	.67	.67
May 15	.37	.57	.71	.80	1.00	1.10	1.38	1.50	1.56	1.56	1.56	1.56
June 5	.20	.29	.38	.47	.54	.64	.66	.66	.66	.66	.66	.66
June 8	.55	1.00	1.25	1.28	1.43	1.47	1.47	1.47	1.47	1.47	1.47	1.47
July 15	.27	.49	.63	.64	.69	.69	.69	.69	.69	.69	.69	.69
Aug. 7	.27	.44	.63	.63	.63	.92	.94	.94	.94	.94	.94	.94
Dec. 17	.23	.43	.51	.59	.73	.97	1.09	1.28	1.41	1.62	1.77	1.97
Knoxville AP												
Mar. 8	.25	.35	.45	.57	.80	.91	1.04	1.38	1.50	1.72	1.80	1.87
Mar. 31	.26	.35	.40	.50	.65	.71	.80	.82	.86	.87	.92	.92
May 9	.14	.25	.35	.41	.53	.65	.72	.85	.99	1.04	1.08	1.12
June 15	.33	.60	.75	.95	1.00	1.01	1.01	1.01	1.01	1.01	1.01	1.01
July 14	.17	.33	.37	.40	.42	.59	.70	.74	.74	.74	.74	.74
Aug. 8	.31	.62	.72	.74	.77	.78	.78	.79	.80	.82	.82	.82
Nov. 1	.25	.35	.43	.55	.62	.84	.93	.95	.97	.97	.97	1.04
Memphis AP												
Feb. 21	.24	.46	.68	.76	.78	.82	.85	.88	.90	.91	.91	.93
Mar. 6	.31	.35	.35	.35	.35	.35	.35	.35	.36	.36	.36	.36
Apr. 15	.21	.36	.44	.47	.51	.81	.85	.87	.89	.93	.98	.98
Apr. 15	.32	.47	.52	.55	.56	.56	.56	.69	.85	1.00	1.03	1.03
Apr. 25	.24	.37	.44	.49	.56	.60	.62	.62	.63	.64	.64	.64
May 5	.13	.21	.29	.40	.50	.59	.70	.75	.77	.79	.83	.94
May 8	.21	.27	.27	.36	.48	.65	.73	.78	.78	.79	.79	.79
May 8	.33	.52	.55	.56	.59	.61	.62	.63	.63	.63	.63	.63
June 8-9	.23	.36	.41	.41	.41	.42	.42	.42	.42	.42	.46	.47
July 23	.33	.58	.68	.69	.69	.74	.84	.89	.91	.92	.93	.93
July 28	.28	.43	.53	.64	.80	.94	.97	.98	.99	.99	.99	1.00
Aug. 5	.24	.38	.47	.54	.64	.69	.70	.70	.70	.70	.71	.72
Sept. 30 - Oct. 1	.21	.37	.51	.58	.71	.75	.83	.92	.98	.99	1.06	1.09
Nov. 22	.17	.25	.34	.42	.57	.71	.84	.95	1.05	1.12	1.27	1.40
Dec. 16	.16	.28	.38	.43	.48	.54	.61	.69	.70	.76	.89	.92
Nashville AP												
May 8	.20	.34	.38	.50	.55	.64	.68	.72	.76	.78	.78	.78
May 18	.14	.28	.35	.36	.51	.51	.51	.57	.63	.65	.80	.80
July 15	.34	.62	.90	1.10	1.10	1.11	1.11	1.11	1.11	1.11	1.11	1.11
July 28	.20	.38	.48	.65	.90	1.04	1.08	1.12	1.18	1.23	1.25	1.29
Aug. 1	.20	.40	.52	.56	.58	.58	.58	.58	.58	.58	.58	.58
TEXAS												
Abilene												
June 3	.44	.74	1.00	1.32	1.58	1.67	1.70	1.74	1.76	1.76	1.76	1.76
June 4	.26	.44	.62	.69	.74	.78	.80	.83	.84	.84	.84	.88
June 14	.30	.48	.68	.74	1.10	1.54	2.12	2.23	2.23	2.23	2.23	2.23
July 3	.30	.54	.65	.76	1.14	1.44	1.48	1.50	1.50	1.50	1.50	1.50
July 16	.14	.22	.30	.40	.50	.66	.80	.81	.82	.88	.98	1.04
Aug. 6	.14	.26	.32	.40	.47	.47	.47	.47	.47	.47	.47	.47
Sept. 3	.30	.44	.65	.82	1.04	1.18	1.74	2.04	2.80	3.31	3.52	3.66
Oct. 9	.17	.32	.40	.44	.50	.52	.53	.56	.58	.58	.58	.60
Amarillo Airport												
May 20	.13	.23	.33	.40	.63	.94	1.11	1.13	1.13	1.13	1.13	1.13
May 30	.50	.60	.64	.70	.80	.90	1.48	1.70	2.02	2.09	2.11	2.11
June 7	.28	.49	.59	.64	.76	.80	.81	.82	.83	.83	.83	.83
June 24	.26	.44	.50	.69	.70	.72	.74	.74	.74	.74	.74	.74
July 8	.26	.43	.49	.52	.56	.59	.60	.62	.63	.64	.65	.65
July 11	.24	.46	.63	.70	.76	1.06	1.09	1.12	1.12	1.12	1.12	1.12
July 14	.19	.27	.36	.43	.54	.61	.65	.70	.79	.82	.84	.84
Aug. 16	.25	.29	.33	.37	.38	.38	.39	.45	.45	.46	.53	.66
Aug. 18	.52	1.02	1.36	1.66	1.86	2.03	2.06	2.08	2.16	2.18	2.23	2.27
Austin Airport												
Feb. 16	.23	.38	.49	.69	.97	1.21	1.39	1.52	1.52	1.54	1.74	1.96
June 9	.19	.37	.54	.65	.84	.97	.98	1.02	1.04	1.08	1.14	1.23
June 12	.30	.54	.62	.66	.73	.75	1.01	1.18	1.22	1.22	1.22	1.22
June 15	.18	.30	.39	.42	.47	.53	.53	.53	.53	.53	.53	.66
June 17	.15	.25	.33	.40	.57	.86	.97	1.11	1.28	1.55	1.78	1.97
July 9-10	Triple Register Inoperative											
July 17	.33	.50	.68	.90	1.34	1.64	1.77	1.84	1.86	1.93	2.08	2.12
Brownsville AP												
Apr. 5	.31	.53	.74	.86	1.17	1.44	1.54	1.65	1.70	1.77	1.89	1.91
Aug. 5	.18	.35	.42	.44	.44	.44	.44	.64	.64	.64	.64	.64
Sept. 14	.50	.85	1.21	1.46	1.46	1.75	1.86	1.89	1.90	1.99	2.08	2.19

( ) Estimated Data
M Missing

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
TEXAS (Cont'd.)												
Brownsville (Cont'd.)												
Sept. 15	.29	.50	.70	.91	1.28	1.52	1.70	2.06	2.13	2.19	2.29	2.41
Dec. 22	.24	.37	.49	.50	.50	.50	.50	.50	.50	.50	.50	.50
Corpus Christi AP												
Jan. 11	.26	.31	.42	.44	.52	.54	.68	.73	.76	.77	.80	.88
Apr. 29	.44	.79	1.10	1.28	1.46	1.91	2.00	2.04	2.42	2.55	2.61	2.61
June 11	.44	.69	.91	1.18	1.61	1.88	2.12	2.35	2.37	2.37	2.37	2.37
June 18	.21	.34	.38	.43	.61	.64	.69	.71	.74	.82	.86	.88
June 30	.23	.36	.48	.63	.70	.71	.72	.79	1.25	1.28	1.28	1.28
July 11	.21	.42	.56	.74	1.06	1.23	1.30	1.45	1.63	1.88	2.09	2.10
Aug. 16	.25	.46	.56	.72	.75	.81	.81	.81	.81	.81	.81	.81
Aug. 19	.22	.44	.61	.76	1.02	1.25	1.29	1.31	1.31	1.31	1.31	1.32
Sept. 7	.29	.42	.53	.61	.72	.75	.86	.86	.86	.86	.86	.93
Dallas Airport												
Mar. 16	.43	.67	.74	.77	.91	1.03	1.08	1.23	1.44	1.60	1.83	1.91
Mar. 28	.30	.34	.35	.36	.36	.45	.46	.46	.46	.46	.46	.77
May 1	.28	.43	.59	.76	.87	1.13	1.16	1.18	1.19	1.20	1.20	1.20
May 8	.22	.36	.42	.56	.63	.69	.71	.73	.74	.74	.74	.74
June 6	.36	.54	.68	.83	.98	1.19	1.22	1.26	1.30	1.34	1.38	1.38
June 8	.26	.45	.56	.65	.79	.80	.80	.80	.80	.80	.80	.80
June 14	.28	.39	.57	.62	.65	.65	.65	.76	.85	.86	.87	.87
June 25	.22	.29	.34	.42	.51	.56	.62	.70	.77	.93	1.02	1.13
Sept. 28	.23	.35	.45	.60	.72	.78	.82	.86	.89	.89	.89	.89
Oct. 2	.11	.21	.26	.33	.51	.56	.60	.72	.82	.95	1.26	1.43
Nov. 22	.49	.90	1.05	1.14	1.19	1.25	1.37	1.43	1.48	1.52	1.58	1.60
El Paso Airport												
July 4	.36	.64	.90	1.10	1.26	1.42	1.49	1.54	1.59	1.59	1.60	1.62
Fort Worth AP												
Mar. 16	.20	.27	.37	.47	.53	.58	.64	.75	.88	1.06	1.22	1.26
May 1	.37	.73	.84	.92	1.18	1.32	1.37	1.45	1.48	1.51	1.51	1.51
May 8	.25	.32	.42	.44	.47	.48	.50	.50	.50	.50	.50	.50
June 5	.21	.39	.40	.41	.42	.42	.42	.42	.42	.42	.42	.42
June 8	.33	.36	.40	.40	.40	.40	.40	.40	.40	.40	.40	.40
June 25	.35	.40	.45	.47	.52	.57	.73	.80	.88	1.12	1.23	1.35
July 2	.17	.30	.33	.34	.34	.38	.38	.38	.38	.38	.38	.38
July 7	.15	.28	.35	.45	.55	.64	.68	.68	.70	.71	.71	.71
July 22	.30	.54	.69	.72	.75	.93	.99	1.05	1.05	1.05	1.05	1.05
Oct. 2	.20	.32	.40	.49	.58	.59	.63	.71	.76	.84	1.09	1.16
Nov. 22	.40	.72	.80	.85	.90	.91	.96	1.02	1.05	1.08	1.09	1.11
Galveston												
Jan. 7	.27	.39	.41	.41	.43	.46	.46	.46	.46	.46	.46	.48
June 18	.50	.83	1.01	1.22	1.40	1.53	1.60	1.73	1.82	1.90	2.00	2.15
June 18	.44	.64	.84	1.03	1.22	1.91	2.27	2.73	2.88	3.24	3.63	3.81
June 19	.17	.28	.35	.46	.63	.83	.93	1.12	1.35	1.50	1.69	1.77
July 10	.27	.44	.52	.59	.68	.71	.73	.74	.74	.78	.85	.87
July 12	.24	.45	.53	.62	.81	.82	.99	1.18	1.25	1.40	1.43	1.60
Sept. 10	.24	.42	.53	.58	.61	.74	.77	.77	.81	.81	1.14	1.14
Sept. 10	.39	.61	.68	.69	.70	.72	.74	.75	.75	.76	.78	.78
Sept. 11	.26	.39	.49	.51	.56	.81	.93	1.12	1.20	1.34	1.81	2.06
Sept. 12	.60	.82	1.13	1.40	1.51	1.72	2.40	3.07	3.32	3.70	4.23	4.58
Nov. 2	.17	.28	.35	.40	.48	.60	.70	.76	.87	.88	.89	.90
Nov. 5	.13	.25	.33	.40	.53	.65	.86	1.06	1.12	1.12	1.12	1.12
Nov. 13	.52	.80	1.05	1.26	1.70	2.12	2.70	3.31	3.65	3.97	4.40	4.61
Nov. 13	.20	.33	.40	.46	.69	.92	1.19	1.62	1.77	1.80	1.86	2.01
Houston												
Feb. 16	.30	.55	.73	.89	1.03	1.14	1.25	1.40	1.68	1.71	1.71	1.72
Apr. 29	.40	.77	1.73	1.27	1.59	1.78	1.89	2.13	2.35	2.70	2.78	2.78
June 9	.19	.35	.37	.37	.37	.37	.38	.48	.57	.61	.65	.67
June 12	.19	.29	.37	.41	.47	.49	.49	.52	.53	.54	.58	.60
June 18	.18	.30	.35	.40	.49	.55	.65	.74	.88	1.04	1.18	1.31
June 25	.33	.58	.82	.95	1.09	1.23	1.33	1.46	1.48	1.51	1.52	1.53
July 3	.18	.29	.31	.38	.45	.66	.84	1.05	1.05	1.10	1.15	1.18
July 9	.36	.63	.79	1.01	1.18	1.23	1.46	1.71	1.96	2.21	2.29	2.37
July 23	.21	.32	.35	.40	.54	.64	.67	.83	.85	.85	.85	.86
Aug. 17	.32	.35	.35	.35	.35	.36	.36	.36	.36	.36	.36	.36
Aug. 28	.26	.50	.57	.66	.71	.71	.71	.71	.71	.71	.71	.71
Nov. 12	.17	.26	.35	.47	.53	.65	.67	.68	.71	.71	.71	.73
Nov. 13	.17	.32	.38	.41	.45	.50	.55	.59	.63	.69	.74	.77
Nov. 13	.22	.45	.60	.72	.97	1.31	1.68	1.77	1.92	2.12	2.29	2.51
Laredo Airport												
Jan. 25	.26	.38	.43	.46	.50	.56	.59	.62	.65	.67	.68	.73
Apr. 5	.20	.32	.37	.47	.61	.76	.79	.81	.81	.81	.81	.81
Aug. 17	.40	.60	.73	.77	.77	.77	.77	.77	.77	.77	.77	.77
Sept. 13-14	.20	.36	.45	.57	.76	.94	1.09	1.15	1.53	1.65	1.68	1.90
Lubbock												
May 24	.20	.38	.56	.68	.78	.80	.80	.80	.81	.81	.81	.81
June 14	.20	.33	.45	.59	.80	.89	1.07	1.38	1.54	1.64	2.03	2.05
June 24	.28	.54	.57	.58	.59	.59	.60	.60	.60	.60	.60	.60
July 8	.16	.30	.40	.50	.61	.63	.65	.71	.75	.81	.96	1.07
July 14	.18	.29	.40	.55	.76	.83	.84	.84	.85	.86	.86	.86
July 22	.29	.51	.64	.69	.77	.80	.85	.87	.92	.96	.97	1.00
Midland Airport												
May 19	.46	.60	.76	1.00	1.18	1.40	1.54	1.62	1.63	1.64	1.65	1.65
June 15	.22	.34	.46	.60	.78	.86	1.04	1.38	1.40	1.42	1.48	1.56
July 21	.46	.92	1.24	1.32	1.90	2.09	2.37	M	M	(3.37)	M	(3.87)
Sept. 24	M	M	(1.25)	M	M	M	(1.45)	(1.63)	(1.66)	(1.67)	1.77	1.77
Nov. 1	.20	.36	.52	.61	.67	.75	.78	.78	.79	.83	.88	.89
Port Arthur AP												
Jan. 7	.22	.38	.48	.57	.75	.83	1.00	1.32	1.53	1.74	2.20	2.23
Jan. 7	.14	.24	.35	.45	.61	.82	.97	1.05	1.08	1.16	1.21	1.25
Mar. 17	.57	.86	.95	.97	.98	.98	.98	.99	.99	.99	.99	.99
May 23	.29	.46	.57	.65	.68	.69	.70	.70	.70	.73	.73	.73
June 19	.45	.71	.95	1.07	1.63	2.21	2.63	3.21	3.42	4.03	4.61	4.96
June 25	.31	.51	.69	.88	.96	1.00	1.00	1.00	1.08	1.12	1.21	1.25
July 7	.29	.49	.72	.82	.84	.85	.85	.85	.85	.85	.85	.85
July 12	.41	.70	.93	1.07	1.44	1.78	2.11	2.19	2.22	2.36	2.77	2.79
Aug. 16	.25	.37	.48	.59	.92	.94	.94	.96	.96	.96	.96	.96
Aug. 27	.18	.34	.47	.50	.52	.52	.52	.58	.58	.58	.58	.58
Sept. 11	.26	.32	.36	.36	.37	.55	.62	.69	.81	.83	.90	1.04
Oct. 1	.51	.97	1.21	1.35	1.85	2.47	2.80	2.87	2.88	2.88	2.88	2.88
Nov. 13	.25	.36	.50	.67	.81	1.05	1.24	1.61	1.74	2.84	2.46	2.66
Nov. 13	.20	.37	.43	.52	.80	.95	1.07	1.16	1.24	1.34	1.48	1.62
Nov. 15	.29	.42	.52	.56	.61	.65	.86	1.12	1.20	1.20	1.21	1.21
Dec. 17	.23	.32	.37	.38	.39	.43	.45	.45	.45	.47	.48	.48

( ) Estimated Data
M Missing

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
TEXAS (Cont'd.)												
San Angelo AP												
Aug. 2	0.22	0.34	0.42	0.52	0.56	0.57	0.58	0.58	0.58	0.58	0.58	0.58
Sept. 4	.21	.34	.42	.52	.61	.82	.94	1.02	1.20	1.33	1.57	1.71
Oct. 9	.19	.30	.38	.43	.56	.71	.84	.94	1.07	1.20	1.23	1.23
San Antonio AP												
June 9	.45	.74	.94	1.07	1.45	1.66	1.69	1.75	1.83	1.91	1.97	2.00
June 15	.37	.57	.60	.60	.61	.62	.81	.81	.84	.85	.85	.85
June 18	.11	.21	.29	.36	.54	.67	.96	1.07	1.19	1.28	1.41	1.53
July 10	.20	.39	.48	.62	.72	.88	.91	.96	1.02	1.18	1.36	1.47
July 22	.33	.66	.92	1.15	1.44	1.79	2.21	2.66	2.98	3.12	3.29	3.37
Oct. 10	.45	.65	.75	.77	.81	.93	.97	.99	.99	1.02	1.03	1.16
Nov. 13	.18	.33	.43	.47	.48	.61	.62	.71	.72	.75	.76	.78
Victoria												
Apr. 29	.15	.30	.40	.45	.50	.50	.52	.55	.55	.55	.58	.66
June 9	.20	.30	.33	.35	.55	.66	.67	.67	.67	.67	.67	.67
June 9	.55	.90	1.10	1.35	1.65	1.90	1.95	1.95	1.95	1.95	1.95	1.95
June 18	.15	.30	.45	.52	.75	1.00	1.12	1.23	1.23	1.23	1.23	1.23
July 5	.30	.45	.48	.49	.49	.49	.49	.49	.49	.49	.55	.65
July 9	.35	.60	.85	1.05	1.29	1.35	1.36	1.37	1.38	1.39	1.39	1.39
July 10	.13	.19	.32	.42	.55	.62	.79	.91	1.00	1.05	1.13	1.15
July 11	.25	.39	.51	.65	.76	.85	.89	.90	.90	.90	.90	.90
Waco Airport												
Feb. 16	.16	.29	.38	.43	.45	.53	.66	.69	.74	.75	.80	.90
June 5	.75	1.15	1.45	1.60	1.90	2.02	2.35	2.72	2.77	2.77	2.77	2.79
June 8	.18	.30	.40	.50	.60	.67	.85	.89	.92	.94	1.01	1.01
June 15	.35	.57	.70	.82	.94	1.02	1.03	1.04	1.04	1.29	1.44	1.49
June 16	.20	.25	.30	.33	.50	.80	.93	1.09	1.35	1.51	1.67	1.72
June 25	.30	.47	.52	.53	.57	.62	.72	.75	.77	.77	.77	.80
July 3	.18	.35	.50	.66	.88	1.13	1.23	1.41	1.50	1.55	1.71	1.86
July 9	.20	.40	.54	.60	.67	.67	.67	.67	.67	.67	.67	.67
July 12	.43	.84	1.25	1.33	1.36	1.38	1.38	1.38	1.38	1.38	1.38	1.38
July 16	.25	.40	.48	.53	.70	.85	.96	1.00	1.00	1.00	1.00	1.00
July 16	.35	.65	.80	.95	1.17	1.28	1.29	1.30	1.35	1.36	1.39	1.45
Aug. 4	.24	.30	.31	.31	.32	.33	.33	.33	.34	.34	.34	.34
Nov. 22	.30	.60	.63	.65	.66	.68	.72	.78	.79	.79	.79	.79
Nov. 22	.22	.32	.52	.62	.67	.76	.88	.88	.88	.89	.89	.92
Wichita Falls												
Mar. 25	.20	.30	.37	.43	.52	.54	.55	.56	.56	.56	.59	.65
Apr. 30	.30	.56	.82	1.02	1.22	1.27	1.28	1.28	1.33	1.40	1.48	1.53
June 24	.30	.60	.90	1.20	1.80	2.40	3.00	3.40	3.80	4.04	4.17	4.22
Aug. 19	.20	.30	.41	.47	.54	.76	.90	.96	1.00	1.08	1.16	1.22
Oct. 2	.23	.34	.38	.40	.44	.63	.70	.84	.98	1.02	1.11	1.19
Nov. 1	.18	.30	.35	.40	.51	.53	.57	.57	.59	.62	.69	.81
UTAH												
Milford Airport						None						
Salt Lake City AP						None						
Wendover Airport												
Aug. 6	.22	.31	.36	.39	.40	.42	.42	.42	.42	.42	.42	.50
VERMONT												
Burlington AP												
June 13	.31	.37	.41	.42	.43	.56	.60	.65	.68	.68	.68	.68
July 14	.19	.31	.37	.42	.52	.59	.65	.72	.82	.85	.85	.85
July 24	.27	.29	.29	.32	.35	.40	.40	.40	.40	.40	.40	.40
Sept. 4	.30	.55	.69	.69	.69	.69	.69	.69	.69	.69	.69	.69
Sept. 4	.38	.49	.53	.58	.58	.58	.58	.58	.58	.58	.58	.58
VIRGINIA												
Lynchburg AP												
Feb. 23	.12	.23	.35	.40	.50	.58	.62	.73	.76	.80	.81	.81
May 7	.30	.36	.46	.46	.47	.47	.48	.48	.48	.49	.49	.49
June 12	.16	.30	.46	.48	.48	.48	.48	.48	.48	.48	.48	.48
June 23	.29	.42	.50	.51	.52	.52	.52	.52	.52	.52	.52	.52
July 18	.29	.33	.38	.38	.38	.38	.38	.38	.38	.38	.38	.38
Aug. 2	.11	.21	.26	.31	.45	.50	.55	.56	.56	.56	.56	.56
Aug. 7	.20	.31	.36	.41	.45	.49	.53	.53	.53	.55	.55	.55
Aug. 7	.15	.22	.40	.47	.49	.57	.58	.60	.63	.63	.63	.63
Sept. 7	.12	.24	.36	.45	.50	.53	.53	.53	.53	.53	.53	.54
Norfolk Airport												
Apr. 12	.28	.31	.33	.34	.37	.64	.67	.69	.70	.71	.72	.72
May 11	.26	.32	.46	.52	.76	.99	1.08	1.13	1.19	1.28	1.43	1.53
May 26	.17	.25	.33	.41	.59	.87	1.15	1.44	1.72	1.82	1.90	1.94
June 26	.44	.79	.86	.94	1.02	1.14	1.33	1.42	1.43	1.49	1.51	1.77
July 31	.32	.45	.52	.53	.53	.53	.53	.53	.53	.53	.53	.53
Aug. 3	.40	.66	.82	.94	1.02	1.04	1.07	1.08	1.09	1.09	1.09	1.10
Aug. 5	.35	.63	.90	1.15	1.54	1.81	2.31	2.91	3.00	3.00	3.00	3.31
Aug. 6	.23	.35	.39	.40	.41	.41	.42	.42	.42	.42	.42	.42
Aug. 12	.22	.35	.36	.39	.39	.47	.48	.48	.49	.49	.52	.52
Aug. 28	.18	.28	.36	.40	.48	.54	.57	.59	.60	.61	.61	.61
Sept. 3	.19	.32	.32	.33	.33	.46	.47	.47	.48	.48	.48	.48
Oct. 20	.26	.49	.57	.64	.69	.78	.86	.92	.96	.99	1.10	1.16
Richmond Airport												
Feb. 23	.25	.28	.45	.48	.54	.57	.59	.66	.86	.98	1.07	1.11
May 12-13	.21	.34	.38	.43	.55	.65	.65	.65	.65	.65	.66	.66
June 9	.37	.50	.55	.66	.79	.83	.84	.84	.84	.84	.84	.84
June 14	.22	.33	.43	.47	.72	.76	.76	.76	.76	.76	.95	.95
June 21	.26	.33	.36	.43	.54	.75	.88	.96	1.02	1.08	1.14	1.19
July 8	.65	.94	1.11	1.23	1.35	1.38	1.38	1.39	1.39	1.39	1.39	1.39
July 16	.20	.29	.37	.39	.40	.40	.40	.40	.40	.40	.40	.40
Aug. 23	.19	.38	.52	.54	.56	.56	.56	.56	.56	.56	.56	.56
Sept. 7	.29	.51	.60	.60	.60	.60	.60	.60	.60	.60	.60	.60
Oct. 20	.23	.45	.61	.70	.83	.95	1.00	1.39	1.71	1.81	2.14	2.22
Oct. 21	.11	.22	.31	.39	.56	.69	.92	1.18	1.36	1.50	1.69	1.86
Roanoke Airport												
Aug. 1	.18	.28	.38	.46	.60	.61	.63	.63	.63	.63	.63	.63
Aug. 23	.32	.53	.60	.61	.64	.68	.68	.69	.71	.73	.95	1.27
WASHINGTON												
Spokane Airport						None						

EXCESSIVE SHORT DURATION RAINFALL

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
WASHINGTON (Cont'd.)												
Stampede Pass												
Nov. 22	M	M	.35	M	M	M	.81	M	M	1.41	M	M
Tatoosh Island						None						
Walla Walla						None						
Yakima Airport						None						
WEST INDIES												
San Juan, P. R.												
Mar. 25	.18	.32	.50	.59	.72	.87	.95	.99	1.00	1.02	1.03	1.03
June 4	.23	.37	.53	.57	.76	.81	.83	.83	.83	.86	.94	.97
June 7	.24	.45	.52	.57	.58	.61	.62	.63	.63	.63	.65	.65
July 2	.20	.40	.42	.42	.42	.46	.46	.46	.46	.46	.58	.58
July 8	.28	.38	.40	.43	.49	.52	.71	.88	1.04	1.13	1.38	1.40
July 22	.31	.43	.52	.57	.79	1.45	1.57	1.57	1.68	2.00	2.00	2.16
July 26	.25	.45	.76	.89	.97	1.32	1.42	1.42	1.63	1.63	1.63	1.69
Aug. 12	.21	.34	.47	.56	1.00	1.01	1.03	1.03	1.03	1.03	1.03	1.03
Oct. 15	.23	.45	.59	.75	.76	.87	1.00	1.06	1.10	1.12	1.14	1.16
Oct. 22	.36	.60	.77	.88	.91	.92	.92	.93	.93	.94	.94	.94
San Juan, P. R., AP												
Jan. 26	.17	.31	.42	.47	.52	.53	.54	.55	.56	.64	.65	.65
Mar. 13	.20	.40	.46	.46	.46	.49	.49	.49	.49	.49	.49	.49
Mar. 25	.20	.27	.43	.46	.62	.71	.73	.74	.74	.74	.74	.74
Apr. 23	.32	.41	.47	.52	.63	.67	.67	.69	.74	.74	.74	.74
June 7	.21	.36	.43	.46	.46	.46	.46	.46	.46	.46	.47	.47
June 11	.32	.43	.47	.50	.53	.53	.54	.60	.60	.60	.60	.60
July 9	.24	.32	.39	.53	.62	.77	.78	.83	1.21	1.34	1.36	1.36
July 22	M	M	M	M	M	M	M	1.50	1.56	1.59	1.59	1.59
July 26	.15	.23	.35	.42	.61	.67	.76	.78	.93	.96	.96	.98
Aug. 20	.28	.40	.42	.43	.43	.43	.43	.43	.43	.43	.45	.45
Oct. 7	.26	.45	.48	.51	.80	.82	.82	.82	.84	.94	.94	.94
Oct. 15	.28	.48	.62	.72	.80	.92	1.00	1.02	1.02	1.02	1.14	1.50
Oct. 29	.28	.40	.49	.51	.55	.55	.55	.55	.55	.55	.85	.85
Nov. 31	.25	.49	.54	.56	.59	.59	.60	.60	.61	.61	.69	.74
Dec. 1	.27	.34	.45	.52	.67	.81	.86	.93	1.06	1.10	1.10	1.12
Dec. 5	.28	.42	.57	.80	.95	1.00	1.01	1.03	1.05	1.07	1.24	1.35
Dec. 6	.28	.40	.42	.42	.43	.48	.62	.83	.90	.94	1.02	1.12
WEST VIRGINIA												
Charleston AP												
May 29	.43	.47	.48	.48	.48	.49	.49	.49	.49	.50	.50	.50
July 14	.24	.42	.48	.55	.58	.85	.93	.96	1.00	1.00	1.00	1.00
July 17	.32	.43	.48	.53	.60	.60	.60	.60	.60	.60	.60	.60
July 19	.50	.90	1.10	1.25	1.48	2.47	2.92	3.15	3.40	3.49	3.92	3.95
July 25	.19	.36	.36	.37	.37	.38	.39	.39	.40	.42	.42	.42
July 31	.30	.32	.32	.35	.35	.35	.35	.35	.35	.35	.35	.40
Huntington												
June 8	.38	.43	.53	.54	.60	.67	.68	.68	.68	.75	.75	.75
June 9	.25	.26	.27	M	M	M	.60	.65	.66	.66	.66	.69
July 5	.35	.45	.53	.53	.56	.81	.95	.98	1.10	1.10	1.10	1.10
July 17	.28	.45	.64	.76	.90	1.20	1.21	1.21	1.24	1.25	1.25	1.25
July 19	.35	.48	.56	.58	.67	.76	.82	.87	1.12	1.24	1.41	1.45
July 21	.29	.47	.60	.63	.63	.64	.65	.65	.65	.65	.65	.65
July 25	.25	.34	.50	.51	.51	.51	.51	.51	.54	.54	.55	.55
Aug. 2	.43	.65	.97	1.02	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Aug. 20	.33	.38	.43	.47	.53	.54	.55	.55	.55	.55	.55	.55
Sept. 25	.30	.37	.39	.51	.52	.52	.52	.52	.52	.52	.52	.52
Parkersburg												
Mar. 8	.28	.45	.47	.47	.49	.54	.55	.55	.55	.55	.55	.55
June 8	.33	.51	.57	.58	.58	.80	.94	.95	1.12	1.13	1.31	1.32
July 19	.20	.38	.40	.42	.42	.42	.45	.54	.54	.54	.54	.54
July 19	.23	.30	.44	.42	.50	.53	.59	.69	.86	.93	.94	.94
July 31	.38	.63	.66	.68	.71	.72	.82	.90	.91	.91	.91	.99
July 31	.27	.47	.72	.85	1.02	1.10	1.17	1.25	1.29	1.32	1.39	1.40
Aug. 1	.18	.32	.42	.49	.55	.59	.61	.64	.65	.65	.65	.65
Aug. 3	.22	.38	.55	.70	.83	1.00	1.22	1.39	1.40	1.40	1.40	1.40
Oct. 13	.25	.34	.36	.39	.44	.45	.46	.50	.55	.56	.57	.58
WISCONSIN												
Green Bay AP												
June 19	.14	.21	.32	.38	.55	.69	.74	.77	.80	.88	.91	1.04
July 23	.18	.29	.32	.48	.50	.56	.67	.74	.78	.80	.80	.82
July 29	.19	.36	.45	.50	.60	.69	.70	.71	.71	.71	.71	.71
July 30	.26	.42	.52	.57	.65	.72	.75	.83	.87	.90	.94	.94
Aug. 9	.22	.41	.50	.60	.77	.98	1.05	1.11	1.19	1.23	1.26	1.28
La Crosse AP												
May 14	.46	.51	.59	.62	.64	.65	.65	.65	.65	.65	.65	.65
July 1	.26	.38	.41	.43	.45	.45	.45	.45	.48	.53	.61	.71
Sept. 5	.23	.31	.33	.40	.56	.58	.58	.58	.58	.58	.58	.58
Madison AP												
July 15	.17	.30	.43	.44	.50	.59	.61	.64	.67	.71	.73	.74
July 21	.16	.29	.36	.43	.55	.69	.90	.92	.93	.98	.98	.98
Aug. 9	.31	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46	.46
Milwaukee AP												
Apr. 23	.38	.46	.48	.58	.71	.78	.87	.88	.88	.88	.88	.88
July 15	.19	.28	.29	.32	.50	.55	.57	.84	.90	.95	1.17	1.18
Sept. 22	.42	.74	.94	1.02	1.64	2.15	2.18	2.18	2.18	2.18	2.18	2.18
WYOMING												
Casper AP						None						
Cheyenne AP												
Aug. 8	.20	.34	.50	.50	.50	.50	.50	.50	.50	.50	.50	.50
Aug. 16	.44	.55	.65	.74	.84	.91	1.03	1.23	1.37	1.40	1.40	1.40
Aug. 17	.22	.32	.42	.52	.54	.54	.54	.54	.54	.54	.54	.54
Lander AP												
June 4	.30	.50	.60	.65	.65	.65	.65	.65	.65	.65	.65	.65
Sheridan AP												
July 6	.22	.32	.36	.38	.50	.63	.72	.74	.74	.74	.74	.91

M Missing

Station and date	Maximum precipitation in inches (5 to 180 minutes)											
	5	10	15	20	30	45	60	80	100	120	150	180
DELAYED DATA												
New Orleans, La.												
Jan. 8	.22	.41	.53	.64	.73	.86	.97	1.09	1.19	1.24	1.33	1.50
Jan. 13	.33	.43	.58	.61	.70	.86	.90	.92	.92	.93	.95	.96
Feb. 20	.22	.34	.44	.54	.64	.81	1.05	1.16	1.32	1.46	1.48	1.48
Feb. 21	.34	.41	.58	.71	.77	.96	1.23	1.38	1.55	1.82	1.97	2.05
Mar. 17	.30	.53	.69	.81	.97	1.26	1.36	1.44	1.47	1.57	1.68	2.00
Mar. 27	.17	.30	.38	.44	.52	.63	.64	.71	.74	.82	.87	.90
Apr. 11	.34	.44	.57	.68	.72	.87	.95	1.03	1.12	1.14	1.27	1.53
Apr. 27	.34	.35	.35	.42	.45	.50	.57	.68	.68	.68	.68	.68
May 2	.57	.98	1.31	1.46	1.53	1.53	1.53	1.54	1.54	1.54	1.54	1.54
May 8	.44	.84	1.17	1.35	1.79	2.05	2.13	2.16	2.16	2.16	2.16	2.16
May 23	.22	.34	.41	.49	.64	.68	.70	.91	1.01	1.06	1.10	1.14
May 24	.49	.85	1.26	1.48	1.76	2.03	2.18	2.24	2.24	2.38	2.44	2.45
June 3	.43	.62	.75	.94	1.30	1.85	1.94	2.18	2.18	2.18	2.18	2.18
June 3	.47	.62	.74	.85	1.17	1.40	1.61	1.97	2.06	2.08	2.08	2.09
June 7	.24	.33	.36	.36	.36	.36	.36	.36	.36	.36	.36	.36
June 18	.28	.35	.41	.43	.43	.43	.43	.50	.54	.54	.54	.54
June 19	.24	.35	.54	.65	.76	.83	.97	1.09	1.14	1.18	1.26	1.38
June 20	.41	.64	.70	.76	.79	.80	.83	.96	.97	1.30	1.34	1.47
July 9	.54	.97	1.29	1.44	1.50	1.51	1.51	1.51	1.55	1.58	1.61	1.62
July 13	.23	.36	.43	.46	.47	.47	.47	.47	.47	.47	.47	.47
July 15	.22	.33	.47	.55	.64	.71	.72	.74	.74	.74	.74	.74
Aug. 21	.47	.69	.84	.89	.90	.90	.90	.90	.90	.90	.90	.90
Aug. 28	.27	.39	.54	.64	.72	.76	.76	.76	.76	.76	.77	.83
Sept. 6	.27	.37	.38	.39	.59	.79	.81	.81	.81	.81	.81	.81
Nov. 13	.40	.65	.89	1.12	1.52	1.71	1.75	1.81	2.11	2.22	2.29	2.30
Dec. 15	.37	.55	.74	.80	.82	.82	.82	.86	.87	.87	.87	1.29
Dec. 17	.23	.33	.49	.58	.74	.96	1.06	1.19	1.19	1.19	1.19	1.19
Dec. 31	.26	.43	.47	.48	.48	.48	.48	.48	.48	.48	.48	.48
Cold Bay, Alaska, AP						None						
Tulsa, Oklahoma, AP												
Feb. 17	.23	.34	.37	.59	.71	.88	.92	.92	.92	.92	1.26	1.29
Mar. 5	.15	.25	.35	.37	.37	.50	.52	.53	.53	.53	.53	.53
May 4	.20	.30	.40	.50	.60	.82	.97	1.14	1.30	1.44	1.52	1.55
May 8	.45	.85	1.60	2.25	2.78	2.89	2.95	2.99	3.08	3.12	3.22	3.26
May 21	.16	.32	.36	.37	.38	.40	.41	.41	.41	.41	.41	.41
May 25	.25	.40	.50	.56	.56	.56	.56	.56	.56	.57	.57	.57
June 2	.17	.24	.27	.36	.49	.76	.90	1.01	1.10	1.14	1.22	1.32
June 4	.21	.42	.44	.57	.73	.79	.82	.86	.91	.99	1.20	1.20
July 13	.23	.47	.50	.51	.75	1.14	1.30	1.34	1.40	1.41	1.47	1.53
July 15	.43	.70	.85	.90	1.06	1.10	1.40	1.65	1.94	2.20	2.58	3.05
July 15	.12	.22	.28	.37	.50	.53	.56	.56	.56	.56	.56	.56
July 16	.18	.33	.43	.61	.63	.64	.65	.71	.74	.75	.87	.93
Aug. 13	.34	.59	.64	.67	.76	.79	.79	.79	.81	.81	.86	.97
Sept. 3	.27	.44	.47	.48	.48	.50	.52	.52	.52	.53	.54	.71
Sept. 13	.13	.25	.35	.40	.51	.67	.81	.91	.98	1.05	1.15	1.25

SUNSHINE, AMOUNT AND PERCENT

YEAR 1961

Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
ALABAMA																										
Birmingham	159	50	126	41	172	46	274	70	288	67	242	56	291	66	266	64	295	79	281	80	133	42	119	38	2646	59
Montgomery	159	50	128	41	186	50	276	71	282	66	219	51	297	68	222	54	255	69	272	77	136	43	143	45	2375	58
ALASKA																										
Anchorage	72	36	74	29	207	56	201	45	336	62	275	48	199	35	171	35	138	36	127	41	61	28	72	41	1933	43
Juneau	83	37	61	23	127	34	131	30	216	41	184	34	280	52	117	25	190	49	70	22	53	23	5	3	1317	34
Nome	34	20	205	86	205	56	195	43	296	51	193	30	206	34	217	43	100	25	106	35	32	17	52	41	1841	40
ARIZONA																										
Phoenix	266	84	292	92	313	84	384	98	419	97	417	97	423	97	387	93	339	91	319	91	250	80	220	71	4029	90
Prescott	248	79	248	81	299	81	362	92	398	92	383	88	357	81	286	69	316	85	300	86	226	73	219	72	3642	82
Tucson	226	71	281	91	325	87	379	97	399	93	410	96	351	81	321	78	325	88	315	89	241	76	220	70	3793	85
Yuma	254	80	293	95	351	94	386	99	416	97	418	98	386	89	363	88	357	96	321	91	242	77	236	76	4023	89
ARKANSAS																										
Ft. Smith	199	64	124	41	180	49	252	64	277	64	263	60	265	60	270	65	222	60	241	69	145	47	126	41	2564	58
Little Rock	159	50	101	33	176	48	217	55	248	57	249	57	277	63	416	62	231	62	220	63	133	43	94	31	2521	53
CALIFORNIA																										
Eureka (U)	165	55	134	45	182	49	274	69	194	43	263	58	233	51	163	38	274	73	195	57	155	52	146	51	2378	53
Fresno	108	35	230	76	302	81	366	93	386	88	414	94	423	95	361	86	352	95	324	93	241	78	83	28	3590	81
Los Angeles (U)	251	79	269	87	279	75	319	82	308	71	329	76	363	83	357	86	284	76	256	73	241	77	212	69	3468	78
Red Bluff	132	44	197	66	223	60	354	89	350	78	408	91	448	98	372	88	355	95	300	87	197	66	144	50	3480	78
Sacramento	55	18	204	68	248	67	364	92	384	87	419	94	441	98	383	91	353	95	318	92	210	69	114	38	3493	78
San Diego	240	75	261	84	261	70	292	75	242	56	231	54	249	57	295	71	267	72	275	78	216	69	192	62	3021	68
San Francisco (U)	209	68	226	75	291	79	339	86	317	72	340	77	326	73	241	57	296	79	260	75	198	65	161	54	3204	72
COLORADO																										
Denver	256	85	220	73	239	64	265	67	244	55	309	69	336	74	328	77	222	60	258	75	172	57	231	79	3081	69
Grand Junction	289	95	262	87	244	66	255	64	311	70	374	84	340	75	304	72	235	63	243	70	185	60	159	54	3201	72
Pueblo	262	86	208	69	244	66	319	80	303	69	326	73	322	71	319	75	290	78	301	87	210	69	249	84	3353	75
CONNECTICUT																										
Hartford	224	76	175	59	222	60	181	40	198	44	254	56	266	58	267	62	243	65	196	46	151	51	142	50	2519	56
New Haven	214	72	183	61	228	62	225	56	215	48	304	67	305	67	266	62	274	73	227	66	178	60	171	60	2790	63
DISTRICT OF COLUMBIA																										
Washington Nat'l. Airport	201	66	107	36	188	51	219	55	241	54	293	66	303	67	270	64	289	78	245	71	165	48	147	50	2668	60
FLORIDA																										
Apalachicola (U)	231	71	206	66	272	73	343	89	331	81	331	79	280	65	209	51	283	77	321	91	254	79	238	75	3299	74
Jacksonville	189	58	188	60	258	69	293	76	254	60	244	58	255	59	191	47	202	55	174	49	172	54	181	57	2601	59
Key West	228	68	219	69	283	76	303	77	316	76	290	71	308	74	299	74	234	58	239	67	250	76	227	69	3196	72
Lakeland (U)	216	66	222	71	266	72	298	77	302	72	264	63	291	68	236	58	249	67	266	75	208	64	207	64	3025	68
Miami (U)	214	64	228	72	267	77	289	76	286	69	254	62	282	67	256	63	287	78	266	74	216	66	213	66	3058	69
Pensacola (U)	156	48	137	44	190	51	285	74	234	55	242	57	294	68	264	64	232	63	271	77	200	63	191	60	2696	61
Tampa	208	63	231	74	303	82	276	72	277	66	227	54	249	58	230	57	212	57	273	77	216	67	235	73	2937	66
GEORGIA																										
Atlanta	191	60	147	48	168	45	259	66	250	58	241	56	315	72	234	56	279	75	310	88	180	58	136	44	2710	61
Macon	218	69	163	53	181	49	270	69	264	62	276	64	326	75	223	54	270	73	316	90	177	56	174	56	2858	64
Savannah	185	58	159	51	276	74	317	82	286	67	277	65	306	70	224	54	238	62	286	81	187	59	190	61	2931	66
HAWAII																										
Hilo	188	55	92	29	157	42	135	36	125	31	207	52	179	44	161	41	124	34	97	27	92	27	116	34	1673	38
Honolulu	245	72	219	68	319	86	298	79	352	86	340	84	363	88	357	90	320	87	286	79	261	78	250	74	3610	81
Lihue	193	57	181	57	276	74	216	57	295	72	265	66	324	78	296	74	289	79	236	65	190	57	202	60	2963	67
IDAHO																										
Boise	196	68	154	52	180	49	275	68	341	75	387	84	424	91	336	78	295	79	232	68	166	57	96	35	3082	69
Pocatello	221	76	122	42	235	64	287	71	278	61	274	81	389	84	289	67	218	58	208	61	185	63	114	40	2820	65
ILLINOIS																										
Cairo (U)	211	68	169	56	171	46	246	62	308	70	316	72	286	64	302	72	282	76	242	70	135	44	125	42	2793	63
Chicago	141	48	75	25	141	38	166	41	285	63	365	80	326	71	309	72	232	62	185	54	104	35	83	29	2412	54
Moline	180	60	128	43	166	45	183	46	291	65	347	76	310	67	318	74	253	68	214	62	138	47	111	39	2639	59
Peoria	197	66	131	44	163	44	196	49	271	61	305	68	287	63	296	69	215	57	188	54	136	45	95	33	2480	56
Springfield	195	65	121	40	171	46	181	45	292	66	309	69	300	66	309	73	263	70	188	54	128	43	130	45	2587	58
INDIANA																										
Evansville	201	66	130	43	140	38	225	57	297	67	355	80	332	74	333	79	313	84	236	68	132	44	103	35	2797	63
Ft. Wayne	146	49	90	30	173	47	193	48	307	68	317	70	285	62	287	67	248	66	184	53	152	51	128	44	2510	56
Indianapolis	171	57	131	44	183	49	268	67	273	61	273	61	268	59	297	70	296	79	191	55	118	39	87	30	2556	57
IOWA																										
Burlington	222	74	160	54	158	43	218	55	323	72	376	83	345	75	361	85	238	64	246	71	155	52	133	46	2935	66
Des Moines	223	75	168	56	148	40	172	43	311	69	325	72	319	69	310	72	195	52	252	73	136	46	91	32	2650	59
Sioux City	231	79	165	56	205	55	211	53	252	56	330	72	317	68	366	85	196	52	244	71	140	48	114	40	2771	62
KANSAS																										
Concordia (U)	266	88	183	61	173	47	278	70	281	63	328	73	349	77	304	73	240	64	263	76	140	47	168	57	2973	67
Dodge City	269	89	171	56	236	64	287	72	297	67	300	68	349	78	234	58	262	76	278	80	160	53	204	69	3057	69
Topeka	248	82	120	40	155	42	244	62	230	52	305	68	329	73	290	68	233	63	248	72	166	55	151	51	2719	61
Wichita	237	77	141	47	200	54	240	61	286	65	304	69	332	74	263	62	237	63	263	76	146	48	172	58	2821	63
KENTUCKY																										
Louisville	196	64	124	41	130	35	148	37	250	57	251	57	272	60	261	61	282	76	231	66	111	37	80	27	2336	52
LOUISIANA																										
New Orleans (U)	141	43	143	46	242	65	299	77	362	85	308	73	283	66	269	66	183	49	271	76	143	45	163	51	2807	60
Shreveport	185	58	139	45	213	57	276	71	305	71	279	65	315	72	316	76	276	74	270	77	140	44	138	44	2852	64
MAINE																										
Portland	189	65	170	58	227	61	200	50	261	57	301	65	290	62	286	66	246	66	158	46	109	37	132	47	2569	58
MARYLAND																										
Baltimore	184	61	115	38	209	56	302	76	296	67	297	67	297	66	242	57	250	67	207	60	178	59	166	56	2743	62
MASSACHUSETTS																										
Blue Hill Obs. (R)	191	a67	145	a51	183	a51	160	a41	220	a50	256	a58	239	a54	a243	59	a216	60	a156	47	a129	46	133	49	2271	53
Boston	214	73	171	56	221	60	193	48	255	56	297	65	297	64	294	69	249	66	168	49	156	53	161	57	2676	60
Nantucket	181	61	152	51	186	50	207	52	247	55	243	54	217	47	202	47	180	48	165	48	127	43	123	43	2230	50
MICHIGAN																										
Alpena	129	45	152	52	169	46	149	37	266	58	286	62	290	62	285	67	223	59	163	48	76	26	67	24	2255	51
Detroit	125	42	116	39	157	42	141	35	274	61	314	69	290	63	226	53	240	64	191	56	127	43	76	27	2277	51
Escanaba (U)	108	38	154	53	167	45	229	56	266	58	298	64	245	52	306	70	209	56	131	39	94	33	109	40	2316	52
Grand Rapids	112	38	119	40	151	41	164	41	305	67	338	74	317	68	270	63	219	58	171	50	81	28	41	14	2288	51
Lansing	132	45	144	49	180	49	211	53	341	75	331	72	337	73	279	65	246	66	175	51	109	37	64	23	2549	57
Marquette (U)	126	45	140	48	145	39	244	60	308	66	347	73	300	63	330	75	237	65	171	50	100	35	93	35	2541	57

See reference notes at end of table.

SUNSHINE, AMOUNT AND PERCENT

YEAR 1961

Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
MICHIGAN (Cont'd.)																										
Sault Ste. Marie	126	45	150	52	156	42	201	49	271	58	271	57	245	51	291	66	174	46	127	38	69	24	70	26	2151	48
MINNESOTA																										
Duluth	176	63	143	50	202	55	202	49	311	67	360	76	306	64	325	74	174	46	170	50	86	31	91	34	2546	57
Minneapolis	206	72	168	58	192	52	195	48	326	71	325	70	306	65	305	70	172	46	210	62	101	35	64	23	2570	58
MISSISSIPPI																										
Jackson	149	47	128	41	199	54	254	65	293	68	208	49	229	53	261	63	226	61	248	70	148	47	141	45	2484	55
Vicksburg (U)	171	54	135	44	193	52	247	64	301	70	231	54	215	49	195	47	218	53	270	77	161	51	142	45	2479	56
MISSOURI																										
Columbia	204	67	146	49	b163	44	209	53	246	55	337	76	301	67	336	79	237	64	223	64	121	40	114	39	2637	59
Kansas City	239	79	164	55	148	40	251	63	243	55	333	75	325	72	323	76	234	63	245	71	130	40	119	41	2754	62
St. Louis	182	60	105	35	153	41	209	53	263	59	302	68	303	67	295	70	280	75	214	62	124	41	98	33	2528	57
Springfield	230	75	138	46	202	54	242	61	208	47	218	50	288	64	266	63	294	79	266	77	145	47	126	42	2623	59
MONTANA																										
Billings	203	71	183	63	251	68	240	59	263	57	389	83	363	77	361	83	201	53	217	64	172	60	136	50	2979	67
Great Falls	169	61	184	64	225	61	242	59	296	63	419	87	362	75	302	69	192	51	213	63	142	51	95	36	2841	64
Havre (U)	145	53	203	71	195	53	225	55	312	66	423	87	402	83	405	91	280	74	268	80	168	62	136	52	3162	71
Helena	182	65	144	50	209	57	199	49	280	60	402	85	388	81	323	74	188	50	214	64	145	51	93	35	2767	62
Missoula	66	24	79	27	176	48	131	37	264	56	395	83	409	85	327	74	209	56	178	53	99	35	65	24	2418	54
NEBRASKA																										
Lincoln (U)	246	82	163	55	178	48	286	72	277	62	343	76	342	75	322	75	223	60	234	68	136	46	128	45	2878	65
North Platte	256	86	159	53	189	51	256	64	212	47	325	72	315	69	301	70	227	61	226	66	177	60	170	59	2813	63
Omaha	228	77	128	43	137	37	235	59	253	56	320	71	338	74	346	81	206	55	235	68	159	53	111	39	2696	60
Valentine	247	85	214	72	192	52	255	63	212	47	362	79	359	77	320	74	226	60	†246	72	218	74	†192	68	3043	68
NEVADA																										
Ely	270	89	213	71	275	74	349	88	260	81	447	93	418	92	349	82	341	91	247	71	205	68	208	71	3582	82
Las Vegas	261	84	247	81	302	81	354	90	404	92	425	97	365	82	331	79	350	94	274	78	252	82	228	76	3793	85
Reno	229	76	207	69	279	75	338	85	339	76	393	88	433	95	378	89	335	90	310	90	215	71	196	67	3652	82
Winnemucca	197	66	105	35	91	25	261	65	316	70	385	85	415	91	325	76	281	75	†214	62	141	48	130	45	2861	64
NEW HAMPSHIRE																										
Concord	201	69	173	59	201	54	165	41	228	50	282	61	258	55	257	60	236	63	160	47	121	42	151	54	2433	55
Mt. Washington Obs. (R)	120	68	134	45	156	42	98	24	162	35	147	31	140	29	152	35	163	43	156	45	83	28	86	30	1597	37
NEW JERSEY																										
Atlantic City (U)	187	62	131	44	214	58	247	62	227	51	258	58	264	58	232	55	237	64	213	62	181	60	141	48	2532	57
Trenton (U)	203	68	132	44	215	58	232	58	225	50	273	61	283	62	275	65	269	72	242	70	193	65	172	59	2714	61
NEW MEXICO																										
Albuquerque	259	82	232	82	270	73	323	82	371	85	379	87	378	86	313	75	311	84	319	91	219	71	245	80	3639	82
NEW YORK																										
Albany	203	69	168	57	207	56	148	37	199	44	272	59	307	66	293	68	263	70	211	62	107	36	95	34	2473	55
Binghamton	149	51	141	48	148	40	147	37	248	55	304	67	251	54	243	57	271	72	208	61	83	28	57	20	2250	50
Buffalo	143	49	127	43	135	36	105	26	253	56	282	61	263	57	263	61	270	72	209	61	108	37	48	17	2206	49
New York Central Park Obs.	190	64	150	50	227	61	201	50	193	43	258	56	249	55	244	57	259	69	225	65	167	56	169	59	2532	57
Rochester	188	64	129	41	144	39	150	37	266	59	286	62	236	51	223	52	260	69	193	56	109	37	83	30	2267	51
Syracuse	121	42	114	39	112	30	106	26	206	45	271	59	282	61	241	56	260	69	197	58	79	27	48	17	2037	46
NORTH CAROLINA																										
Asheville (U)	206	66	136	45	156	42	191	49	234	54	105	38	228	51	219	52	259	69	249	71	132	43	115	38	2230	51
Cape Hatteras (R)	230	73	181	59	246	66	265	67	269	62	---	66	343	78	268	64	252	68	243	69	213	69	---	55	----	66
Charlotte	225	72	135	44	231	62	(246)	(63)	268	62	245	56	312	71	274	66	294	79	295	84	154	50	156	51	2835	64
Greensboro	237	76	166	54	226	61	254	65	279	64	269	61	278	63	268	64	279	75	295	84	162	53	146	48	2859	64
Raleigh	233	75	151	50	233	63	285	72	†217	50	238	54	313	70	222	53	246	66	266	76	196	63	144	47	2744	62
Wilmington	230	73	157	51	240	65	287	73	288	67	240	56	310	70	285	69	273	73	273	78	198	64	176	57	2957	67
NORTH DAKOTA																										
Bismarck	179	64	170	59	248	67	308	75	343	74	393	83	331	69	354	81	197	52	†210	62	158	56	160	60	3051	68
Devils Lake (U)	189	69	199	69	153	41	255	62	349	74	378	79	304	63	345	78	172	46	197	59	152	55	147	56	2840	64
Fargo	163	58	161	56	174	47	199	49	297	64	311	65	275	57	368	84	203	54	184	55	132	47	85	32	2552	57
Williston (U)	166	60	175	61	224	61	250	61	337	72	404	84	354	73	364	82	196	52	206	61	152	55	114	44	2942	66
OHIO																										
Cincinnati Obs.	179	59	102	34	121	33	191	48	273	62	318	71	245	54	257	61	306	82	237	68	126	42	88	30	2443	55
Cleveland	143	48	130	44	166	45	164	41	322	71	334	74	284	62	256	60	266	71	181	52	86	29	60	21	2392	54
Columbus	164	55	130	43	187	50	162	41	304	68	319	71	269	59	244	57	283	76	174	50	76	25	52	18	2364	53
Dayton	170	57	78	26	164	44	141	35	266	60	260	58	187	41	272	64	324	87	208	60	117	39	102	35	2289	51
Sandusky (U)	150	50	146	49	187	50	177	44	275	61	307	68	340	74	338	79	289	78	223	65	154	52	134	47	2720	61
Toledo	178	60	138	46	176	48	159	40	284	63	324	71	300	65	287	67	265	71	183	53	140	47	113	40	2547	57
OKLAHOMA																										
Oklahoma City	244	78	163	53	235	63	264	67	268	62	258	59	337	76	294	71	255	69	251	72	138	45	170	56	2877	65
Tulsa	210	68	136	45	184	49	210	53	274	63	293	67	310	70	294	70	234	63	239	68	132	43	151	50	2667	60
OREGON																										
Portland	105	37	21	7	131	35	167	41	223	48	353	75	350	74	287	66	216	58	141	42	154	54	52	19	2200	49
Roseburg	87	30	78	26	132	36	266	66	240	53	359	78	379	81	336	78	265	71	156	46	74	25	61	22	2433	55
PACIFIC AREA																										
Guam (R)	119	34	191	59	196	52	242	65	150	38	129	33	126	32	95	24	128	35	---	---	---	---	198	56	----	---
Johnson Island	223	64	213	66	206	55	229	61	267	72	279	71	347	86	271	70	306	83	245	67	156	46	243	72	2985	68
Koror	160	44	200	60	292	78	285	77	142	37	127	34	176	45	156	41	176	48	122	33	250	71	142	39	2228	50
Majuro	--	--	--		---	--	---	--	---	-	---	--	264	68	236	62	227	62	230	62	203	57	175	48	----	---
Ponape	137	38	164	49	215	57	187	51	167	43	206	55	244	63	189	49	193	53	184	50	179	51	180	50	2245	51
Truk	189	52	110	33	295	79	289	78	312	82	308	82	327	84	326	85	307	84	251	68	280	79	271	75	3265	74
Yap	29	8	115	35	223	60	238	65	85	22	111	29	116	30	145	38	147	40	115	31	293	84	148	43	1765	40
PENNSYLVANIA																										
Harrisburg	183	61	120	40	199	54	249	63	235	53	315	70	301	66	295	69	281	75	226	66	119	40	137	47	2660	60
Philadelphia	203	68	109	36	192	52	207	52	375	54	292	65	295	65	286	67	288	77	260	75	205	68	159	55	2871	61
Pittsburgh (U)	70	23	52	17	115	31	98	25	185	42	226	50	207	45	194	46	189	51	167	48	61	20	51	18	1615	36
Pittsburgh	163	54	88	29	124	33	130	33	221	49	295	66	290	63	284	67	285	76	216	63	135	45	108	37	2339	52
Reading (U)	187	62	146	49	200	54	211	53	211	47	302	67	303	66	278	65	257	69	233	68	147	49	148	51	2623	59
Scranton	189	64	161	54	173	47	160	40	215	48	279	62	255	56	243	57	232	62	197	57	87	29	99	34	2290	51
PUERTO RICO																										
San Juan	255	68	242	75	211	56	219	58	251	62	235	59	251	62	234	59	240	65	173	48	119	35	186	54	2596	58
RHODE ISLAND																										
Providence	207	70	169	57	204	55	189	47	221	49	259	57	260	56	240	56	219	58	173	50	142	48	135	47	2418	54
SOUTH CAROLINA																										
Charleston	233	73	155	50	244	66	290	74	298	69	344	57	297	68	290	70	269	72	287	81	237	75	215	69	3159	69
Columbia	214	68	142	46	207	56	278	71	233	54	162	37	237	54	181	44	255	69	277	79	184	59	176	57	2546	57

See reference notes at end of table.

SUNSHINE, AMOUNT AND PERCENT

YEAR 1961

Station	January		February		March		April		May		June		July		August		September		October		November		December		Annual	
	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible	Hours	Percent of possible
SOUTH CAROLINA (Cont'd.)																										
Greenville	230	73	153	50	238	64	272	69	244	56	241	56	289	66	196	47	254	68	295	84	153	49	146	48	2711	61
SOUTH DAKOTA																										
Huron	218	76	231	79	227	61	278	69	285	62	386	83	385	82	380	88	255	67	239	69	174	60	138	48	3183	71
Rapid City	200	69	163	55	215	58	242	60	225	49	457	77	249	53	311	72	174	46	195	57	167	59	161	58	2759	60
TENNESSEE																										
Chattanooga	173	55	142	46	147	40	227	58	253	58	211	49	282	64	227	55	273	73	260	74	146	47	116	38	2457	55
Knoxville	157	50	122	40	173	47	224	57	288	66	230	53	204	46	167	40	201	54	208	51	99	32	98	32	2171	49
Memphis	185	59	140	46	213	57	273	70	298	68	262	60	279	63	301	72	285	77	257	73	128	41	98	32	2719	61
Nashville	172	55	131	43	115	31	228	58	261	60	263	60	320	72	234	56	270	73	237	68	134	44	98	32	2463	[illegible]
TEXAS																										
Abilene	200	63	200	65	257	69	332	85	345	81	306	74	321	74	334	81	252	68	278	79	153	49	180	58	3158	71
Amarillo	264	85	221	72	254	68	312	80	344	79	330	76	378	86	349	84	300	81	280	80	153	49	212	70	3397	76
Austin	164	51	188	60	218	59	253	65	276	65	280	66	234	54	325	79	234	63	204	58	†118	37	137	43	2631	59
Brownsville	110	33	160	51	226	61	217	57	308	74	326	79	342	81	297	74	221	60	248	69	139	43	173	53	2767	62
Corpus Christi	132	40	173	55	208	56	244	63	294	70	278	67	311	73	294	72	242	65	227	79	147	46	190	59	2740	63
Dallas	195	61	163	53	213	57	275	70	276	64	273	64	324	74	316	77	246	66	309	64	147	47	175	56	2912	64
El Paso	229	71	283	91	345	93	373	96	367	86	388	91	373	86	311	76	319	86	309	88	205	65	249	79	3751	84
Galveston (U)	163	50	186	60	222	60	282	73	349	83	329	78	335	78	293	72	282	76	304	86	174	54	181	57	3100	70
Houston (U) 1	164	51	168	54	215	58	---	--	267	63	298	71	279	65	265	65	271	73	291	82	183	57	163	51	----	---
Port Arthur	139	43	136	44	173	47	198	51	233	55	248	59	181	42	206	50	245	61	215	61	145	45	139	44	2258	50
San Antonio	151	46	188	60	242	65	262	68	264	63	262	62	248	58	313	77	250	68	228	64	137	43	155	49	2700	59
UTAH																										
Salt Lake City	217	73	125	42	186	50	218	55	273	61	379	84	339	74	302	71	240	64	209	61	145	49	134	47	2767	62
VERMONT																										
Burlington	168	59	174	59	186	50	122	30	217	47	276	59	234	50	240	55	240	64	188	55	97	34	90	33	2232	50
VIRGINIA																										
Lynchburg	219	71	132	43	203	55	224	57	295	67	276	63	319	71	251	60	276	74	275	79	169	55	134	45	2773	62
Norfolk	225	73	154	51	251	68	267	68	291	66	251	57	327	73	252	60	244	65	240	69	216	70	168	56	2886	65
Richmond	200	65	119	39	191	51	211	53	272	62	263	60	324	72	233	55	245	66	234	67	142	46	130	44	2564	58
WASHINGTON																										
Seattle (U)	103	37	72	25	171	46	121	30	209	45	312	65	312	65	263	60	215	57	120	36	85	30	40	15	2023	45
Spokane	90	34	66	23	175	48	173	42	248	53	419	88	381	79	336	76	261	69	174	52	122	44	57	22	2502	56
Tatoosh Island	97	36	45	16	117	32	135	33	150	32	171	36	171	35	171	39	175	46	174	52	102	37	43	17	1551	35
Walla Walla (U)	50	18	97	34	166	45	202	50	262	56	429	91	442	93	368	84	308	82	222	65	128	45	42	16	2716	61
WEST VIRGINIA																										
Parkersburg (U)	142	47	84	28	140	38	118	30	219	49	236	53	215	48	264	62	275	74	184	53	93	31	63	22	2033	46
WISCONSIN																										
Green Bay	128	45	129	44	151	41	168	42	295	64	319	69	277	59	303	70	186	49	142	42	107	37	96	35	2301	52
Madison	196	76	295	58	128	35	177	44	314	69	393	76	315	68	315	73	209	56	178	52	112	38	80	28	2712	57
Milwaukee	193	66	124	42	146	39	183	45	301	66	332	72	311	67	285	66	219	58	173	51	114	39	92	33	2473	55
WYOMING																										
Cheyenne	227	76	206	69	214	58	230	57	191	43	266	59	286	62	284	66	202	54	234	68	175	59	173	60	2688	60
Lander	249	85	207	70	292	79	303	75	309	68	328	72	350	75	349	81	271	72	269	79	204	70	202	72	3333	75
Sheridan	204	71	192	66	219	59	237	58	257	56	360	77	337	72	330	76	196	52	202	59	174	60	162	59	2870	64

Data from airport unless otherwise specified.
"U" indicates Urban, "R" indicates Rural, sites.
a From Campbell-Stokes recorder uncorrected for low sun.
b Sunshine switch-out for period March 24-28. Sunshine estimated during this period.
( ) Data in parentheses are estimated due to malfunctioning of multiple register system part of the time.
† Estimated sunshine.
1 Sunshine record changed from Houston Federal Bldg. to Houston Int. AP in May.

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Greatest in 24 hours	Precipitation: Snow, Sleet: Date (s)	Relative humidity: 1:00 a.m. EST	Relative humidity: 7:00 a.m. EST	Relative humidity: 1:00 p.m. EST	Relative humidity: 7:00 p.m. EST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-3	Number of days: Sunrise to sunset: Partly cloudy, 4-7	Number of days: Sunrise to sunset: Cloudy, 8-10	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp 90°F and above	Number of days: Max temp 32°F and below	Number of days: Min temp 32°F and below	Number of days: Min temp 0°F and below
	°F	°F	°F	°F		°F		Base 65 °F	In	In		In	In.		%	%	%	%	M.p.h.		M.p.h.			%	Tenths											
ALABAMA																																			
BIRMINGHAM	73.5	51.6	62.6	96	SEP. 25+	13	JAN. 2	2610	76.48	6.57	FEB. 20-21	T	T	DEC. 27+	81	86	58	63	8.0	ENE	54	NE	MAR. 18	59	6.1	104	97	164	129	0	57	4	57	2	44	0
HUNTSVILLE	71.8	49.4	60.6	96	SEP. 24+	10	JAN. 22	3127	56.07	3.43	DEC. 16-17	1.3	.6	DEC. 27+	80	85	56	62	7.2	SE	46	E	MAR. 18		6.2	95	106	164	129	0	58	8	56	2	59	0
MOBILE	76.7	56.5	66.6	96	SEP. 5	21	JAN. 22	1653	82.73	7.38	JUN. 19-20	T	T	JAN. 28	85	87	59	70	10.0	N	43	NNW	APR. 3		5.9	105	101	159	134	0	88	43	60	0	22	0
MONTGOMERY	75.0	52.8	63.9	94	SEP. 25+	15	JAN. 22	2272	64.82	5.63	FEB. 24-25	T	T	JAN. 28+	86	90	60	67	7.3	NW	43	W	MAR. 8	58	5.9	106	97	162	119	0	72	26	68	0	36	0
ALASKA																																	B		
ANCHORAGE	40.9	26.5	33.7	77	JUN. 19	-30	DEC. 28+	11330	19.27	1.92	SEP. 29-30	66.9	7.5	NOV. 12-13	69	75	72	62	6.3	N	30*	N	NOV. 24+	43	7.3	69	59	237	112	20	2	31	8	135	199	40
ANNETTE	52.1	41.0	46.6	85	JUL. 27	14	DEC. 21	6647	118.51	3.61	NOV. 7- 8	62.4	8.7	DEC. 19-20	81	84	79	72	9.8	SE	43*	ESE	MAR. 8		7.8	52	59	254	224	19	0	14	34	4	73	0
BARROW	13.5	2.9	8.2	69	JUL. 10	-48	MAR. 3	20624	4.96	.78	JUL. 30-31	36.1	3.5	OCT. 15	76	76	75	74	12.0	E	45*	ENE	MAR. 30			57V	36V	204V	89	12	0	76	0	243	325	174
BARTER ISLAND	13.3	1.7	7.5	67	JUN. 18	-51	DEC. 24	20904	7.66	1.03	JUL. 31+ AUG. 1	38.0	3.2	APR. 27-28	73	74	73	72	13.9	ENE	72*	W	DEC. 12			59X	54X	198X	107	14	0	92	0	233	318	183
BETHEL	32.7	19.0	25.9	76	JUL. 15	-34	DEC. 28+	14171	17.94	.73	OCT. 19	43.8	4.8	OCT. 15-16	77	82	81	72	14.3	NNE	46*	SSE	OCT. 20		7.2	69	54	242	164	13	3	62	3	155	223	96
COLD BAY	42.1	32.5	37.3	76	JUL. 31	2	MAR. 15	9994	23.41	1.40	OCT. 19	53.2	3.4	APR. 1- 2	83	86	85	78	17.3	SSE	67*	ESE	MAR. 22		8.8	11	54	300	185	21	0	18	2	71	163	0
CORDOVA	45.9	29.8	37.9	76	JUN. 18	-12	DEC. 28	9796	95.60	4.36	NOV. 14-15	131.4	12.5	FEB. 2- 3	85	89	83	75	5.5	E	40*	ESE	JAN. 20		8.0	49	52	264	214	39	3	18	4	41	195	13
FAIRBANKS	33.4	13.1	23.3	85	JUL. 26	-62	DEC. 29+	15156	11.40	1.19	AUG. 23-24	63.1	6.0	JAN. 2	66	74	69	59	6.0	N	23*	SW	AUG. 23+		6.9	75	83	287	109	22	2	17	47	180	228	135
JUNEAU	47.1	34.4	40.8	79	JUL. 27	- 3	DEC. 21	8732	68.11	2.39	AUG. 11-12	100.4	10.1	DEC. 15-16	82	87	81	71	9.4	ESE	43*	ESE	NOV. 8	34	8.4	43	33	289	225	31	0	21	17	43	145	2
KING SALMON	38.3	23.1	30.7	79	JUL. 14	-30	MAR. 13	12408	26.87	1.33	SEP. 9-10	58.3	5.2	MAR. 5	77	81	79	69	9.6	N	46*	E	JAN. 18		7.4	64	60	241	168	22	1	32	1	116	205	72
KOTZEBUE	26.2	13.3	19.8	69	JUL. 10	-47	DEC. 29+	16412	7.02	.59	JUN. 7- 8	44.3	3.6	APR. 6	79	82	80	77	12.0	ESE	46*	ESE	NOV. 27		6.7	85	73	207	115	14	0	13	0	197	240	125
MC GRATH	32.1	13.3	22.7	81	JUL. 15	-67	DEC. 27	15353	18.33	1.51	AUG. 24	95.2	7.7	DEC. 8- 9	65	76	73	59	6.0	N	30*	S	OCT. 19		6.8	87	68	210	119	30	6	26	15	170	225	127
NOME	30.0	17.8	23.9	75	JUL. 10	-41	DEC. 28+	14819	18.74	1.23	JUN. 30+ JUL. 1	58.6	6.3	APR. 21	75	77	76	72	11.8	N	43*	E	DEC. 8+	40	6.9	78	69	218	144	18	0	24	1	178	228	91
ST. PAUL ISLAND	37.7	29.2	33.5	56	JUL. 9+	- 3	FEB. 28	11408	26.84	1.29	SEP. 26	76.6	10.2	JAN. 17-18	88	89	89	86							8.6	13	67	285	217	24	0	73	0	103	197	5
SHEMYA	40.7	35.7	38.2	57	JUL. 23	19	DEC. 31+	9698	25.18	1.67	AUG. 17-18	61.0	4.8	FEB. 24	87	89	89	86	18.6	WSW	64*	SSE	JAN. 5		9.0	2	54	309	215	22	0	93	0	37	128	0
YAKUTAT	46.0	33.4	39.7	81	JUN. 18	- 3	NOV. 30	9111	138.03	4.77	AUG. 23-24	293.4	23.1	DEC. 1- 2	89	92	86	80	7.7	E	44*	SE	DEC. 31		8.4	32	57	276	237	57	2	24	2	39	172	2
ARIZONA																																			
FLAGSTAFF	60.7	29.9	45.3	92	JUL. 16	-16	DEC. 12	7246	18.95	1.57	OCT. 8- 9	97.1	11.2	JAN. 26-27		72	39								4.6	158	109	98	75	21	52	8	3	12	226	5
PHOENIX	85.1	55.3	70.2	114	JUL. 19+	31	JAN. 7+	1429	4.43	.94	AUG. 28-29	.0	.0		40	51	31	22	6.7	E	53Y	SE	AUG. 4	90	3.2	224	77	64	35	0	21	0	163	0	5	0
PRESCOTT	70.5	40.6	55.6	101	JUL. 16+	3	DEC. 12	4335	11.38	1.24	JUL. 23-24	15.8	9.0	MAR. 28-29	49	59	34	30	7.5	SSW	56	S	APR. 7	82	3.8	191	102	72	62	5	55	2	48	2	134	0
TUCSON	80.5	53.7	67.1	106	JUN. 25+	32	DEC. 18+	1785	10.89	2.48	AUG. 22	.0	.0		44	53	32	25	9.7	SE	54	E	AUG. 8	85	3.7	202	81	82	59	0	51	2	130	0	4	0
WINSLOW	70.0	38.9	54.5	105	JUN. 22	-11	DEC. 12	5059	7.93	.79	AUG. 28-29	27.4	6.6	OCT. 3	52	62	38	31	9.8	SW	51*	SW	DEC. 10		4.1	177	101	87	60	11	30	15	80	23	141	7
YUMA	89.1	60.0	74.6	119	JUN. 14	36	DEC. 12	672	2.17	1.37	DEC. 14-15	.0	.0		36	45	29	19	7.8	N	52	NE	JUL. 28	89	2.6	254	64	47	15	0	7	2	179	0	0	0
ARKANSAS																																			
FORT SMITH	71.1	49.0	60.1	98	AUG. 2	9	JAN. 21	3424	46.70	4.09	JUL. 14-15	6.9	5.1	FEB. 7	83	88	61	62	7.4	ENE	37	W	MAR. 12+	58	5.9	116	85	164	104	2	55	27	57	6	72	0
LITTLE ROCK	72.1	50.1	61.1	99	AUG. 5	11	JAN. 25	3187	44.50	4.20	NOV. 21-22	T	T	DEC. 13+	80	85	58	62	8.3	WSW	65	NW	APR. 25	53	5.9	110	98	157	112	0	53	19	64	6	58	0
TEXARKANA	72.8	53.1	63.0	96	AUG. 3	16	JAN. 21	2622	55.32	4.10	SEP. 12-13	1.9	1.8	JAN. 27-28	85	90	65	66	7.8	SSW									116	1	66	27	54	3	40	0
CALIFORNIA																																			
BAKERSFIELD	76.7	52.2	64.5	113	JUN. 16+	25	JAN. 1	2412	1.98	.45	NOV. 2	.0	.0		56	67	52	39	6.6	NNW	35*	NNE	MAR. 15		3.9	190	88	87	22	0	0	34	101	0	23	0
BISHOP	75.3	38.3	56.8	108	JUN. 21	10	DEC. 11	4052	2.24	.82	DEC. 1- 2	T	T	NOV. 2			26	18							3.6	207	96	62	15	0	14	0	84	0	142	0
BLUE CANYON	59.5	43.3	51.4	90	JUN. 21+	16	DEC. 11+	5463	45.05	3.13	NOV. 29-30	155.7	15.7	NOV. 29-30			46		8.0	ENE	67	ENE	MAR. 28		4.7	168	68	129	85	30	11	52	2	6	86	0
BURBANK	75.9	52.9	64.4	101	OCT. 15	37	DEC. 13	1304	7.44	1.53	JAN. 25-26	.0	.0		65	71	51	42	6.8	S	40*	NE	NOV. 5		3.7	210	81	74	23	0	1	13	38	0	0	0

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow, Sleet: Total	Snow, Sleet: Greatest in 24 hours	Snow, Sleet: Date (s)	Relative humidity: 1:00a.m. E.S.T.	Relative humidity: 7:00a.m. E.S.T.	Relative humidity: 1:00p.m. E.S.T.	Relative humidity: 7:00p.m. E.S.T.	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-3	Number of days: Sunrise to sunset: Partly cloudy, 4-7	Number of days: Sunrise to sunset: Cloudy, 8-10	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp 90°F and above	Number of days: Max temp 32°F and below	Number of days: Min temp 32°F and below	Number of days: Min temp 0°F and below
CALIFORNIA	°F	°F	°F	°F		°F		Base 65 °F	In.	In.		In.	In.		%	%	%	%	M.p.h.		M.p.h.			%	Tenths											
EUREKA U	57.4	46.9	52.2	73	JUN. 16	30	DEC. 11	4581	40.16	2.58	JAN. 30-31	.0	.0						6.5	NW$	40	SW	DEC. 20	53	7.0	71	90	204	128	0	4	52	0	0	1	0
FRESNO	75.8	48.8	62.3	110	JUL. 11+	22	JAN. 7	2773	6.96	1.23	JAN. 25-26	.0	.0		61	76	54	37	6.4	NW	31	S	AUG. 5	81	4.0	193	77	95	29	0	7	43	99	0	24	0
LONG BEACH	73.7	53.1	63.4	111	OCT. 15	34	JAN. 3	1433	4.52	1.18	JAN. 26	.0	.0		76	78	60	52	6.7	WNW	39*	NW	FEB. 22		4.4	153	137	75	18	0	3	53	18	0	0	0
LOS ANGELES	70.0	54.5	62.3	106	OCT. 14	40	DEC. 28+	1495	5.05	1.22	JAN. 26	.0	.0		76	77	60	64	7.4	WSW	46Y	W	MAR. 15		4.6	150	128	87	20	0	4	40	6	0	0	0
LOS ANGELES U	74.7	55.9	65.3	103	OCT. 14	41	JAN. 2	957	5.83	1.23	NOV. 2	.0	.0		71	74	46K	51	6.2	W$	40	NW	FEB. 22	78	3.8	193	107	65	20	0	3	14	22	0	0	0
MT SHASTA R	62.8	37.7	50.3	98	JUL. 12	8	DEC. 11	5701	33.33	3.22	NOV. 24-25	105.0	29.0	NOV. 24-25			59	49							4.7	171	71	123	89	24	13	3	30	1	138	0
OAKLAND	66.3	48.8	57.6	104	JUN. 14	28	JAN. 5	2938	13.87	1.69	JAN. 25-26	.0	.0		77	81	66	57	8.8	WNW	40*	W	MAR. 16		5.0	137	121	107	62	0	2	20	13	0	9	0
POINT ARGUELLO	63.5	46.9	55.2	97	OCT. 14	30	JAN. 5	3519	6.63	2.07	DEC. 1- 2	.0	.0						8.2		32*	ESE	NOV. 25		5.6	121	102	142	49	0	3	135	2	0	2	0
RED BLUFF	74.9	50.9	62.9	113	JUL. 11+	26	JAN. 4+	2738	18.95	2.99	NOV. 30-DEC. 1	.0	.0		55	64	49	35	10.0	S	50	SE	APR. 21	78	4.7	161	84	120	68	0	16	39	98	0	16	0
SACRAMENTO												.0	.0		72	81	63	46	7.5	SW	40	NW	OCT. 7	78	4.5	166	90	109		0	6	41				
SACRAMENTO U	73.2	49.2	61.2	111	JUN. 15	25	JAN. 2	2665	11.57	1.32	NOV. 29-30																		44				77	0	11	0
SANDBERG R	64.8	47.0	55.9	98	JUN. 16+	23	DEC. 12+	4371	7.61	1.66	NOV. 25	11.0	3.7	NOV. 25			41		13.9	N	54*	NNW	NOV. 21		3.0	229	77	59	24	4	4	65	32	2	47	0
SAN DIEGO	71.1	55.9	63.5	107	OCT. 14	43	DEC. 28+	1178	4.61	1.09	JAN. 26-27	.0	.0		74	75	59	60	6.4	WNW	31	N	OCT. 8	68	4.6	158	113	94	30	0	2	28	5	0	0	0
SAN FRANCISCO	65.6	48.6	57.1	106	JUN. 14	32	JAN. 4+	2992	15.83	1.80	JAN. 25-26	.0	.0		81	85	70	62	10.5	WNW	39	W	JUL. 6+		4.7	161	98	106	59	0	4	19	11	0	2	0
SAN FRANCISCO U	62.7	51.2	57.0	101	JUN. 14	35	JAN. 6+	3003	14.63	1.80	NOV. 19-20	.0	.0			79F	65K		8.5	W$	31	W	JUL. 20+	72					63	0	1		4	0	0	0
SANTA MARIA	68.7	45.5	57.1	101	OCT. 14	29	JAN. 5+	2927	5.87	1.62	DEC. 1- 2	.0	.0		84	85	57	58	7.5	WNW	36*	WNW	MAY 12		3.6	205	106	54	32	0	1	94	6	0	10	0
COLORADO																																				
ALAMOSA	57.6	23.6	40.6	87	AUG. 7+	-41	DEC. 12	8832	10.19	1.17	OCT. 28-29	68.5	11.2	OCT. 28-29		80	48	45							4.7	132	150	83	76	22	52	14	0	38	231	49
COLORADO SPRINGS	60.3	32.9	46.6	93	JUL. 24	-13	DEC. 12+	6906	15.42	1.22	JUN. 3	49.4	6.1	MAR. 4- 5	68	71	42	47	10.1	N	39*	NNW	MAY 13		5.2	116	144	105	100	14	67	24	10	23	184	6
DENVER	62.4	35.3	48.9	99	JUL. 17	-16	DEC. 10	6380	19.01	1.80	MAY 13	80.3	9.7	MAR. 18	65	70	42	44	8.4	SSW	49	W	DEC. 21	69	5.3	116	137	112	104	20	45	14	31	24	168	7
GRAND JUNCTION	64.5	39.8	52.2	100	JUL. 16+	- 3	DEC. 13	5794	9.48	.76	AUG. 24-25	18.8	2.7	MAR. 3	48	56	39	32	8.9	ESE	49	NW	MAY 16	72	5.2	131	112	122	65	8	29	10	61	20	139	2
PUEBLO	65.8	35.9	50.9	99	JUL. 24+	-28	DEC. 12	5865	14.37	1.88	JUN. 1- 2	34.3	8.7	DEC. 10-11	65	75	44	40	8.3	W	72	N	APR. 8	75	5.0	138	120	107	85	10	46	7	39	17	169	7
CONNECTICUT																																				
BRIDGEPORT	58.8	43.4	51.1	93	JUN. 13	- 3	FEB. 2	5732	35.01	2.06	JUL. 15-16	43.7	12.9	FEB. 3- 4	79	80	62	70	11.6	NNW	53	E	APR. 13		6.1	93	123	149	114	14	18	32	3	28	104	4
HARTFORD	59.5	38.4	49.0	96	SEP. 1	-26	JAN. 22	6578	40.65	1.99	SEP. 20-21	78.9	14.3	FEB. 4	78	79	55	65	8.0	S	41	N	FEB. 4	56	6.5	69	128	168	119	16	20	32	23	41	147	14
NEW HAVEN	58.5	42.6	50.6	91	JUL. 22	- 7	JAN. 22	5880	41.28	2.00	SEP. 20-21	57.7	14.0	FEB. 3- 4		80	62		8.1		41	N	SEP. 21	63	6.2	87	124	154	119	16	21	21	1	26	114	6
DELAWARE																																				
WILMINGTON	62.6	44.0	53.3	93	SEP. 5+	- 4	FEB. 2	5255	40.44	2.56	APR. 12-13	40.6	10.9	JAN. 19-20	81	81	58	69	9.8	NW	43	ENE	APR. 13		6.2	88	112	165	117	12	27	43	15	19	101	4
DIST OF COLUMBIA																																				
WASH NATL AP	65.2	48.1	56.7	95	SEP. 3	4	FEB. 2	4423	41.94	2.40	AUG. 23	34.1	8.3	FEB. 3- 4	75	78	56	63	8.5	S	57	SW	FEB. 25	60	5.9	107	109	149	111	6	29	16	36	13	69	0
FLORIDA																																				
APALACHICOLA U	75.1	61.3	68.2	94	AUG. 1	26	JAN. 22	1187	41.67	3.45	AUG. 24-25	.0	.0						7.7		39	W	APR. 12	74	5.2	136	114	115	94	0	58	25	13	0	5	0
DAYTONA BEACH	79.2	60.3	69.8	95	AUG. 1	27	DEC. 30+	843	40.06	2.92	AUG. 28-29	.0	.0		85	87	60	74	8.7	SE	40	WSW	MAY 26		6.0	90	126	149	87	0	81	29	21	0	8	0
FORT MYERS	85.1	64.3	74.7	96	JUL. 30	33	DEC. 26	302	54.74	3.69	AUG. 27-28	.0	.0		83	85	54	70	8.0		31	SW	AUG. 1		5.4	108	157	100	92	0	90	18	147	0	0	0
JACKSONVILLE	79.7	59.3	69.5	99	JUL. 31	24	DEC. 30+	1120	38.15	3.23	AUG. 18-19	T	T	JAN. 29	85	88	53	70	10.1	SW	48	SW	APR. 12	59	5.7	104	123	138	105	0	54	33	79	0	10	0
KEY WEST	82.7	73.1	77.9	93	AUG. 20	51	DEC. 26	71	22.54	4.00	JUN. 27-28	.0	.0		77	78	65	72	11.0	ESE	49	SE	SEP. 7	72	5.4	100	171	94	87	0	45	0	45	0	0	0
LAKELAND U	81.7	62.8	72.3	98	AUG. 1	30	JAN. 22	551	35.83	3.25	DEC. 18-19	.0	.0						7.1					68	5.6	96	161	108	105	0	99	20	86	0	1	0

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow, Sleet: Total	Snow, Sleet: Greatest in 24 hours	Snow, Sleet: Date (s)	Relative humidity: 1:00 a.m. EST	Relative humidity: 7:00 a.m. EST	Relative humidity: 1:00 p.m. EST	Relative humidity: 7:00 p.m. EST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-3	Number of days: Sunrise to sunset: Partly cloudy, 4-7	Number of days: Sunrise to sunset: Cloudy, 8-10	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 90°F and above	Number of days: Max temp: 32°F and below	Number of days: Min temp: 32°F and below	Number of days: Min temp: 0°F and below
FLORIDA	°F	°F	°F	°F		°F		Base 65 °F	In	In		In	In		%	%	%	%	M.p.h.		M.p.h.			%	Tenths											
MIAMI BEACH	81.5	72.0	76.8	91	APR. 28+	42	DEC. 30+	112	28.37	4.49	MAY 27	.0	.0						8.1		37	W	MAY 26	69	5.1	115	160	90	106	0	0	0	3	0	0	0
MIAMI	83.1	68.7	75.9	93	AUG. 2	39	DEC. 30+	182	41.70	4.07	JUN. 27-28	.0	.0		79	82	58	69	9.6	ESE	37	NW	MAY 24		5.9	80	169	116	109	0	66	4	54	0	0	0
ORLANDO	83.5	62.0	72.8	100	JUL. 31+	29	DEC. 30+	551	41.78	4.59	SEP. 16-17	.0	.0		85	89	51	66	8.5	NNE	46	SE	JUL. 26		5.5	101	151	113	84	0	69	26	119	0	2	0
PENSACOLA U	74.8	59.9	67.4	95	AUG. 29	25	JAN. 22	1391	72.92	5.64	JUN. 20-21	.0	.0								38	SE	MAR. 18	61					126	0	62	1	26	0	10	0
TALLAHASSEE	78.0	55.5	66.8	96	SEP. 5+	17	DEC. 30	1527	47.09	3.39	AUG. 29-30	.0	.0		89	91	56	69	8.3	S	40	WSW	AUG. 5+		5.7	98	128	139	111	0	87	44	66	0	22	0
TAMPA	82.6	63.3	73.0	97	AUG. 14	31	JAN. 22	517	35.04	2.93	DEC. 18-19	.0	.0		82	86	55	69	10.9	ENE	38	ESE	AUG. 9	66	5.7	101	137	127	101	0	89	17	99	0	1	0
WEST PALM BEACH	83.5	66.7	75.1	95	SEP. 14+	34	DEC. 30	248	37.76	2.20	JAN. 8- 9	.0	.0		81	84	58	70	10.2	ESE	35	E	OCT. 29+		6.1	75	153	137	102	0	56	7	96	0	0	0
GEORGIA																																				
ATHENS	71.7	49.7	60.7	96	AUG. 1	11	JAN. 22	3005	59.91	2.85	DEC. 11-12	1.0	1.0	JAN. 25-26	83	88	58	67	7.2	W	52	SSW	FEB. 25		5.7	116	106	143	106	1	45	31	43	2	55	0
ATLANTA	70.0	50.2	60.1	92	AUG. 2+	10	JAN. 22	3042	58.60	5.67	FEB. 24-25	1.1	1.0	DEC. 31	76	81	57	62	10.5	NW	46	WSW	APR. 17+	61	5.6	117	110	138	113	1	48	36	7	3	49	0
AUGUSTA	75.4	51.0	63.2	99	JUL. 31	10	JAN. 22	2462	46.35	3.59	AUG. 19-20	.2	.2	JAN. 26	85	89	53	67	6.3	WNW	46	NNE	JUN. 11		5.9	103	108	154	94	0	57	31	71	1	51	0
COLUMBUS	75.4	51.7	63.6	97	AUG. 3	12	JAN. 22	2343	50.98	4.02	MAR. 30-31	T	T	JAN. 28+		88	54	64	8.2		35	S	MAY 1+		5.7	118	102	145	100	0	48	22	70	0	46	0
MACON	76.1	53.0	64.6	99	AUG. 1+	15	JAN. 22	2173	46.49	2.78	MAR. 30-31	.6	.6	JAN. 26	80	87	51	59	8.2	WNW	70	S	AUG. 8	64	5.7	117	105	143	109	0	51	33	71	0	37	0
ROME	71.4	46.6	59.0	96	AUG. 1+	5	JAN. 22	3413	57.72	5.81	DEC. 11-12	1.6	1.1	JAN. 26		86	54								5.9	104	104	157	117	1	51	22	38	2	80	0
SAVANNAH	76.6	54.9	65.8	99	JUL. 31	17	JAN. 22	1861	49.00	3.66	APR. 15-16	T	T	JAN. 25	87	89	55	71	8.6	SW	47	NW	SEP. 5	66	5.5	112	125	128	110	0	68	40	66	0	33	0
THOMASVILLE U	78.3	56.9	67.6	97	AUG. 1+	20	JAN. 22	1436	45.68	3.79	APR. 11-12	.0	.0																102	0	71	17	84	0	16	0
HAWAII																																				
HILO	81.3	65.8	73.6	91	OCT. 19	55	JAN. 24	0	119.70	8.72	OCT. 27-28	.0	.0		83	87	81	65	8.5	WSW	30*	ESE	JUN. 30+	38	7.2	34	141	190	287	0	11	0	1	0	0	0
HONOLULU U	80.8	71.4	76.1	87	OCT. 6	61	JAN. 1	0	18.40	3.34	JAN. 25-26	.0	.0		69	74	71	56	11.6	ENE	42	SE	DEC. 5	81	5.6	91	179	95	147	0	1	0	0	0	0	0
LIHUE	82.4	69.6	76.0	86	SEP. 11+	56	JAN. 18	0	34.89	4.20	DEC. 5- 6	.0	.0		76	80	77	65	12.4	NE	49	NE	MAY 21	67	6.2	58	178	129	215	0	8	0	0	0	0	0
IDAHO																																				
BOISE	64.2	40.0	52.1	110	AUG. 4	4	DEC. 11+	5637	9.18	.69	MAR. 23	13.9	2.2	DEC. 7	58	66	52	42	8.1	SE	38	SW	DEC. 20	69	5.7	124	86	155	81	6	15	23	64	9	125	0
IDAHO FALLS 42NW R	58.4	27.9	43.2	100	AUG. 4	-27	DEC. 11	8330	7.98	.75	SEP. 17+																		68				49	40	222	32
IDAHO FALLS 46W R	58.3	29.8	44.1	98	AUG. 4	-13	DEC. 11	8021	10.04	1.55	SEP. 18	19.9	5.2	FEB. 2- 3					7.6	SW	39A	WSW	APR. 13						67	5	13	9	42	34	217	18
LEWISTON	63.9	41.9	52.9	115	AUG. 4	- 3	DEC. 11	5329	12.91	.81	NOV. 24-25	28.4	8.3	NOV. 24-25		73	59	47							6.6	89	84	192	112	9	17	22	55	12	91	2
POCATELLO	60.1	35.7	47.9	101	AUG. 4	- 8	JAN. 3	6834	11.58	1.30	OCT. 20-21	42.4	7.0	OCT. 28	62	72	53	44	10.7	SW	57	W	SEP. 1	65	6.4	91	97	177	108	13	27	8	45	23	169	5
ILLINOIS																																				
CAIRO U	66.7	49.9	58.3	95	JUL. 4	5	JAN. 21	3932	60.63	5.91	JUN. 14-15	7.5	1.5	FEB. 2+		82	62		8.6	SS	49	SW	MAY 7	63	6.1	100	111	154	126	4	55	10	34	11	58	0
CHICAGO O HARE	58.3	38.6	48.5	93	AUG. 27	- 8	JAN. 25	6649	36.78	2.92	SEP. 13-14	31.5	7.7	DEC. 22-23	80	84	63	67	10.3	SSW	44*	WSW	DEC. 12		6.3	96	99	170	118	9	36	23	9	44	145	11
CHICAGO MIDWAY	59.2	42.5	50.9	95	AUG. 31+	- 3	DEC. 28	6083	42.90	2.63	SEP. 13-14	44.2	11.6	DEC. 22-23	74	79	58	61	11.0	S	47	SW	MAR. 27	54	6.3	95	92	178	132	12	44	11	16	36	121	7
MOLINE	60.0	39.7	49.9	96	JUN. 29+	-10	DEC. 28	6416	45.90	6.29	SEP. 12-13	24.4	6.9	DEC. 22-23	79	83	60	64	9.0	WNW	44	SW	SEP. 1	59	6.3	88	103	174	115	8	49	20	24	42	135	18
PEORIA	59.1	39.7	49.4	94	JUN. 29	- 9	DEC. 28	6429	39.45	4.15	SEP. 12-13	21.9	5.3	FEB. 2- 3	82	86	65	67	10.1	S	43	SW	MAR. 27	56	6.2	97	103	165	112	8	51	28	11	45	136	11
ROCKFORD	58.1	38.6	48.4	94	JUN. 29	-10	DEC. 28	6771	40.39	5.56	SEP. 13	27.5	7.6	MAR. 8	82	86	59	64	9.7	WNW	52*	SSW	SEP. 1		6.1	96	105	164	115	10	52	27	18	51	149	12
SPRINGFIELD	62.0	42.1	52.1	95	JUN. 29	- 5	DEC. 28+	5718	37.91	2.29	APR. 24-25	27.4	6.5	FEB. 2- 3	79	83	61	66	11.8	SSW	65	SW	MAR. 27	58	6.1	111	83	171	115	11	55	22	20	37	122	9
INDIANA																																				
EVANSVILLE	66.3	45.0	55.7	94	SEP. 24+	-13	JAN. 28	4602	47.38	6.05	MAY 7- 8	19.3	4.3	FEB. 25	81	84	60	63	9.0	NW	47	NW	MAY 7	63	6.2	101	92	172	124	5	42	16	38	17	90	3
FORT WAYNE	59.0	40.6	49.8	94	JUL. 1	- 9	DEC. 31+	6314	36.16	1.59	FEB. 24-25	29.5	5.3	APR. 9-10	80	83	65	66	11.9	SW	57	SW	MAR. 6	56	6.5	77	120	168	134	9	43	21	5	43	134	11

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow, Sleet: Total	Snow, Sleet: Greatest in 24 hours	Snow, Sleet: Date (s)	Relative humidity: 1:00 a.m. E.S.T.	Relative humidity: 7:00 a.m. E.S.T.	Relative humidity: 1:00 p.m. E.S.T.	Relative humidity: 7:00 p.m. E.S.T.	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-3	Number of days: Sunrise to sunset: Partly cloudy, 4-7	Number of days: Sunrise to sunset: Cloudy, 8-10	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp 90°F and above	Number of days: Max temp 32°F and below	Number of days: Min temp 32°F and below	Number of days: Min temp 0°F and below
INDIANA	°F	°F	°F	°F		°F		Base 65 °F	In	In.		In.	In		%	%	%	%	M.p.h.		M.p.h.			%	Tenths											
INDIANAPOLIS	60.7	41.6	51.2	92	JUL. 31	-10	JAN. 28	5807	46.64	3.53	MAY 7- 8	27.7	6.6	FEB. 25	83	88	66	68	8.5	SW	40	N	MAR. 9+	57	6.5	80	105	180	128	9	40	31	12	36	122	10
SOUTH BEND	58.0	39.9	49.0	93	JUN. 30+	-16	JAN. 25	6511	33.78	1.49	AUG. 22-23	57.5	8.9	JAN. 20-21	82	86	63	68	10.8	SSW	51*	SSW	MAR. 27		6.8	68	109	188	151	17	50	25	7	42	138	10
IOWA																																				
BURLINGTON	60.5	40.1	50.3	96	JUL. 4	-10	JAN. 27	6207	41.80	5.96	SEP. 12-13	36.4	8.7	FEB. 2- 3	79	84	60	64	10.7	S	48	SW	MAR. 27	66	6.0	105	103	157	119	15	53	14	17	40	134	11
DES MOINES	58.2	39.0	48.6	97	JUN. 30	-14	DEC. 13	6727	42.88	4.47	SEP. 11-12	58.1	11.0	DEC. 22-23	81	86	65	65	10.8	S	50	SW	JUL. 12	59	6.2	102	90	173	130	17	50	25	15	52	154	16
DUBUQUE	55.5	37.2	46.4	91	JUN. 29	-16	DEC. 28	7285	63.39	6.28	JUN. 30 JUL. 1	49.4	12.1	MAR. 7- 8		82	61	65							6.3	99	87	179	113	12	48	27	2	57	154	18
SIOUX CITY	58.2	37.3	47.8	104	JUN. 30	-17	DEC. 20+	7044	31.49	4.28	AUG. 21	46.7	7.9	FEB. 17-18	75	80	61	59	11.2	NW	47	NW	APR. 5	62	6.0	113	86	166	97	13	36	21	15	56	157	23
WATERLOO	56.6	36.6	46.6	94	JUN. 29	-26	DEC. 13	7305	47.36	3.08	SEP. 12-13	43.3	8.0	MAR. 7- 8	86	89	65	69	9.0	S	40*	NNW	JUL. 1		6.2	94	107	164	115	14	42	21	13	51	156	22
KANSAS																																				
CONCORDIA U	62.8	42.8	52.8	103	JUL. 18	- 7	DEC. 13	5615	35.12	3.14	SEP. 11-12	28.4	5.5	APR. 8	73	79	58	55	7.4	SS	34	N	JAN. 20	67	5.3	135	97	133	97	10	66	10	40	28	112	5
DODGE CITY	65.8	41.6	53.7	101	JUL. 18	- 7	DEC. 12	5192	21.34	2.30	AUG. 12-13	9.7	2.1	FEB. 4- 5	72	80	52	49	12.7	SSW	54	NW	DEC. 22+	69	5.3	137	99	129	86	4	51	13	51	20	137	3
GOODLAND	63.3	35.7	49.5	102	JUN. 29	-19	DEC. 12	6415	18.74	1.53	JUL. 11	37.4	5.1	APR. 7- 8	82	51	51	75	12.0	NNW	58*	NW	JUL. 11+		5.2	139	100	126	77	14	56	35	45	29	176	6
TOPEKA	63.4	41.3	52.4	100	JUL. 18	-12	DEC. 13	5578	41.66	2.85	SEP. 12-13	25.5	4.9	DEC. 8- 9	82	86	61	61	12.3	S	67	SE	MAY 5	61	6.1	101	99	165	101	9	62	26	28	24	133	6
WICHITA	65.3	44.6	55.0	102	AUG. 10	- 2	DEC. 13	4931	39.27	2.93	JUL. 20-21	23.2	4.4	FEB. 4- 5	79	85	62	60	12.1	S	59	W	MAR. 27	63	5.6	125	92	148	90	8	62	19	42	18	105	2
KENTUCKY																																				
LEXINGTON	64.0	45.0	54.5	91	SEP. 10+	- 8	JAN. 28	4822	46.99	2.82	MAY 7- 8	20.0	3.5	FEB. 25	83	87	62	69	9.8	S					6.2	101	92	172	133	9	46	13	12	24	91	4
LOUISVILLE	64.8	44.6	54.7	94	AUG. 1+	- 8	JAN. 28	4797	50.04	4.60	MAY 7	27.1	9.5	FEB. 25	81	87	64	65	7.7	S	43	W	APR. 25	52	6.3	91	102	172	125	6	45	8	26	22	94	2
LOUISIANA																																				
ALEXANDRIA	74.8	52.3	63.6	94	JUL. 18	18	DEC. 29+	2285	72.30	5.37	JAN. 6- 7	T	T	JAN. 28+	92	94	62	71	6.4	S					5.8	109	103	153	122	0	88	39	35	3	44	0
BATON ROUGE	76.0	55.2	65.6	93	JUL. 26	21	JAN. 29	1802	73.92	4.51	FEB. 17	.0	.0		89	93	65	71	8.9	NE					6.0	97	113	155	124	0	97	36	30	1	27	0
BURWOOD R	75.3	64.7	70.0	91	AUG. 2+	32	JAN. 22	906	57.96	5.09	MAR. 19	T	T	JAN. 28	86	88	74	79	10.8	S									91		63		9	0	1	0
LAKE CHARLES	76.3	58.5	67.4	94	SEP. 5+	25	JAN. 29	1559	63.60	10.99	NOV. 12-13	T	T	JAN. 25	86	89	63	69	6.8	S	51*	SSW	NOV. 22		6.1	96	104	165	113	0	71	49	52	0	18	0
NEW ORLEANS U	76.8	62.3	69.6	94	AUG. 2+	30	JAN. 29	1134	81.16	4.47	FEB. 20-21	.0	.0						6.7	S	27	SE	MAY 24+	60	5.3	111	157	97	136	0	89	7	50	0	3	0
NEW ORLEANS	76.7	57.8	67.3	94	AUG. 2	22	JAN. 22	1447	83.54	5.60	FEB. 21-22	T	T	JAN. 25	87	90	67	74	8.1	ENE	31*	E	AUG. 3		5.6	110	113	142	140	0	90	28	32	0	13	0
SHREVEPORT	74.2	54.3	64.3	94	SEP. 2	21	JAN. 29+	2248	57.50	5.39	SEP. 12-13	.8	.8	JAN. 28	83	89	61	63	10.8	S				64	5.7	112	107	146	109	0	58	22	55	3	28	0
MAINE																																				
CARIBOU	48.6	29.7	39.2	89	JUL. 23	-29	JAN. 24	9469	38.16	2.43	SEP. 25-26	145.6	15.6	JAN. 1- 2	83	82	64	73	10.7	NW	44	WNW	DEC. 15		7.3	48	107	210	172	38	29	36	0	100	191	44
PORTLAND	55.1	34.5	44.8	91	SEP. 12+	-22	FEB. 2	7553	38.75	2.48	SEP. 25-26	86.9	10.6	MAR. 14	84	83	61	75	9.0	N	42	E	MAR. 9	58	6.4	88	108	169	189	20	15	68	4	49	164	22
MARYLAND																																				
BALTIMORE	65.3	49.7	57.5	97	JUL. 22	6	FEB. 2	4306	40.05	2.05	AUG. 23																		108				41	47	63	0
BALTIMORE U	64.9	44.1	54.5	95	JUL. 23+	- 1	JAN. 29+	4954	42.75	2.40	OCT. 21-22	41.1	10.7	FEB. 3- 4	77	79	56	65	10.1	W	65	SW	MAY 9	62	5.6	114	118	133	125	12	25	33	30	18	104	3
FREDERICK	62.8	41.7	52.3	94	JUL. 23	-11	FEB. 2	5542	40.07	2.90	SEP. 8	62.7	16.0	FEB. 3- 4															126	17		13	29	27	123	
MASSACHUSETTS																																				
BLUE HILL OBS R	56.9	40.2	48.6	92	SEP. 12	-12	FEB. 2	6471	50.66	5.86	SEP. 20-21	79.0	16.8	DEC. 24-25	80	80	58	69	14.9	NNW	67	NE	FEB. 4	53					130	17			4	44	129	5
BOSTON	58.5	43.5	51.0	95	JUN. 13	- 4	FEB. 2	5821	47.84	3.08	SEP. 25-26	56.9	14.4	FEB. 4	75	75	58	66	12.7	WNW	49	ENE	FEB. 4	60	6.3	88	109	168	122	13	14	45	14	33	105	2
NANTUCKET	54.8	43.0	48.9	84	JUL. 26	0	FEB. 2	6030	49.82	2.65	JUL. 25+	43.8	16.0	JAN. 19-20	85	83	71	82	13.7	WSW	56	E	FEB. 4	50	6.9	78	90	197	122	9	16	129	0	28	95	1
PITTSFIELD	55.2	35.1	45.2	89	SEP. 4+	-17	JAN. 23	7546	33.48	1.42	NOV. 6- 7	90.8	9.1	FEB. 4															156	24			0	54	168	20

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Greatest in 24 hours	Precipitation: Snow, Sleet: Date (s)	Relative humidity: 1:00 a.m. E.S.T.	Relative humidity: 7:00 a.m. E.S.T.	Relative humidity: 1:00 p.m. E.S.T.	Relative humidity: 7:00 p.m. E.S.T.	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-3	Number of days: Sunrise to sunset: Partly cloudy, 4-7	Number of days: Sunrise to sunset: Cloudy, 8-10	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 90°F and above	Number of days: Max temp: 32°F and below	Number of days: Min temp: 32°F and below	Number of days: Min temp: 0°F and below
MASSACHUSETTS	°F	°F	°F	°F		°F		Base 65 °F	In	In		In	In		%	%	%	%	M.p.h		M.p.h			%	Tenths											
WORCESTER	55.0	38.8	46.9	89	JUN. 13	-10	FEB. 2	6992	46.18	3.96	SEP. 20-21	109.4	18.8	FEB. 4	78	76	60	68	9.1	W	40	NE	FEB. 4		6.4	78	126	161	124	19	18	99	0	56	151	9
MICHIGAN																																				
ALPENA	53.8	31.3	42.6	93	JUN. 29	-18	FEB. 2+	8401	25.29	2.54	SEP. 13-14	52.1	11.0	MAR. 8- 9		82	61	70	7.5	SWS	39	NW	JUN. 2	51	6.9	61	115	189	132	18	40	17	3	63	199	25
DETROIT	58.3	41.8	50.1	94	JUN. 30	- 5	FEB. 2	6175	35.02	2.18	AUG. 4- 5	17.5	2.9	FEB. 11	76	79	61	65	10.4	W	41	W	JUL. 23+	51	6.7	72	101	192	127	7	35	14	8	39	122	4
DETROIT M WAYNE CO	58.3	39.9	49.1	93	JUL. 1+	- 5	JAN. 25	6414	37.28	2.37	AUG. 4- 5	21.1	4.2	APR. 16-17	81	83	60	67	10.3	WSW					6.7	79	100	186	126	9	40	26	6	36	134	7
DETROIT WILLOW RUN	59.0	39.5	49.3	96	JUN. 30	- 7	FEB. 2	6431	33.80	2.20	SEP. 23-24	18.8	3.7	APR. 16-17	81	84	58	67	10.9	SW	46*	ENE	MAR. 8		6.8	73	104	188	116	9	38	30	8	38	145	6
ESCANABA U	50.5	35.2	42.9	94	JUN. 29	-11	JAN. 23	8230	27.57	1.63	APR. 16	44.4	8.9	DEC. 11-12	79	81	67	71	10.1	S	52	NE	OCT. 19	52	6.4	82	120	163	121	14	22	6	3	73	153	16
FLINT	56.8	37.2	47.0	92	JUN. 30	- 9	JAN. 25	7007	30.54	2.23	AUG. 19	33.8	4.1	FEB. 25	83	84	61	70	9.2	SW	40*	WSW	MAR. 6		7.0	67	96	202	133	10	47	25	5	45	152	10
GRAND RAPIDS	57.5	39.0	48.3	92	J'N. 30	-14	JAN. 25	6667	29.63	3.52	SEP. 25	74.7	12.0	APR. 16-17	79	81	60	64	9.8	WNW	40	SW	MAR. 27	51	6.9	73	95	197	137	23	42	21	6	42	144	7
LANSING	57.3	37.1	47.2	92	JUN. 30	-10	FEB. 2+	6950	27.35	1.73	SEP. 25	31.1	5.3	APR. 16-17	81	82	61	67	12.7	W	59	NW	JUN. 13+	57	6.8	63	104	198	124	10	39	27	3	47	159	11
MARQUETTE U	50.6	35.4	43.0	93	AUG. 31+	- 9	FEB. 3	8216	27.61	1.61	APR. 16	112.4	14.2	DEC. 11-12		76	64	68	8.1	WS	37	SW	OCT. 11+	57	7.0	63	101	201	147	27	23	17	6	82	164	12
MUSKEGON	55.6	39.5	47.6	91	JUN. 30	- 4	FEB. 2	6758	30.53	1.89	SEP. 13-14	84.3	11.0	APR. 16	76	79	65	66	9.9	W	40*	SSW	SEP. 22		6.7	79	100	186	137	24	40	29	1	47	136	4
SAULT STE MARIE	49.6	31.9	40.8	89	JUN. 29	-18	FEB. 2+	8917	25.51	3.58	JUN. 22-23	79.6	7.5	DEC. 12	83	85	65	71	9.6	WNW	32*	NW	MAY 9+	48	7.1	62	91	212	149	27	33	55	0	83	176	26
MINNESOTA																																				
DULUTH	49.9	29.8	39.9	95	AUG. 30	-28	JAN. 24	9353	23.48	1.70	MAR. 26-27	63.4	11.2	APR. 14-15	76	80	61	61	10.9	WNW	46	NE	MAY 14	57	6.7	82	92	191	118	22	29	50	8	86	203	34
INTERNATIONAL FALLS	49.5	27.2	38.4	96	JUN. 28	-35	JAN. 24	9843	24.65	2.80	SEP. 1	42.7	4.4	APR. 15	78	81	60	62	8.0	NW	31*	SE	APR. 20		6.5	78	104	183	124	12	35	28	5	96	204	49
MINNEAPOLIS	54.4	33.9	44.2	98	JUN. 28	-21	JAN. 24	8123	25.74	1.70	AUG. 18	56.8	7.8	MAR. 5- 6	78	84	62	63	9.5	S	40	S	MAY 11	58	6.3	88	106	171	101	18	32	15	12	64	175	34
ROCHESTER	53.1	34.5	43.8	92	JUN. 30	-20	JAN. 24	8151	30.29	2.21	JUN. 30 JUL. 1	56.4	8.4	DEC. 11-12	82	85	68	69	11.6	S					6.3	97	96	172	118	13	42	42	5	76	174	24
ST CLOUD	53.8	32.0	42.9	94	SEP. 2+	-24	JAN. 24	8519	20.85	1.38	AUG. 18+	35.7	6.8	DEC. 8- 9	79	83	58	60							6.3	91	108	166	94	13	33	20	15	68	189	34
MISSISSIPPI																																				
JACKSON	74.4	52.7	63.6	94	AUG. 30	19	JAN. 29+	2402	65.07	3.60	NOV. 13	T	T	FEB. 25+	82	88	59	64	5.6	S	40	N	DEC. 17+	55	5.7	108	114	143	130	0	81	14	61	4	43	0
MERIDIAN	75.1	51.1	63.1	96	AUG. 3	13	JAN. 22	2480	69.01	5.61	FEB. 21-22	T	T	DEC. 8+	91	94	60	69	6.8	SSW	32	E	JUN. 30		5.7	109	118	138	119	0	68	36	70	1	48	0
VICKSBURG U	72.7	55.0	63.9	92	SEP. 4+	19	JAN. 29	2268	64.84	3.84	DEC. 16-17	T	T	DEC. 14+					8.1		56	W	APR. 3	56	5.8	111	104	150	123	0	81	14	21	4	27	0
MISSOURI																																				
COLUMBIA	63.4	43.6	53.5	94	SEP. 2	- 4	JAN. 27	5202	46.85	3.47	SEP. 12-13	21.2	4.1	DEC. 8- 9	80	85	61	63	10.6	SSE	47	NW	MAY 25	59	5.8	115	89	161	112	7	62	16	21	25	100	5
KANSAS CITY	63.3	44.6	54.0	95	JUL. 18	- 5	JAN. 27	5095	60.25	5.44	SEP. 12-13	23.3	8.0	DEC. 22-23	71	77	58	57	9.4	SW	43	NE	JUN. 13+	62	6.0	107	96	162	108	4	60	10	24	22	101	2
ST JOSEPH	62.3	41.3	51.8	97	JUL. 1	-12	DEC. 13	5791	53.39	4.46	SEP. 12-13	25.3	4.5	DEC. 8- 9					11.5	S	46*	NW	OCT. 29		5.7	127	90	148	112	8	50	28	29	33	134	10
ST LOUIS	63.9	43.7	53.8	93	SEP. 10+	- 6	JAN. 25	5152	41.20	2.90	MAY 7- 8	26.6	7.8	FEB. 2	72	78	56	59	10.0	S	41	S	NOV. 2	57	6.2	97	102	166	113	10	44	14	27	19	105	4
ST LOUIS RFC	64.7	48.1	56.4	95	JUL. 29	- 1	JAN. 21	4519	44.72	4.09	MAY 7- 8	26.8	10.0	FEB. 2															110	8			31	17	69	1
SPRINGFIELD	65.8	43.6	54.7	95	AUG. 29+	1	JAN. 28+	4807	44.25	2.87	MAR. 5	16.6	8.8	FEB. 7	80	84	60	63	11.8	SSE	59	SE	NOV. 21	59	6.1	101	102	162	109	5	57	31	38	13	104	0
MONTANA																																				
BILLINGS	60.6	37.8	49.2	105	AUG. 5	-17	DEC. 11	6616	13.52	1.46	SEP. 9-10	51.8	8.6	NOV. 14-15	54	62	47	41	12.1	WSW	58	NW	MAY 10	67	6.1	90	118	157	84	18	24	16	19	30	151	7
GLASGOW	56.1	32.3	44.2	102	AUG. 5	-22	DEC. 19	8290	8.89	1.14	JUL. 29-30	17.9	3.2	OCT. 28	67	74	54	49							6.2	83	123	159	71	5	21	11	41	57	187	29
GREAT FALLS	58.6	34.8	46.7	106	AUG. 5	-20	DEC. 10	7156	10.48	.82	MAY 30-31	38.5	6.4	NOV. 25+	57	65	47	42	11.4	SW	56	SW	JUN. 29+	64	6.3	83	118	164	89	12	20	10	26	32	164	11
HAVRE	58.4	31.1	44.8	111	AUG. 5	-35	DEC. 12+	7934	7.43	.91	SEP. 10-11	15.4	4.0	DEC. 5		72	52		9.2	SWS	71	NW	JUL. 28	71	5.8	111	97	157	83	5	13	2	42	42	193	25
HELENA	58.3	33.2	45.8	103	AUG. 5	-22	DEC. 11	7467	8.16	.59	MAR. 26-27	31.5	5.8	MAR. 26-27	58	68	50	42	8.7	W	58	W	JUL. 5	62	6.2	96	103	166	93	8	33	1	28	34	185	10
KALISPELL	55.8	32.1	44.0	105	AUG. 4	-14	DEC. 11+	7925	16.40	.75	JUL. 4- 5	79.3	8.6	DEC. 19+			64								6.8	80	82	203	128	23	28	24	28	42	191	10

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Greatest in 24 hours	Precipitation: Snow, Sleet: Date (s)	Relative humidity: 1:00 a.m. E.S.T.	Relative humidity: 7:00 a.m. E.S.T.	Relative humidity: 1:00 p.m. E.S.T.	Relative humidity: 7:00 p.m. E.S.T.	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-3	Number of days: Sunrise to sunset: Partly cloudy, 4-7	Number of days: Sunrise to sunset: Cloudy, 8-10	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 90°F and above	Number of days: Max temp: 32°F and below	Number of days: Min temp: 32°F and below	Number of days: Min temp: 0°F and below
	°F	°F	°F	°F		°F		Base 65 °F	In	In.		In	In		%	%	%	%	M.p.h		M.p.h			%	Tenths										
MONTANA																																			
MILES CITY	59.7	35.6	47.7	105	AUG. 3	-16	DEC. 12	7323	9.97	1.23	MAY 22-23	17.4	3.0	MAR. 4	65	71	52	47	10.0	NW	46*	WNW	FEB. 25		5.8	110	109	146	82	11	23	3	59	43	173	18
MISSOULA	56.6	31.7	44.2	105	AUG. 4	-15	DEC. 11	7898	14.10	.97	MAY 4- 5	58.6	6.5	MAY 4- 5	74	84	66	54	6.4	NW	42	NW	NOV. 1+	54	6.9	81	73	211	138	20	25	32	40	47	206	10
NEBRASKA																																			
GRAND ISLAND	62.0	37.4	49.7	106	JUN. 30	-12	DEC. 15+	6545	26.04	2.95	MAY 21-22	35.4	8.7	DEC. 11	74	79	54	53	11.9	S					5.4	135	80	150	88	9	44	17	43	38	160	16
LINCOLN U	61.1	40.6	50.9	105	JUN. 30	-12	JAN. 27	6179	31.60	2.23	OCT. 9-10	31.4	8.7	DEC. 10-11					10.3	SS	50	NE	NOV. 15	65	5.8	109	111	145	95	10	47	12	38	45	133	14
NORFOLK	59.2	35.9	47.6	104	JUN. 30	-19	DEC. 13	7126	23.03	2.85	JUL. 31	38.8	5.8	FEB. 17-18		80	56	55							5.7	126	87	152	77	12	35	9	31	47	170	21
NORTH PLATTE	61.7	34.1	47.9	102	AUG. 4	-20	DEC. 12	6935	18.71	1.48	JUN. 13-14	45.0	8.9	MAR. 5	72	82	51	47	11.4	NNW	61	NW	MAY 31	63	5.8	119	92	154	85	13	40	18	41	31	180	12
OMAHA	60.3	40.1	50.2	101	JUN. 30	-12	JAN. 24	6341	37.84	3.36	MAY 30-31	42.3	8.9	DEC. 11	78	83	60	59	11.6	SSE	50	NW	APR. 15	60	5.8	113	102	150	105	12	47	20	27	44	140	14
OMAHA N OMAHA AP	58.2	38.7	48.5	100	JUN. 30	-16	JAN. 27	6785	31.53	3.18	OCT. 9-10	36.8	8.6	DEC. 12											6.1	100	103	162	103	10	49	16	14	51	151	18
SCOTTSBLUFF	61.8	34.0	47.9	101	JUN. 29	-10	DEC. 12	6879	14.18	1.45	MAY 13-14	35.7	4.9	MAR. 3	79	50	46	71	11.7	WNW	52*	W	APR. 23+		5.7	114	110	141	89	13	37	15	35	27	179	9
VALENTINE	60.8	33.2	47.0	104	JUN. 29	-14	JAN. 24	7249	14.48	1.60	JUN. 13-14	16.2	2.5	MAR. 7+	84	53	51	77	10.7	WS	57	S	SEP. 28	68	5.4	131	88	146	70	7	33	7	45	39	190	17
NEVADA																																			
ELKO	62.2	30.8	46.5	98	AUG. 4+	-12	DEC. 11	7176	7.60	1.34	AUG. 5- 6	35.7	3.9	MAR. 25	50	62	47	35	5.9	SW	30*	WNW	APR. 12		5.6	119	101	145	77	13	23	5	49	14	217	7
ELY	60.7	28.0	44.4	95	JUN. 21	-15	DEC. 11	7645	7.29	.53	JUN. 3- 4	52.1	6.1	MAR. 24-25	55	63	40	35	9.9	S	54	SE	MAY 31	82	5.6	108	123	134	71	24	39	1	23	15	232	7
LAS VEGAS	79.2	52.2	65.7	113	JUL. 10+	21	DEC. 13+	2598	3.17	.50	JUL. 2- 3	T	T	DEC. 15+	33	41	27	19	9.2	SW	58*	NNW	MAR. 17	85	3.5	211	93	61	27	0	22	0	126	0	39	0
RENO	68.3	30.8	49.6	101	AUG. 3+	- 9	DEC. 11	5928	5.37	.75	MAY 31	13.7	6.7	NOV. 19-20	54	70	44	30	5.4	SW	59	NW	DEC. 17	82	4.5	155	101	109	47	5	22	2	53	1	202	2
WINNEMUCCA	65.9	31.4	48.7	104	AUG. 4	-16	DEC. 11	6442	7.79	.79	SEP. 16-17	13.2	5.4	NOV. 19-20	54	65	44	33	7.5	S	59	W	FEB. 24	64	5.7	119	90	156	71	4	21	2	55	6	203	8
NEW HAMPSHIRE																																			
CONCORD	57.8	35.0	46.4	93	JUN. 13	-27	JAN. 24	7236	31.99	1.39	AUG. 29	70.5	9.5	NOV. 20-21	79	78	52	63	5.7	NW	33	NW	NOV. 25	55	6.2	91	123	151	107	18	16	62	13	41	165	24
MT WASHINGTON OBS	34.2	20.9	27.6	66	JUL. 24	-34	FEB. 1+	3572	60.08	2.49	NOV. 20-21	224.5	16.7	NOV. 20-21	85	84	83	84	30.1	W	131	NW	JAN. 25	37	7.3	63	86	216	173	57	16	321	0	164	239	62
NEW JERSEY																																			
ATLANTIC CITY	64.3	44.9	54.6	95	SEP. 3	- 8	JAN. 22+	5045	43.65	3.03	SEP. 20-21	24.7	10.7	JAN. 19-20	81	82	56	70	11.6	WNW	46	NW	SEP. 21+	57	6.1	91	118	156	122	5	25	56	26	16	93	3
NEWARK	62.5	46.2	54.4	98	JUN. 13	- 2	FEB. 2	5094	45.37	3.15	JUL. 2	63.5	20.0	FEB. 3- 4	72	73	54	61	9.9	SW	46	NNW	SEP. 21		5.9	102	117	146	124	12	24	22	34	24	84	1
TRENTON U	61.8	45.5	53.7	96	JUL. 23	- 2	FEB. 2	5175	45.67	3.07	JUL. 15	35.7	10.1	JAN. 19-20					9.0	NW	43	NW	DEC. 5	61	6.0	97	124	144	135	10	35		19	24	86	0
NEW MEXICO																																			
ALBUQUERQUE	68.6	42.4	55.5	99	JUN. 22	7	DEC. 12	4531	8.87	1.77	JUL. 8- 9	9.8	3.4	NOV. 14-15	47	59	39	29	8.2	N	54	NW	JUL. 20	82	4.1	183	106	76	58	4	39	2	58	3	113	0
CLAYTON	65.6	37.5	51.6	95	JUL. 18+	- 3	DEC. 12	5471	15.19	1.58	NOV. 14-15	24.7	12.7	NOV. 14-15		71	41	41							4.9	145	104	116	79	4	51	24	27	15	154	3
RATON	63.1	32.0	47.6	91	JUL. 30+	-20	DEC. 12	6503	17.78	1.31	MAY 22	28.5	4.9	NOV. 14-15			42								5.1	126	131	108	97	10	73	9	5	19	194	4
ROSWELL	75.8	39.9	57.9	103	AUG. 7+	- 1	NOV. 15	3997	7.85	1.03	NOV. 13-14	19.7	9.6	NOV. 13-14	59	74	41	33	8.8		45	W	APR. 11		4.4	163	111	91	47	5	31	21	118	6	138	1
SILVER CITY	72.0	42.6	57.3	101	AUG. 8	17	FEB. 6	3826	10.78	1.50	JUN. 15	5.8	4.1	NOV. 14			34	30							3.8	189	112	64	65	1	65	1	59	0	110	0
NEW YORK																																			
ALBANY	57.3	37.9	47.6	93	JUL. 2	-18	FEB. 2	6962	35.72	3.28	AUG. 25-26	74.0	10.3	MAR. 8-09+	82	82	59	69	8.2	S	48	S	SEP. 2	55	6.9	71	99	195	135	13	30	33	10	51	151	21
BINGHAMTON	57.7	39.5	48.6	93	JUN. 13	-19	FEB. 2	6682	32.93	1.98	APR. 24	68.7	18.3	FEB. 4	81	84	67	71	9.4	WNW	40	E	APR. 16	50	7.3	38	116	211	149	16	34	73	9	48	134	12
BUFFALO	55.7	39.0	47.4	89	SEP. 14+	-20	FEB. 2	6940	37.12	2.12	SEP. 13-14	89.4	17.8	DEC. 3	82	81	67	73	10.0	SW	43	SW	FEB. 19	49	7.4	44	104	217	177	28	32	30	0	56	139	5
NEW YORK C. P.	62.7	47.4	55.1	97	JUL. 22	- 2	FEB. 2	4892	39.32	2.62	FEB. 3- 4	43.8	17.4	FEB. 3- 4	69	72	54	60	9.1	NW	47	NE	FEB. 4	57	5.3	137	115	113	119	9	11		29	22	74	1
NEW YORK LAG	61.1	47.6	54.4	97	JUN. 13	- 1	FEB. 2	4974	45.32	2.32	FEB. 3- 4	46.8	17.4	FEB. 3- 4	72	73	57	63	13.3		59	NE	APR. 13		6.1	88	133	144	124	12	19	20	14	25	68	1
ROCHESTER	57.0	39.1	48.1	91	JUL. 23	-16	FEB. 2	6775	30.51	1.86	FEB. 25-26	80.8	9.0	FEB. 3- 4	83	83	63	72	11.8	WSW	55	W	APR. 26	51	7.1	56	104	205	151	25	33	14	5	50	135	7

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow, Sleet: Total	Snow, Sleet: Greatest in 24 hours	Snow, Sleet: Date (s)	Relative humidity: 1:00 a.m. E.S.T.	Relative humidity: 7:00 a.m. E.S.T.	Relative humidity: 1:00 p.m. E.S.T.	Relative humidity: 7:00 p.m. E.S.T.	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-3	Number of days: Sunrise to sunset: Partly cloudy, 4-7	Number of days: Sunrise to sunset: Cloudy, 8-10	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 90°F and above	Number of days: Max temp: 32°F and below	Number of days: Min temp: 32°F and below	Number of days: Min temp: 0°F and below
	°F	°F	°F	°F		°F		Base 65 °F	In	In		In	In		%	%	%	%	M.p.h		M.p.h.			%	Tenths											
NEW YORK																																				
SYRACUSE	57.2	39.4	48.3	92	JUL. 23	-19	FEB. 2	6732	37.58	2.00	JUL. 14	129.8	21.4	FEB. 3-4	79	80	60	67	10.3	WSW	49	NW	JUN. 10	46	7.0	61	109	195	165	33	31	18	7	53	137	9
NORTH CAROLINA																																				
ASHEVILLE U	65.9	45.0	55.5	90	SEP. 3+	3	JAN. 22	4194	45.32	3.03	AUG. 23-24	5.0	3.0	FEB. 3		84	55	65	7.8	NW	41	NW	FEB. 25	51	5.9	106	104	155	129	1	46	84	2	9	79	0
CAPE HATTERAS R	69.0	54.2	61.6	92	JUL. 26	23	JAN. 31+	2722	42.67	2.94	AUG. 4-5	T	T	JAN. 26+	84	83	66	80	12.6	WSW	61	SSW	APR. 10	66	5.8	110	105	150	112	0	48	12	3	1	26	0
CHARLOTTE	70.5	49.1	59.8	95	JUL. 31	8	JAN. 22	3328	43.84	2.88	FEB. 20-21	2.0	1.2	JAN. 26	78	85	54	61	6.7	SW	49	SW	FEB. 25	64	5.8	113	101	151	111	1	35	27	34	3	67	0
GREENSBORO	68.3	46.4	57.4	93	SEP. 3	8	JAN. 22	3942	43.80	2.14	MAY 10-11	2.5	.8	FEB. 3	82	84	53	6[illegible]	7.8	SW	43	SW	FEB. 25	64	5.7	114	111	140	126	0	46	30	22	5	88	0
RALEIGH	69.9	47.5	58.7	94	JUL. 31	7	JAN. 22	3637	41.11	1.90	AUG. 2	3.8	1.2	FEB. 3+	81	85	52	65	7.7	SSW	40	SE	APR. 9	62	5.6	127	96	142	118	3	44	3[illegible]	41	5	78	0
WILMINGTON	73.2	52.9	63.1	97	AUG. 1	18	JAN. 22	2532	52.26	3.52	APR. 9-10	T	T	FEB. 2+	88	89	58	76	9.6	SSW	48	SW	APR. 12	67	5.7	108	117	140	123	0	52	24	52	1	44	0
WINSTON-SALEM	68.2	48.0	58.1	93	JUL. 31	8	JAN. 22	3746	43.34	3.25	JUN. 20-21	2.8	.9	FEB. 7-8	72	75	50	58	9.1	SW	75	SSW	FEB. 25		5.5	120	98	147	124	0	46	31	23	5	69	0
NORTH DAKOTA																																				
BISMARCK	56.3	30.6	43.5	104	AUG. 29+	-24	JAN. 24	8366	11.13	1.50	JUN. 29-30	21.5	5.8	APR. 23	66	73	51	47	10.7	WNW	57	W	SEP. 2	68	6.3	94	102	169	82	3	29	16	43	64	189	38
DEVILS LAKE U	51.1	28.7	39.9	103	JUN. 27	-33	JAN. 24	9592	14.02	1.08	SEP. 21	35.7	5.0	DEC. 3-4		81	59	58	8.6	SS	33	NW	NOV. 6+	64	6.1	105	100	160	88	12	26	13	28	92	198	54
FARGO	53.6	31.1	42.4	99	AUG. 29+	-27	JAN. 24	8817	17.78	2.37	SEP. 9-10	13.7	2.7	DEC. 8-9	76	81	61	60	13.3	S	60	SW	JUN. 28	57	6.4	86	109	170	82	4	23	15	26	78	186	38
WILLISTON U	55.1	32.5	43.8	99	AUG. 5	-25	DEC. 19	8393	9.95	1.30	APR. 22-23	32.5	9.0	APR. 23		76	56	50	7.0	WS	47	SE	JUN. 29	66	6.3	86	121	158	68	8	17	6	36	65	186	32
OHIO																																				
AKRON	58.6	40.1	49.4	91	JUN. 12	-10	JAN. 25	6332	34.35	3.23	JUL. 18-19	61.6	5.9	APR. 17-18	83	85	62	69	11.0	SW					6.9	71	99	195	155	21	44	26	3	41	131	[illegible]
CINCINNATI	63.7	44.6	54.2	92	SEP. 5+	-3	JAN. 25	4973	43.87	2.76	MAY 7-8	30.2	5.6	DEC. 9	77	82	58	61	6.1	SSW	38	SW	APR. 25	55	7.0	71	97	197	136	11	45	24	21	23	99	2
CLEVELAND	58.9	40.4	49.7	92	JUL. 2	-7	JAN. 25	6220	35.36	2.71	AUG. 21	24.5	3.5	FEB. 3-4	79	79	63	68	10.8	S	43	NW	FEB. 25	54	7.0	62	99	204	142	9	35	11	5	40	130	6
COLUMBUS	61.6	41.9	51.8	94	JUL. 1	-13	JAN. 25	5658	34.83	1.69	JUN. 8-9	34.2	4.5	FEB. 3-4	82	84	62	66	7.9	S	40	NW	APR. 28	53	6.8	69	106	190	133	13	47	23	15	30	115	4
DAYTON	60.6	42.4	51.5	92	JUL. 1	-8	JAN. 25	5730	40.10	2.07	SEP. 1	31.6	4.1	DEC. 23+	79	84	61	66	10.2	SSW	59	NW	FEB. 25	51	6.7	77	100	188	133	12	43	19	5	33	115	7
MANSFIELD	58.1	40.3	49.2	89	SEP. 6+	-10	JAN. 25	6380	38.37	2.79	FEB. 25-26	31.2	4.3	FEB. 25-26		85	67								6.9	63	112	190	144	12	47	22	0	44	138	9
SANDUSKY U	59.8	42.9	51.4	95	JUL. 1	-7	JAN. 25	5843	41.38	3.45	SEP. 1	16.8	5.0	APR. 16-17					8.9		56	SW	APR. 16	61	5.8	99	122	144	120	6	49	17	18	34	111	8
TOLEDO	58.8	38.0	48.4	91	JUL. 1	-11	JAN. 25	6591	27.64	1.43	APR. 24-25	24.7	4.7	APR. 16-17	85	88	64	70	9.4	SW	47	W	JUN. 1	57	6.7	68	115	182	124	8	41	24	7	43	152	6
YOUNGSTOWN	57.7	39.3	48.5	89	AUG. 31+	-11	FEB. 2	6555	36.73	1.88	JUL. 19	53.1	6.4	APR. 1-2	81	83	62	69	9.7	SW	41	WSW	APR. 15		7.2	60	97	208	152	17	35	32	0	42	137	6
OKLAHOMA																																				
OKLAHOMA CITY	69.4	48.3	58.9	99	AUG. 3	7	DEC. 12	3755	34.80	3.62	SEP. 12-13	10.6	3.3	FEB. 6-7	75	81	57	55	13.1	SSE	56	NW	DEC. 22	65	5.3	138	88	139	90	4	54	24	46	9	7[illegible]	0
TULSA	68.6	47.5	58.1	99	SEP. 2	5	JAN. 21	3954	51.39	4.81	JUL. 14-15	7.2	4.3	FEB. 6-7	80	87	63	60	10.9	SSE	57	NW	APR. 30	60	5.7	127	90	148	90	3	49	1[illegible]	49	8	84	0
OREGON																																				
ASTORIA	58.6	43.9	51.3	100	JUL. 11	25	DEC. 11+	4952	80.39	2.86	FEB. 20-21	.4	.4	MAR. 3	87	90	79	72	9.5	SSE	52*	WSW	DEC. 17		7.7	52	64	249	205	0	7	4[illegible]	1	0	26	0
BURNS U	60.8	33.3	47.1	103	AUG. 4	-5	DEC. 11	6942	10.77	.67	DEC. 18	41.8	6.2	DEC. 18	60	70	56	40							5.8	114	85	166	94	13	12	10	37	9	201	2
EUGENE	63.8	42.2	53.0	105	JUL. 12	20	DEC. 11	4600	53.18	4.17	FEB. 9-10	2.0	2.0	NOV. 23-24			72	58	9.1		58*	SSW	JAN. 7		6.7	80	80	205	148	2	6	61	15	1	46	0
MEACHAM	53.4	36.2	44.8	105	AUG. 4	-6	DEC. 11+	7606	33.27	1.75	DEC. 18-19	124.2	9.3	DEC. 7-8			61								6.5	96	71	198	174	37	13	44	9	36	166	2
MEDFORD	67.5	40.1	53.8	109	JUN. 15	14	NOV. 17	4751	19.65	1.38	OCT. 26-27	8.5	3.6	DEC. 13-14	73	86	68	48	4.6	WNW	36*	SSW	FEB. 24		6.1	108	80	177	121	3	10	51	6[illegible]	2	91	0
PENDLETON	64.7	42.6	53.7	113	AUG. 4	1	DEC. 11	5012	11.47	.64	MAR. 13-14	14.9	6.6	NOV. 24-25	59	67	53	45	9.6	W	58*	WSW	DEC. 17		6.1	116	71	178	112	3	10	22	52	19	74	[illegible]
PORTLAND															76	84	72	58	8.6	NW	56	SW	NOV. 21	49	7.1	77	68	220			9	37				
PORTLAND U	63.5	47.6	55.6	105	JUL. 12	22	DEC. 11	3926	49.74	2.20	NOV. 21-22	1.5	1.5	DEC. 12-13															169	1			15	0	11	0
ROSEBURG	65.9	42.4	54.2	106	JUL. 11	19	DEC. 11+	4327	41.32	4.80	NOV. 22-23	10.8	9.4	NOV. 23-24			71	54	4.6	NS	38	SW	FEB. 24	55	6.8	75	88	202	140	2	5	57	31	1	42	0

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Greatest in 24 hours	Precipitation: Snow, Sleet: Date (s)	Relative humidity: 1:00 a.m. E.S.T.	Relative humidity: 7:00 a.m. E.S.T.	Relative humidity: 1:00 p.m. E.S.T.	Relative humidity: 7:00 p.m. E.S.T.	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-3	Number of days: Sunrise to sunset: Partly cloudy, 4-7	Number of days: Sunrise to sunset: Cloudy, 8-10	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 90°F and above	Number of days: Max temp: 32°F and below	Number of days: Min temp: 32°F and below	Number of days: Min temp: 0°F and below
OREGON	°F	°F	°F	°F		°F		Base 65 °F	In	In		In	In		%	%	%	%	M.p.h.		M.p.h.			%	Tenths											
SALEM	63.8	41.4	52.6	104	JUL. 12	15	DEC. 11	4747	46.12	2.97	FEB. 9-10	T	T	DEC. 13+	81	89	74	59	7.2	S	43*	SSE	DEC. 16		6.8	90	62	213	170	0	5	39	23	1	58	0
SEXTON SUMMIT R	56.1	39.7	47.9	95	JUN. 15	17	DEC. 11	6469	54.25	4.72	NOV. 22-23	89.7	8.5	NOV. 24+			71		12.7	S					5.9	124	59	182	131	27	2	148	7	14	112	0
PACIFIC AREA																																			
CANTON ISLAND	89.0	78.5	83.8	92	NOV. 23+	72	JUL. 24	0	20.00	2.30	JUN. 9-10	.0	.0		76	79	79	64	13.2	ENE	37*	E	AUG. 1		6.8	74	117	174	119	0	2	0	138	0	0	0
ENIWETOK	86.6	77.7	82.2	90	OCT. 2+	71	JUL. 12	0	60.61	2.86	OCT. 3-4	.0	.0		75	80	81	72	16.5										211	0	6	0	11	0	0	0
JOHNSTON	82.8	74.1	78.5	87	MAY 4+	63	NOV. 17	0	29.78	9.51	OCT. 1-2	.0	.0		78	79	79	72	15.8		40	SE	NOV. 16	68	5.6	71	201	93	163	0	2	0	0	0	0	0
KOROR R	86.7	75.5	81.1	91	APR. 18	71	SEP. 3+	0	163.95	4.37	AUG. 18-19	.0	.0		78	90	92	81	6.7	NE	29	E	DEC. 23+	50	9.7	0	13	352	264	0	34	0	20	0	0	0
KWAJALEIN	86.1	76.7	81.4	90	MAR. 17	72	MAR. 19+	0	104.47	3.48	SEP. 16-17	.0	.0		78	82	83	76	13.9	ENE	40*	ESE	DEC. 20		8.1	20	90	255	262	0	15	0	1	0	0	0
MAJURO	85.7	77.3	81.5	88	NOV. 8+	72	SEP. 22+	0	131.70	9.57	JAN. 27-28	.0	.0		78	81	82	76	10.6	ENE	36	E	DEC. 20		8.8	9	66	290	269	0	21	0	0	0	0	0
PONAPE R	86.6	74.1	80.4	91	OCT. 25+	69	NOV. 8+	0	206.39	6.90	FEB. 23-24	.0	.0		81	90	92	78	5.0	NE	29	NE	MAR. 14	51	9.3	3	35	327	308	0	41	0	15	0	0	0
TAGUAC GUAM R	85.0	72.8	78.9	89	OCT. 1+	63	NOV. 22+	0	99.74	4.27	SEP. 10-11	.0	.0						6.9	NE*	34	NE	SEP. 10						292	0	34	0	0	0	0	0
TRUK	86.2	76.1	81.2	90	OCT. 15	71	JUL. 8	0	164.27	6.25	JUL. 10-11	.0	.0		79	87	89	79	6.1	NNE				74	9.2	0	51	314	270	0	27	0	2	0	0	0
WAKE ISLAND	84.7	74.8	79.8	90	AUG. 12+	67	MAR. 3	0	43.62	4.61	SEP. 24-25	.0	.0		74	79	80	71	14.6	ENE	46*	SE	AUG. 22		6.1	91	129	145	153	0	6	0	5	0	0	0
YAP R	85.9	75.5	80.7	91	NOV. 14+	69	SEP. 28	0	145.52	5.32	OCT. 23-24	.0	.0		79	88	90	81	8.2	NE	50	NE	MAR. 25	40	9.9	0	3	362	282	0	15	0	4	0	0	0
PENNSYLVANIA																																			
ALLENTOWN	60.6	41.0	50.8	93	JUL. 2+	-12	JAN. 22	5990	39.27	2.30	JUL. 15	65.0	16.9	FEB. 3-4	83	83	58	68	10.0	WSW	51	W	APR. 26		6.0	104	113	148	127	16	27	36	11	30	133	12
ERIE	56.9	41.4	49.2	90	SEP. 13+	- 6	FEB. 2	6360	36.50	2.42	APR. 24-25	59.6	6.6	APR. 1	78	78	68	71	12.4	S	40	SSW	APR. 16+		7.1	65	96	204	151	18	52	24	3	46	119	4
HARRISBURG	62.2	43.2	52.7	96	JUL. 1	- 3	JAN. 22	5456	40.47	2.78	JUL. 19-20	81.7	18.2	JAN. 19-20	77	77	55	64	8.2	W	37	NW	FEB. 26	60	6.4	87	109	169	140	16	41	27	24	24	109	5
PHILADELPHIA	61.9	43.5	52.7	93	JUL. 22	- 4	FEB. 2+	5417	41.05	2.03	APR. 12-13	40.0	13.2	JAN. 19-20	77	77	58	66	9.1	WSW	39	E	APR. 13	61	6.3	89	114	162	119	11	28	33	12	26	103	2
PITTSBURGH	59.6	40.3	50.0	95	AUG. 31	-10	JAN. 25	6065	38.10	1.38	NOV. 23-24	60.3	11.3	FEB. 3-4	79	82	63	68	8.8	WSW	38	NNW	JAN. 24	52	7.3	49	103	213	166	17	41	18	2	39	125	5
READING U	62.5	45.3	53.9	95	JUL. 23	- 1	FEB. 2	5136	39.73	2.51	JUL. 29	58.7	17.0	FEB. 3-4					10.2		57	N	APR. 16	59	6.2	88	118	159	130	12	37	11	20	22	85	2
SCRANTON	57.6	39.5	48.6	90	JUL. 2+	-11	FEB. 2	6665	34.79	2.32	AUG. 25-26	68.8	13.3	FEB. 3-4	79	81	59	66	8.5	SW	42	SW	JUN. 2	51	6.6	73	116	176	147	21	31	31	2	46	144	11
WILLIAMSPORT	60.0	40.0	50.0	93	SEP. 12	-13	JAN. 22	6161	40.89	2.26	JUN. 21	74.3	14.7	FEB. 3-4		83	57	66							6.8	57	130	178	147	20			11	32	127	13
PUERTO RICO																																			
SAN JUAN M.R.	83.7	73.3	78.5	94	SEP. 17	68	NOV. 14+	0	66.51	4.52	DEC. 5-6	.0	.0		88	85	64	79	7.6	ENE	35	NE	NOV. 13	58	6.1	55	205	105	202	0	29	0	22	0	0	0
RHODE ISLAND																																			
BLOCK ISLAND	55.3	43.8	49.6	88	JUL. 26	- 2	FEB. 2	5947	52.24	7.26	SEP. 20-21	35.5	16.9	FEB. 3-4		80	69								6.5	85	112	168	104	10	11	122	0	28	95	1
PROVIDENCE	58.7	41.8	50.3	93	JUN. 13	- 6	FEB. 2+	5987	49.56	4.89	SEP. 20-21	59.5	18.3	FEB. 4	78	77	57	68	11.1	S	42	S	SEP. 15	54	6.1	98	111	156	116	14	18	34	6	30	120	5
SOUTH CAROLINA																																			
CHARLESTON	75.3	53.7	64.5	95	JUL. 31+	18	JAN. 22	2120	50.04	4.12	JUN. 26-27	T	T	JAN. 28+	87	88	57	75	8.5	SSW	51	S	APR. 9+	69	5.6	107	130	128	115	0	59	24	47	0	44	0
COLUMBIA	75.4	50.8	63.1	100	JUL. 31	14	JAN. 22	2575	54.95	4.07	AUG. 3-4	2.3	1.4	JAN. 26	82	86	50	63	6.6	SW	44	SSE	AUG. 3	57	5.5	120	101	144	110	1	51	32	75	2	54	0
FLORENCE	74.2	51.6	62.9	97	JUL. 31	14	JAN. 22	2553	44.33	3.10	JUN. 26-27	1.0	.5	JAN. 26	83	86	53	68	8.0	SW	35	SW	JUN. 21		5.4	123	110	132	121	0	52	41	55	3	48	0
GREENVILLE	71.8	50.0	60.9	96	JUL. 31	8	JAN. 22	3005	55.87	3.80	FEB. 20-21	2.1	1.0	FEB. 3+	75	79	53	62	7.8	NE	42	SW	MAR. 8	61	5.7	117	94	154	116	2	49	22	48	3	54	0
SPARTANBURG	70.7	49.4	60.1	95	AUG. 1+	10	JAN. 22	3169	60.92	4.13	AUG. 4	2.3	1.2	FEB. 3	77	82	53	61	6.7	SW	44	SW	FEB. 25		5.6	127	87	151	110	2	41	24	39	3	57	0
SOUTH DAKOTA																																			
HURON	56.8	31.4	44.1	101	AUG. 29	-27	JAN. 24	8319	19.92	4.20	OCT. 10-11	19.6	4.7	FEB. 1-2	82	87	62	61	11.5	SSE	65	SW	JUL. 25	71	6.0	103	98	164	78	6	36	17	42	68	190	37
RAPID CITY	61.4	35.7	48.6	106	JUN. 29	- 9	DEC. 11	6849	9.98	1.10	JUL. 1	24.3	3.7	OCT. 28-29	67	45	44	62	11.0	NNW	59	NW	NOV. 2	60	5.7	113	103	149	72	13	23	11	47	31	174	10

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow, Sleet: Total	Snow, Sleet: Greatest in 24 hours	Snow, Sleet: Date (s)	Relative humidity: 1:00 a.m. EST	Relative humidity: 7:00 a.m. EST	Relative humidity: 1:00 p.m. EST	Relative humidity: 7:00 p.m. EST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-3	Number of days: Sunrise to sunset: Partly cloudy, 4-7	Number of days: Sunrise to sunset: Cloudy, 8-10	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 90°F and above	Number of days: Max temp: 32°F and below	Number of days: Min temp: 32°F and below	Number of days: Min temp: 0°F and below
	°F	°F	°F	°F		°F		Base 65 °F	In	In		In	In		%	%	%	%	M.p.h.		M.p.h.			%	Tenths											
SOUTH DAKOTA																																				
SIOUX FALLS	56.6	34.3	45.5	98	AUG. 4+	-23	JAN. 24	7796	23.05	1.93	JUN. 6- 7	35.7	7.6	FEB. 1- 2	73	78	56	55	10.0	NW	40*	WSW	JUL. 20+		6.0	108	103	154	85	12	38	31	23	60	174	28
TENNESSEE																																				
BRISTOL	66.6	45.6	56.1	91	AUG. 2	- 2	JAN. 22	4164	44.34	1.96	AUG. 24-25	16.1	3.3	FEB. 2- 3	81	85	57	64	6.6	NE	46	WSW	FEB. 25		6.5	89	92	184	130	8	45	55	7	13	80	1
CHATTANOOGA	70.5	48.9	59.7	95	AUG. 30+	7	JAN. 22	3387	59.34	4.85	DEC. 17-18	2.0	1.8	DEC. 27	82	87	56	62	6.9	S	45	S	NOV. 23+	55	6.3	94	104	167	126	1	56	50	45	5	66	0
KNOXVILLE	67.5	47.2	57.4	92	SEP. 25+	5	JAN. 22	3762	54.50	3.43	MAR. 7- 8	13.4	2.5	FEB. 3+	80	86	60	63	7.9	NE	73	SW	JUL. 15	49	6.6	88	89	188	136	4	47	44	6	8	64	0
MEMPHIS	70.3	50.5	60.4	95	JUL. 20	11	JAN. 28	3325	49.64	3.14	NOV. 22-23	.2	.2	FEB. 24-25	76	82	58	60	9.4	SSW	35	NW	APR. 15+	61	6.1	91	117	157	118	0	53	14	51	6	57	0
NASHVILLE	69.2	47.5	58.4	94	SEP. 24+	- 1	JAN. 28	3723	44.85	2.45	DEC. 8- 9	6.8	1.5	FEB. 25+	79	85	58	61	7.6	S	43	SW	MAY 8	55	6.3	88	106	171	131	3	56	13	41	8	66	1
OAK GROVE	68.1	47.2	57.7	95	SEP. 24	2	JAN. 28	3753	56.37	2.51	MAR. 7- 8								5.3	SW									132				9	5	74	0
OAK RIDGE	68.0	46.9	57.5	91	SEP. 24+	3	JAN. 22	3798	60.90	3.02	MAR. 7- 8	11.2	3.4	DEC. 27					4.2	E	50		JUL. 17		6.1	110	79	176	134	4	64	47	8	5	72	0
TEXAS																																				
ABILENE	74.5	51.2	62.9	97	AUG. 4+	11	JAN. 29	2748	35.55	6.70	SEP. 3- 4	8.6	3.0	JAN. 27-28	71	79	53	48	10.1	SSE	57	NE	JUN. 4	71	4.8	158	99	108	77	3	48	4	87	8	45	0
AMARILLO	70.1	42.9	56.5	98	MAY 12	- 3	DEC. 12	4353	22.44	2.34	AUG. 18-19	25.3	6.3	MAR. 17	64	74	45	41	13.9	S	45	SE	JUN. 2+	76	4.6	152	113	100	74	8	44	27	66	12	114	1
AUSTIN	77.6	57.0	67.3	101	AUG. 4	24	DEC. 13	1772	36.47	5.46	JUL. 9-10	T	T	FEB. 6+	78	86	57	55	9.7	SSE	45	NE	SEP. 12+	59	5.7	104	120	141	72	0	36	21	101	1	15	0
BROWNSVILLE	81.8	64.3	73.1	97	AUG. 31+	34	JAN. 28	631	25.97	5.76	SEP. 13-14	.0	.0		87	91	61	69	12.1	SE	44	SE	APR. 30	62	5.8	94	143	128	79	0	22	23	98	0	0	0
CORPUS CHRISTI	80.0	62.0	71.0	98	AUG. 4	29	JAN. 28	1015	26.44	3.73	JUL. 10-11	T	T	JAN. 2	82	87	61	66	11.5	SE	63	NW	SEP. 11	63	6.2	88	123	154	68	0	26	25	92	0	4	0
DALLAS	74.8	54.9	64.9	100	AUG. 3	16	JAN. 29	2415	39.99	4.31	SEP. 11-12	6.1	3.2	JAN. 27-28	72	81	57	53	11.6	S	58	N	APR. 30	64	5.2	143	87	135	94	4	39	10	84	4	32	0
DEL RIO U	80.2	58.5	69.4	101	AUG. 4	28	DEC. 28	1492	22.74	2.90	JUN. 17	T	T	FEB. 6+															53	0			134	0	9	0
EL PASO	76.9	49.7	63.3	103	JUN. 24	21	JAN. 13	2742	7.69	1.66	JUL. 4	7.8	7.8	NOV. 13-14	53	35	26	42	9.0	S	57	NW	APR. 8	84	4.0	187	103	75	47	2	34	5	113	0	68	0
FORT WORTH	74.9	54.0	64.5	100	AUG. 4+	11	JAN. 29	2522	30.58	2.36	JAN. 6- 7	6.4	3.5	JAN. 27-28	75	84	58	54	13.1	S	65*	N	JUL. 7		5.2	141	93	131	80	3	44	12	87	4	41	0
GALVESTON U	73.4	64.0	68.7	91	AUG. 6	31	JAN. 29+	1212	63.97	12.56	JUN. 18-19	T	T	JAN. 29					12.5	S	80	SE	SEP. 11	70					82	0			3	0	5	0
GALVESTON	74.2	63.5	68.9	92	AUG. 6+	30	JAN. 29	1240	67.24	11.34	JUN. 18-19	T	T	JAN. 29	75	77	67	68	11.2	SE					5.7	109	117	139	83	0	49	41	17	0	5	0
HOUSTON U	77.2	61.4	69.3	97	AUG. 3	28	JAN. 29	1172	49.25	5.29	NOV. 12-13	T	T	JAN. 25															109	0			64	0	5	0
HOUSTON	78.8	59.6	69.2	96	SEP. 6+	28	JAN. 29	1304	62.97	7.34	JUN. 18-19	T	T	DEC. 13	86	89	63	68	9.1	SSE					6.2	92	108	165	107	0	66	44	91	0	12	0
LAREDO	84.9	62.0	73.5	104	AUG. 4	30	FEB. 7	947	13.71	2.33	SEP. 13-14	.0	.0		70	82	49	42	11.3	SE	44*	NNW	FEB. 24		5.3	120	128	117	63	0	25	15	177	0	2	0
LUBBOCK	71.9	44.6	58.3	101	JUN. 1	6	DEC. 12	3814	18.82	2.92	JUN. 14-15	25.7	12.1	FEB. 2	67	78	50	44	14.8	S	52*	WSW	JUN. 24+		4.4	164	112	89	66	5	37	20	70	8	102	0
MIDLAND	75.4	49.1	62.3	99	JUN. 1+	14	FEB. 7	2845	20.54	5.99	JUL. 21-22	4.2	2.2	FEB. 6	64	77	45	38	10.9	SE	44*	WNW	APR. 11		4.7	161	93	111	51	2	24	16	100	1	65	0
PORT ARTHUR	78.0	57.5	67.8	96	SEP. 6+	25	JAN. 30+	1499	67.36	10.20	JUN. 18-19	.0	.0		89	92	63	74	9.9	S	56	NW	APR. 11	50	6.0	96	109	160	115	0	74	51	73	0	20	0
SAN ANGELO	77.1	51.4	64.3	102	MAY 12	14	FEB. 7	2500	21.39	2.86	JUN. 15-16	5.9	3.2	FEB. 5- 6	70	80	50	46	11.6	S	58*	W	MAR. 16		4.7	155	112	98	62	2	30	6	117	3	45	0
SAN ANTONIO	79.5	58.2	68.9	100	AUG. 4	27	DEC. 29	1533	26.47	3.90	JUL. 22-23	T	T	FEB. 6+	78	85	57	53	10.1	SSE	47	N	SEP. 11	59	5.4	112	127	126	65	0	26	19	120	0	18	0
VICTORIA	79.0	59.4	69.2	97	AUG. 4	29	DEC. 28+	1293	36.14	5.55	SEP. 10-11	T	T	JAN. 25		90	60	64	10.3		150Y	NNE	SEP. 11		5.9	91	132	142	85	0	44	21	89	0	11	0
WACO	76.4	55.5	66.0	101	AUG. 4	17	JAN. 29	2110	42.71	4.13	JUN. 15-16	2.3	2.0	JAN. 28	78	87	59	56	13.8	SSE	69*	E	JUN. 5		5.4	128	104	133	74	1	37	10	98	3	27	0
WICHITA FALLS	74.3	50.4	62.4	102	AUG. 5+	11	JAN. 29	3086	27.54	4.80	JUN. 24-25	6.8	4.3	FEB. 6	73	81	52	50	12.1	S	46*	NNE	APR. 30		4.8	156	99	110	79	2	45	16	96	6	55	0
UTAH																																				
MILFORD	65.4	33.1	49.3	103	JUN. 23	-14	JAN. 28	6440	7.92	.98	SEP. 17	30.3	4.4	MAR. 17-18			39	31							4.9	145	108	112	64	12	39	3	64	8	188	9
SALT LAKE CITY	65.1	39.3	52.2	104	JUN. 21	-10	DEC. 10	5855	11.75	.89	OCT. 27-28	49.7	7.4	FEB. 18	62	69	47	42	9.4	S	49	W	AUG. 6	62	5.8	116	102	147	84	16	30	6	82	13	138	2
WENDOVER	63.3	42.1	52.7	102	JUL. 23+	3	JAN. 28	5872	4.17	.56	NOV. 15-16	13.1	5.5	NOV. 15-16		50	37	30							5.0	138	109	118	56	5	34	1	66	21	137	0

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
ENGLISH UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Greatest in 24 hours	Precipitation: Snow, Sleet: Date (s)	Relative humidity: 1:00 a.m. EST	Relative humidity: 7:00 a.m. EST	Relative humidity: 1:00 p.m. EST	Relative humidity: 7:00 p.m. EST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile: Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-3	Number of days: Sunrise to sunset: Partly cloudy, 4-7	Number of days: Sunrise to sunset: Cloudy, 8-10	Number of days: Precipitation .01 inch or more	Number of days: Snow, Sleet 1.0 inch or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 90°F and above	Number of days: Max temp: 32°F and below	Number of days: Min temp: 32°F and below	Number of days: Min temp: 0°F and below
	°F	°F	°F	°F		°F		Base 65 °F	In	In		In	In		%	%	%	%	M.p.h		M.p.h			%	Tenths											
VERMONT																																				
BURLINGTON	53.2	33.1	43.2	91	AUG. 10	-20	FEB. 1	8313	31.91	1.83	JUL. 2	68.8	14.5	JAN. 1	83	81	62	71	7.5	SSW	38	NW	DEC. 15	50	7.1	64	94	207	141	17	25	21	2	73	180	36
VIRGINIA																																				
LYNCHBURG	65.7	46.3	56.0	93	JUL. 31	7	JAN. 22	4337	44.69	3.30	OCT. 20-21	19.6	4.4	JAN. 19		81	55	66	8.0		50	S	FEB. 25	62	5.7	123	95	147	132	5	42	39	12	12	75	0
NORFOLK	68.2	50.5	59.4	99	JUL. 31	12	JAN. 27	3597	48.67	4.45	AUG. 5	4.3	2.4	JAN. 26	80	82	60	70	10.3	SW	45	SW	FEB. 25	65	5.6	118	115	132	123	1	46	29	37	8	57	0
RICHMOND	68.8	46.2	57.5	97	JUL. 31+	- 1	JAN. 28	4131	49.06	6.50	OCT. 20-21	13.1	3.2	JAN. 26	82	82	51	67	7.7	SW	38	SW	FEB. 25	58	6.0	105	100	160	122	6	41	28	54	8	91	1
ROANOKE	66.5	45.3	56.4	95	SEP. 12+	4	JAN. 22	4272	40.54	2.28	OCT. 2	38.4	14.2	FEB. 7- 8	73	77	52	60	8.8	SW					5.8	119	94	152	132	8	43	18	35	13	75	0
WASHINGTON																																				
OLYMPIA	61.1	39.4	50.3	100	JUL. 12	17	DEC. 10	5409	57.54	2.26	FEB. 20-21	2.4	1.3	DEC. 12-13	86	91	78	63	7.1	SW	41*	SW	NOV. 10		7.3	57	82	226	172	0	4	112	8	1	87	0
SEATTLE-TACOMA	60.0	44.0	52.0	97	JUL. 12	23	DEC. 11+	4945	42.53	1.59	JAN. 4- 5	2.7	1.8	MAR. 3- 4	76	83	74	62	9.4	S	46*	SSW	FEB. 21		7.1	61	91	213	173	1	6	49	5	1	26	0
SEATTLE															76	85	73	61	7.2	SSE																
SEATTLE U	60.8	47.7	54.3	96	JUL. 13+	28	DEC. 11+	4165	38.97	1.68	DEC. 16-17	.2	.2	DEC. 12							58	SW	MAR. 20	45					168	0			4	0	8	0
SPOKANE	58.4	37.6	48.0	108	AUG. 4	- 6	DEC. 10	6720	19.30	.96	DEC. 16-17+	57.5	8.9	DEC. 16-17	67	77	63	50	8.3	SSW	47	SW	DEC. 21	56	6.6	87	85	193	129	19	12	44	34	30	140	2
STAMPEDE PASS R	46.0	33.7	39.9	86	AUG. 4+	4	DEC. 11+	9183	105.32	5.34	NOV. 21-22	564.6	25.4	FEB. 24		90	83	78							7.3	80	49	236	216	95	7	254	0	80	199	0
TATOOSH ISLAND	53.4	44.8	49.1	78	JUL. 12	28	MAR. 4	5721	92.85	3.17	JAN. 9-10	.3	.3	DEC. 16	86	87	83	81	15.6	S	77	SW	MAR. 10+	35	7.8	48	63	254	202	0	4	76	0	0	7	0
WALLA WALLA U	64.9	45.9	55.4	113	AUG. 4	6	DEC. 11	4580	15.85	.89	DEC. 7	19.4	6.0	NOV. 24-25			56		5.7	WS	47	W	DEC. 21+	61	6.3	113	66	186	107	5	16	15	53	18	55	0
YAKIMA	64.0	37.4	50.7	108	AUG. 4	9	NOV. 17	5830	9.95	.87	FEB. 1	17.7	5.3	DEC. 16	68	78	55	43	7.8	WNW	46*	S	MAY 25+		5.7	117	89	159	71	5	15	12	51	16	154	0
WEST VIRGINIA																																				
CHARLESTON	63.9	44.3	54.1	92	AUG. 31	- 6	JAN. 25	4824	54.92	5.60	JUL. 19	31.7	6.5	JAN. 19-20	79	82	59	65	5.8	WSW	35	WNW	MAY 15+		7.3	47	110	208	163	11	45	129	14	22	90	1
HUNTINGTON U	65.8	45.6	55.7	95	SEP. 6	1	JAN. 28+	4448	51.44	2.17	JUN. 8- 9	17.9	3.4	JAN. 19															156	7			30	19	88	0
PARKERSBURG U	64.6	44.2	54.4	93	SEP. 13+	- 1	JAN. 25	4862	45.29	2.39	JUL. 30-31	29.4	5.3	FEB. 3					5.9		49	W	SEP. 25	46					135	10	41	26	25	20	92	2
WISCONSIN																																				
GREEN BAY	54.0	34.9	44.5	91	AUG. 30+	-17	DEC. 15	7846	30.74	1.77	AUG. 9-10	38.6	7.2	DEC. 11-12	81	82	64	66	11.1	SW	51	SW	OCT. 11	52	6.2	99	108	158	110	16	33	30	7	70	165	26
LA CROSSE	55.9	37.2	46.6	95	JUN. 28	-13	DEC. 15+	7378	26.45	2.00	SEP. 29-30	52.5	8.9	MAR. 7- 8	82	84	61	62	9.8	S	55*	SSW	JUN. 10		6.2	96	105	164	109	15	40	22	11	59	156	22
MADISON	56.0	35.0	45.5	93	AUG. 30	-15	DEC. 15	7564	31.04	3.57	SEP. 12-13	32.3	10.0	MAR. 8	83	86	64	67	9.6	S	42	S	NOV. 2	57	6.5	93	89	183	114	7	37	24	8	57	172	23
MILWAUKEE	55.7	37.3	46.5	95	JUN. 29	- 8	DEC. 28+	7232	32.81	2.65	SEP. 13-14	37.7	11.2	MAR. 8	80	82	65	70	10.8	SSW	45	S	MAR. 27	55	6.0	104	99	162	119	11	36	28	10	48	152	13
WYOMING																																				
CASPER	57.8	33.6	45.7	96	AUG. 6	-18	DEC. 10	7462	9.96	.80	JUL. 6- 7	52.9	4.6	MAR. 27-28	63	70	47	44	13.7	SW	52*	WSW	OCT. 22		6.0	90	126	149	91	19	40	5	23	38	181	7
CHEYENNE	57.2	32.7	45.0	94	AUG. 6	-20	JAN. 27	7563	16.99	1.96	AUG. 16-17	56.9	10.3	MAY 13	62	65	42	46	13.9	WNW	60	W	NOV. 3	60	5.8	98	124	143	107	15	45	30	11	42	193	6
LANDER	56.7	31.0	43.9	98	AUG. 5	-21	DEC. 11	8143	13.23	1.69	OCT. 7- 8	111.8	18.3	OCT. 7- 8	59	65	48	44	6.4	SWS	65	W	DEC. 5+	75	5.6	103	139	123	81	25	38	5	29	53	198	12
SHERIDAN	58.8	32.8	45.8	102	AUG. 5	-17	DEC. 11	7529	14.67	1.42	MAY 15-16	44.1	7.1	OCT. 28-29	66	74	53	49	8.0	NW	62	NW	MAR. 1	64	5.8	100	126	139	98	15	29	9	43	37	195	11

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
* Data entered in column "Fastest Mile" is the fastest mile observed. This station is not equipped with automatic wind recording instrument.
+ And also on an earlier date or dates.
A Maximum hourly average.
B Number of days average 70 F. or above for Alaskan Stations.

Y Peak gust.
S Wind direction to 8 compass points only.
E Computed as of 8:00 a.m. local time.
K Computed as of 6:00 a.m. local time.
V Sun below horizon November 18 - January 24.
X Sun below horizon November 26 - January 16.

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow, Sleet: Total	Snow, Sleet: Greatest in 24 hours	Snow, Sleet: Date (s)	Relative humidity: 1:00 am EST	Relative humidity: 7:00 am EST	Relative humidity: 1:00 pm EST	Relative humidity: 7:00 pm EST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0–3	Number of days: Sunrise to sunset: Partly cloudy, 4–7	Number of days: Sunrise to sunset: Cloudy, 8–10	Number of days: Precipitation 25mm or more	Number of days: Snow, Sleet 25.4mm or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp 32.2°C and above	Number of days: Max temp 0°C and below	Number of days: Min temp 0°C and below	Number of days: Min temp −17.8°C and below
	°C	°C	°C	°C		°C		Base 18.3°C	Mm	Mm		Mm.	Mm.		%	%	%	%	M p s		M.p.s.			%	Tenths											
ALABAMA																																				
BIRMINGHAM	23.1	10.9	17.0	35.6	SEP. 25+	−10.6	JAN. 2	1450	1943	167	FEB. 20–21	T	T	DEC. 27+	81	86	58	63	3.6	ENE	24.1	NE	MAR. 18	59	6.1	104	97	164	129	0	57	4	57	2	44	0
HUNTSVILLE	22.1	9.7	15.9	35.6	SEP. 24+	−12.2	JAN. 22	1737	1424	87	DEC. 16–17	33	15	DEC. 27+	80	85	56	62	3.2	SE	20.6	E	MAR. 18		6.2	95	106	164	129	0	58	8	56	2	59	0
MOBILE	24.8	13.6	19.2	35.6	SEP. 5	− 6.1	JAN. 22	918	2101	187	JUN. 19–20	T	T	JAN. 28	85	87	59	70	4.5	N	19.2	NNW	APR. 3		5.9	105	101	159	134	0	88	43	60	0	22	0
MONTGOMERY	23.9	11.6	17.7	34.4	SEP. 25+	− 9.4	JAN. 22	1262	1646	143	FEB. 24–25	T	T	JAN. 28+	86	90	60	67	3.3	NW	19.2	W	MAR. 8	58	5.9	106	97	162	119	0	72	26	68	0	36	0
ALASKA																																				
ANCHORAGE	4.9	− 3.1	.9	25.0	JUN. 19	−34.4	DEC. 28	6294	489	49	SEP. 29–30	1699	191	NOV. 12–13	69	75	72	62	2.8	N	13.4*	N	NOV. 24+	43	7.3	69	59	237	112	20	2	31	8	135	199	40
ANNETTE	11.2	5.0	8.1	29.4	JUL. 27	−10.0	DEC. 21	3693	3010	92	NOV. 7– 8	1585	221	DEC. 19–20	81	84	79	72	4.4	SE	19.2*	ESE	MAR. 8		7.8	52	59	254	224	19	0	14	34	4	73	0
BARROW	−10.3	−16.2	−13.2	20.6	JUL. 10	−44.4	MAR. 3	11458	126	20	JUL. 30–31	917	89	OCT. 15	76	76	75	74	5.4	E	20.1*	ENE	MAR. 30			57V	36V	204V	89	12	0	76	0	243	325	174
BARTER ISLAND	−10.4	−16.8	−13.6	19.4	JUN. 18	−46.1	DEC. 24	11613	195	26	JUL. 31+ AUG. 1	965	81	APR. 27–28	73	74	73	72	6.2	ENE	32.2*	W	DEC. 12			59X	54X	198X	107	14	0	92	0	233	318	183
BETHEL	.4	− 7.2	− 3.4	24.4	JUL. 15	−36.7	DEC. 28	7873	456	19	OCT. 19	1113	122	OCT. 15–16	77	82	81	72	6.4	NNE	20.6*	SSE	OCT. 20		7.2	69	54	242	164	13	3	62	3	155	223	96
COLD BAY	5.6	.3	2.9	24.4	JUL. 31	−16.7	MAR. 15	5552	595	36	OCT. 19	1351	86	APR. 1– 2	83	86	85	78	7.7	SSE	30.0*	ESE	MAR. 22		8.8	11	54	300	185	21	0	18	2	71	163	0
CORDOVA	7.7	− 1.2	3.3	24.4	JUN. 18	−24.4	DEC. 28	5442	2428	111	NOV. 14–15	3338	318	FEB. 2– 3	85	89	83	75	2.5	E	17.9*	ESE	JAN. 20		8.0	49	52	264	214	39	3	18	4	41	195	13
FAIRBANKS	.8	−10.5	− 4.8	29.4	JUL. 26	−52.2	DEC. 29	8420	290	30	AUG. 23–24	1603	152	JAN. 2	66	74	69	59	2.7	N	10.3*	SW	AUG. 23+		6.9	75	83	207	109	22	2	17	47	180	228	135
JUNEAU	8.4	1.3	4.9	26.1	JUL. 27	−19.4	DEC. 21	4851	1730	61	AUG. 11–12	2550	257	DEC. 15–16	82	87	81	71	4.2	ESE	19.2*	ESE	NOV. 8	34	8.4	43	33	289	225	31	0	21	17	43	145	2
KING SALMON	3.5	− 4.9	− .7	26.1	JUL. 14	−34.4	MAR. 13	6893	682	34	SEP. 9–10	1481	132	MAR. 5	77	81	79	69	4.3	N	20.6*	E	JAN. 18		7.4	64	60	241	168	22	1	32	1	116	205	72
KOTZEBUE	− 3.2	−10.4	− 6.8	20+6	JUL. 10	−43.9	DEC. 29	9118	178	15	JUN. 7– 8	1125	91	APR. 6	79	82	80	77	5.4	ESE	20.6*	ESE	NOV. 27		6.7	85	73	207	115	14	0	13	0	197	240	125
MC GRATH	.1	−10.4	− 5.2	27.2	JUL. 15	−55.0	DEC. 27	8529	466	38	AUG. 24	2418	196	DEC. 8– 9	65	76	73	59	2.7	N	13.4*	S	OCT. 19		6.8	87	68	210	119	30	6	26	15	170	225	127
NOME	− 1.1	− 7.9	− 4.5	23.9	JUL. 10	−40.6	DEC. 28	8233	476	31	JUN. 30+ JUL. 1	1488	160	APR. 21	75	77	76	72	5.3	N	19.2*	E	DEC. 8+	40	6.9	78	69	218	144	18	0	24	1	178	228	91
ST. PAUL ISLAND	3.2	− 1.6	.8	13.3	JUL. 9+	−19.4	FEB. 28	6338	682	33	SEP. 26	1946	259	JAN. 17–18	88	89	89	86							8.6	13	67	285	217	24	0	73	0	103	197	5
SHEMYA	4.8	2.1	3.4	13.9	JUL. 23	− 7.2	DEC. 31	5388	640	42	AUG. 17–18	1549	122	FEB. 24	87	89	89	86	8.3	WSW	28.6*	SSE	JAN. 5		9.0	2	54	309	215	22	0	93	0	37	128	0
YAKUTAT	7.8	.8	4.3	27.2	JUN. 18	−19.4	NOV. 30	5062	3506	121	AUG. 23–24	7452	587	DEC. 1– 2	89	92	86	80	3.4	E	19.7*	SE	DEC. 31		8.4	32	57	276	237	57	2	24	2	39	172	2
ARIZONA																																				
FLAGSTAFF	15.9	− 1.2	7.4	33.3	JUL. 16	−26.7	DEC. 12	4026	481	40	OCT. 8– 9	2466	284	JAN. 26–27		72	39								4.6	158	109	98	75	21	52	8	3	12	226	5
PHOENIX	29.5	12.9	21.2	45.6	JUL. 19+	− .6	JAN. 7	794	113	24	AUG. 28–29	0	0		40	51	31	22	3.0	E	23.7Y	SE	AUG. 4	90	3.2	224	77	64	35	0	21	0	163	0	5	0
PRESCOTT	21.4	4.8	13.1	38.3	JUL. 16+	−16.1	DEC. 12	2408	289	31	JUL. 23–24	401	229	MAR. 28–29	49	59	34	30	3.4	SSW	25.0	S	APR. 7	82	3.8	191	102	72	62	5	55	2	48	2	134	0
TUCSON	26.9	12.1	19.5	41.1	JUN. 25+	.0	DEC. 18	992	277	63	AUG. 22	0	0		44	53	32	25	4.3	SE	24.1	E	AUG. 8	85	3.7	202	81	82	59	0	51	2	130	0	4	0
WINSLOW	21.1	3.8	12.5	40.6	JUN. 22	−23.9	DEC. 12	2811	201	20	AUG. 28–29	696	168	OCT. 3	52	62	38	31	4.4	SW	22.8*	SW	DEC. 10		4.1	177	101	87	60	11	30	15	80	23	141	7
YUMA	31.7	15.6	23.7	48.3	JUN. 14	2.2	DEC. 12	373	55	35	DEC. 14–15	0	0		36	45	29	19	3.5	N	23.2	NE	JUL. 28	89	2.6	254	64	47	15	0	7	2	179	0	0	0
ARKANSAS																																				
FORT SMITH	21.7	9.4	15.6	36.7	AUG. 2	−12.8	JAN. 21	1902	1186	104	JUL. 14–15	175	130	FEB. 7	83	88	61	62	3.3	ENE	16.5	W	MAR. 12+	58	5.9	116	85	164	104	2	55	27	57	6	72	0
LITTLE ROCK	22.3	10.1	16.2	37.2	AUG. 5	−11.7	JAN. 25	1771	1130	107	NOV. 21–22	T	T	DEC. 13+	80	85	58	62	3.7	WSW	29.1	NW	APR. 25	53	5.9	110	98	157	112	0	53	19	64	6	58	0
TEXARKANA	22.7	11.7	17.2	35.6	AUG. 3	− 8.9	JAN. 21	1457	1405	104	SEP. 12–13	48	46	JAN. 27–28	85	90	65	66	3.5	SSW									116	1	66	27	54	3	40	0
CALIFORNIA																																				
BAKERSFIELD	24.8	11.2	18.1	45.0	JUN. 16+	− 3.9	JAN. 1	1340	50	11	NOV. 2	0	0		56	67	52	39	3.0	NNW	15.6*	NNE	MAR. 15		3.9	190	88	87	22	0	0	34	101	0	23	0
BISHOP	24.1	3.5	13.8	42.2	JUN. 21	−12.2	DEC. 11	2251	57	21	DEC. 1– 2	T	T	NOV. 2			26	18							3.6	207	96	62	15	0	14	0	84	0	142	0
BLUE CANYON	15.3	6.3	10.8	32.2	JUN. 21+	− 8.9	DEC. 11	3035	1144	80	NOV. 29–30	3955	399	NOV. 29–30			46		3.6	ENE	30.0	ENE	MAR. 28		4.7	168	68	129	85	30	11	52	2	6	86	0
BURBANK	24.4	11.6	18.0	38.3	OCT. 15	2.8	DEC. 13	724	189	39	JAN. 25–26	0	0		65	71	51	42	3.0	S	17.9*	NE	NOV. 5		3.7	210	81	74	23	0	1	13	38	0	0	0

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow, Sleet: Total	Snow, Sleet: Greatest in 24 hours	Snow, Sleet: Date (s)	Relative humidity: 1:00 am EST	Relative humidity: 7:00 am EST	Relative humidity: 1:00 pm EST	Relative humidity: 7:00 pm EST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0–3	Number of days: Sunrise to sunset: Partly cloudy, 4–7	Number of days: Sunrise to sunset: Cloudy, 8–10	Number of days: Precipitation 25mm or more	Number of days: Snow, Sleet 25.4mm or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp 32.2°C and above	Number of days: Max temp 0°C and below	Number of days: Min temp. 0°C and below	Number of days: Min temp. −17.8°C and below
	°C	°C	°C	°C		°C		Base 18.3°C	Mm	Mm		Mm.	Mm		%	%	%	%	M.p.s.		M.p.s.			%	Tenths											
CALIFORNIA																																				
EUREKA U	14.1	8.3	11.2	22.8	JUN. 16	−1.1	DEC. 11	2545	1020	66	JAN. 30–31	0	0						2.9	NW§	17.9	SW	DEC. 20	53	7.0	71	90	204	128	0	4	52	0	0	1	0
FRESNO	24.3	9.3	16.8	43.3	JUL. 11+	−5.6	JAN. 7	1541	177	31	JAN. 25–26	0	0		61	76	54	37	2.9	NW	13.9	S	AUG. 5	81	4.0	193	77	95	29	0	7	43	99	0	24	0
LONG BEACH	23.2	11.7	17.4	43.9	OCT. 15	1.1	JAN. 3	796	115	30	JAN. 26	0	■		76	78	60	52	3.0	WNW	17.4*	NW	FEB. 22		4.4	153	137	75	18	0	3	53	18	0	0	0
LOS ANGELES	21.1	12.5	16.8	41.1	OCT. 14	4.4	DEC. 28	831	128	31	JAN. 26	0	0		76	77	60	64	3.3	WSW	20.6Y	W	MAR. 15		4.6	150	128	87	20	0	4	40	6	0	0	0
LOS ANGELES U	23.7	13.3	18.5	39.4	OCT. 14	5.0	JAN. 2	532	148	31	NOV. 2	0	0		71	74	46K	51	2.8	WS	17.9	NW	FEB. 22	78	3.8	193	107	65	20	0	3	14	22	0	0	0
MT SHASTA R	17.1	3.2	10.2	36.7	JUL. 12	−13.3	DEC. 11	3167	847	82	NOV. 24–25	266T	737	NOV. 24–25			59	49							4.7	171	71	123	89	24	13	3	30	1	138	0
OAKLAND	19.1	9.3	14.2	40.0	JUN. 14	−2.2	JAN. 5	1632	352	43	JAN. 25–26	■	0		77	81	66	57	3.9	WNW	17.9*	W	MAR. 16		5.0	137	121	107	62	0	2	20	13	0	9	0
POINT ARGUELLO	17.5	8.3	12.9	36.1	OCT. 14	−1.1	JAN. 5	1955	168	53	DEC. 1–2	0	0						3.7		14.3*	ESE	NOV. 25		5.6	121	102	142	49	0	3	135	2	0	2	0
RED BLUFF	23.8	10.5	17.2	45.6	JUL. 114	−3.3	JAN. 4	1521	491	76	NOV. 30+ DEC. 1	0	0		55	64	49	35	4.5	S	22.4	SE	APR. 21	78	4.7	161	84	120	68	0	16	39	98	0	16	0
SACRAMENTO															72	81	63	46	3.4	SW	17.9	NW	OCT. 7	78	4.5	166	90	109		0	6	41				
SACRAMENTO	22.9	9.6	16.2	43.9	JUN. 14	−3.9	JAN. 2	1481	294	34	NOV. 29–30	0	0																44				77	0	11	0
SANDBERG	18.2	8.3	13.2	36.7	JUN. 15+	−5.0	DEC. 12	2428	193	42	NOV. 25	279	94	NOV. 25			41		6.2	N	24.1*	NNW	NOV. 21		3.0	229	77	59	24	4	4	65	32	2	47	0
SAN DIEGO	21.7	13.3	17.5	41.7	OCT. 14	6.1	DEC. 28	654	117	28	JAN. 26–27	0	0		74	75	59	60	2.9	WNW	13.9	N	OCT. 8	68	4.6	156	113	94	10	0	2	28	5	0	0	0
SAN FRANCISCO	18.7	9.2	13.9	41.1	JUN. 14	.0	JAN. 4	1662	402	46	JAN. 25–26	0	0		81	85	70	62	4.7	WNW	17.4	■	JUL. 6+		4.7	161	98	106	59	0	4	19	11	0	2	0
SAN FRANCISCO U	17.1	10.7	13.9	38.3	JUN. 14	1.7	JAN. 6	1668	372	46	NOV. 19–20	0	0			79F	65F		3.8	WS	13.0	W	JUL. 20+	72					63	0	1		4	0	0	0
SANTA MARIA	20.4	7.5	13.9	38.3	OCT. 14	−1.7	JAN. 5	1626	149	41	DEC. 1–2	0	0		84	85	57	58	3.4	WNW	16.1*	WNW	MAY 12		3.6	205	106	54	32	0	1	94	6	0	10	0
COLORADO																																				
ALAMOSA	14.2	−4.7	4.8	30.6	AUG. 7+	−40.6	DEC. 12	4907	259	30	OCT. 28–29	1740	284	OCT. 28–29		80	48	45							4.7	132	150	83	76	22	52	14	0	29	231	49
COLORADO SPRINGS	15.7	.5	8.1	33.9	JUL. 24	−25.0	DEC. 12	3837	392	31	JUN. 3	1255	155	MAR. 4–5	68	71	42	47	4.5	N	17.4*	NNW	MAY 13		5.2	116	144	105	100	14	67	24	10	23	184	6
DENVER	14.9	1.8	9.4	37.2	JUL. 17	−26.7	DEC. 10	3544	483	46	MAY 13	2040	246	MAR. 18	65	70	42	44	3.8	SSW	21.9	W	DEC. 21	69	5.3	116	137	112	104	20	45	14	31	24	168	7
GRAND JUNCTION	19.1	4.3	11.2	37.8	JUL. 16+	−19.4	DEC. 13	3219	241	19	AUG. 24–25	478	69	MAR. 3	48	56	39	32	4.0	ESE	21.9	NW	MAY 16	72	5.2	131	112	122	65	8	29	10	61	20	139	2
PUEBLO	18.8	2.2	10.5	37.2	JUL. 24+	−23.3	DEC. 12	3258	365	48	JUN. 1–2	871	221	DEC. 10–11	65	75	44	40	3.7	W	32.2	N	APR. 8	75	5.0	138	126	107	85	10	46	7	39	3	169	7
CONNECTICUT																																				
BRIDGEPORT	14.9	6.3	10.6	33.9	JUN. 13	−19.4	FEB. 2	3184	889	52	JUL. 15–16	1110	328	FEB. 3–4	79	80	62	70	5.2	NNW	23.7	E	APR. 13		6.1	93	123	149	114	14	18	32	3	28	104	4
HARTFORD	15.3	3.6	9.4	35.6	SEP. 1	−32.2	JAN. 22	3654	1033	51	SEP. 20–21	2004	363	FEB. 4	78	79	55	65	3.6	S	18.3	N	FEB. 4	56	6.5	69	128	168	119	16	20	32	23	41	147	14
NEW HAVEN	14.7	5.9	10.3	32.8	JUL. 22	−21.7	JAN. 22	3267	1049	51	SEP. 20–21	1466	356	FEB. 3–4		80	62		3.6		18.0	N	SEP. 21	63	6.1	87	104	154	119	16	21	21	1	26	114	6
DELAWARE																																				
WILMINGTON	17.0	6.7	11.8	33.9	SEP. 5+	−23.0	FEB. 2	2919	1027	65	APR. 12–13	1031	277	JAN. 19–20	81	81	58	69	4.4	NW	19.2	ENE	APR. 13		6.2	88	112	165	117	12	27	43	15	19	101	4
DIST OF COLUMBIA																																				
WASH NATL AP	18.4	8.5	13.3	35.0	SEP. 3	−15.6	FEB. 2	2457	1065	61	AUG. 23	866	211	FEB. 3–4	75	78	56	63	4.8	S	25.5	SW	FEB. 25	60	5.5	107	109	149	111	6	29	16	36	13	69	0
FLORIDA																																				
APALACHICOLA	23.9	16.3	20.1	34.4	AUG. 1	−3.3	JAN. 22	659	1058	88	AUG. 24–25	0	0						3.4		17.4	W	APR. 12	74	5.2	136	114	115	94	0	58	25	13	0	5	0
DAYTONA BEACH	26.2	15.7	21.0	35.0	AUG. 1	−2.8	DEC. 30	468	1018	74	AUG. 28–29	0	0		85	87	60	74	3.9	SE	17.9	WSW	MAY 26		6.0	90	126	149	97	0	81	29	21	0	8	0
FORT MYERS	29.5	17.9	23.7	35.6	JUL. 30	.6	DEC. 26	168	1390	94	AUG. 27–28	0	0		83	85	54	70	3.6		13.9	SW	AUG. 1		5.4	108	157	100	92	0	90	16	147	0	0	0
JACKSONVILLE	26.5	15.2	20.8	37.2	JUL. 31	−4.4	DEC. 30	622	969	82	AUG. 18–19	T	T	JAN. 29	85	88	53	70	4.5	SW	21.5	SW	APR. 12	59	5.7	104	123	138	105	■	54	33	79	0	10	0
KEY WEST	28.2	22.8	25.5	33.9	AUG. 20	10.6	DEC. 26	39	573	102	JUN. 27–28	0	0		77	78	65	72	4.9	ESE	21.9	SE	SEP. 7	72	5.4	100	171	94	87	0	45	0	45	0	0	0
LAKELAND U	27.6	17.1	22.4	36.7	AUG. 1	−1.1	JAN. 22	306	910	83	DEC. 18–19	0	0						3.2					68	5.6	96	141	108	105	0	99	20	86	0	1	0

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Greatest in 24 hours	Precipitation: Snow, Sleet: Date (s)	Relative humidity: 1:00 am EST	Relative humidity: 7:00 am EST	Relative humidity: 1:00 pm EST	Relative humidity: 7:00 pm EST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0–3	Number of days: Sunrise to sunset: Partly cloudy, 4–7	Number of days: Sunrise to sunset: Cloudy, 8–10	Number of days: Precipitation 25mm or more	Number of days: Snow, Sleet 25.4mm or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max. temp 32.2°C and above	Number of days: Max. temp 0°C and below	Number of days: Min. temp 0°C and below	Number of days: Min. temp −17.8°C and below
FLORIDA	°C	°C	°C	°C		°C		Base 18.3°C	Mm	Mm		Mm	Mm.		%	%	%	%	M.p.s		M.p.s.			%	Tenths										
MIAMI BEACH	27.5	22.2	24.9	32.8	APR. 28+	5.6	DEC. 30	62	721	114	MAY 27	0	0						3.6		16.5	W	MAY 26	69	5.1	115	160	90	106	0	0	0	3	0	0	0
MIAMI	28.4	20.4	24.4	33.9	AUG. 2	3.9	DEC. 30	101	1059	10[illegible]	JUN. 27-28	0	0		79	82	58	69	4.3	ESE	16.5	NW	MAY 24		5.9	80	169	116	109	0	66	4	54	0	0	0
ORLANDO	28.6	16.7	22.7	37.8	JUL. 31+	−1.7	DEC. 30	306	1061	117	SEP. 16-17	0	0		85	89	51	66	3.8	NNE	20.6	SE	JUL. 26		5.5	101	151	113	84	0	69	26	119	0	2	0
PENSACOLA U	23.8	15.5	19.7	35.0	AUG. 29	−3.9	JAN. 22	773	1852	143	JUN. 20-21	0	0								17.0	SE	MAR. 18	61					126	0	62	1	26	0	10	0
TALLAHASSEE	25.6	13.1	19.3	35.6	SEP. 5+	−8.3	DEC. 30	848	1196	86	AUG. 29-30	0	0		89	91	56	69	3.7	S	17.9	WSW	AUG. 5+		5.7	98	128	139	111	0	87	44	66	0	22	0
TAMPA	28.1	17.4	22.8	36.1	AUG. 14	−.6	JAN. 22	287	890	74	DEC. 18-19	0	0		82	86	55	69	4.9	ENE	17.0	ESE	AUG. 9	66	5.7	101	137	127	101	0	89	17	99	0	1	0
WEST PALM BEACH	28.6	19.3	23.9	35.0	SEP. 14+	1.1	DEC. 30	138	959	56	JAN. 8- 9	0	0		81	84	58	70	4.6	ESE	15.6	E	OCT. 29+		6.1	75	153	137	102	0	56	7	96	0	0	0
GEORGIA																																			
ATHENS	22.1	9.8	15.9	35.6	AUG. 1	−11.7	JAN. 22	1669	1522	72	DEC. 11-12	25	25	JAN. 25-26	83	88	58	67	3.2	W	23.2	SSW	FEB. 25		5.7	116	106	143	106	1	45	31	43	2	55	0
ATLANTA	21.1	10.1	15.6	33.3	AUG. 2+	−12.2	JAN. 22	1690	1488	144	FEB. 24-25	28	25	DEC. 31	76	81	57	62	4.7	NW	20.6	WSW	APR. 17+	61	5.6	117	110	138	113	1	48	36	7	3	49	0
AUGUSTA	24.1	10.6	17.3	37.2	JUL. 31	−12.2	JAN. 22	1368	1177	91	AUG. 19-20	5	5	JAN. 26	85	89	53	67	2.8	WNW	20.6	NNE	JUN. 11		5.9	103	108	154	94	0	57	31	71	1	51	0
COLUMBUS	24.1	10.9	17.6	36.1	AUG. 3	−11.1	JAN. 22	1302	1295	102	MAR. 30-31	T	T	JAN. 28+		88	54	64	3.7		15.6	S	MAY 1+		5.7	118	102	145	100	0	48	22	70	0	46	0
MACON	24.5	11.7	18.1	37.2	AUG. 1+	−9.4	JAN. 22	1207	1181	71	MAR. 30-31	15	15	JAN. 26	80	87	51	59	3.7	WNW	31.3	S	AUG. 8	64	5.7	117	105	143	109	0	51	33	71	0	37	0
ROME	21.9	8.1	15.0	35.6	AUG. 1+	−15.0	JAN. 22	1896	1466	148	DEC. 11-12	41	28	JAN. 26		86	54								5.9	104	104	157	117	1	51	22	38	2	80	0
SAVANNAH	24.8	12.7	18.8	37.2	JUL. 31	−8.3	JAN. 22	1034	1245	93	APR. 15-16	T	T	JAN. 25	87	89	55	71	3.8	SW	21.0	NW	SEP. 5	66	5.5	112	125	128	110	0	68	40	66	0	33	0
THOMASVILLE U	25.7	13.8	19.8	36.1	AUG. 1+	−6.7	JAN. 22	798	1160	96	APR. 11-12	0	0																102	0	71	17	84	0	16	0
HAWAII																																			
HILO	27.4	18.8	23.1	32.8	OCT. 19	12.8	JAN. 24	0	3040	221	OCT. 27-28	0	0		83	87	81	65	3.8	WSW	13.4*	ESE	JUN. 30+	38	7.2	34	141	190	287	0	11	[illegible]	1	0	0	0
HONOLULU U	27.1	21.9	24.5	30.6	OCT. 6	16.1	JAN. 1	0	467	85	JAN. 25-26	0	0		69	74	71	56	5.2	ENE	18.8	SE	DEC. 5	81	5.6	91	179	95	147	0	1	0	0	0	0	0
LIHUE	28.0	20.9	24.4	31.1	SEP. 11+	13.3	JAN. 18	0	886	107	DEC. 5- 6	0	0		76	80	77	65	5.5	NE	21.9	NE	MAY 21	67	6.2	58	178	129	215	0	8	0	0	0	0	0
IDAHO																																			
BOISE	17.9	4.4	11.2	43.3	AUG. 4	−15.6	DEC. 11	3132	233	18	MAR. 23	353	56	DEC. 7	58	66	52	42	3.6	SE	17.0	SW	DEC. 20	69	5.7	124	86	155	81	6	15	23	64	9	125	0
IDAHO FALLS 42NW R	14.7	−2.3	6.2	37.8	AUG. 4	−32.8	DEC. 11	4628	203	19	SEP. 17+																		68				49	40	222	32
IDAHO FALLS 46W R	14.6	−1.2	6.7	36.7	AUG. 4	−25.0	DEC. 11	4456	255	39	SEP. 18	505	132	FEB. 2- 3					3.4	SW	17.4A	WSW	APR. 13						67	5	13	9	42	34	217	18
LEWISTON	17.7	5.5	11.6	46.1	AUG. 4	−19.4	DEC. 11	2961	328	21	NOV. 24-25	721	211	NOV. 24-25		73	59	47							6.6	89	84	192	112	9	17	22	55	12	91	2
POCATELLO	15.6	2.1	8.8	38.3	AUG. 4	−22.2	JAN. 3	3797	294	33	OCT. 20-21	1077	178	OCT. 28	62	72	53	44	4.8	SW	25.5	W	SEP. 1	65	6.4	91	97	177	108	13	27	8	45	23	169	5
ILLINOIS																																			
CAIRO U	19.3	9.9	14.6	35.0	JUL. 4	−15.0	JAN. 21	2184	1540	150	JUN. 14-15	191	38	FEB. 2+		82	62		3.8	SS	21.9	SW	MAY 7	63	6.1	100	111	154	126	4	55	10	34	11	58	0
CHICAGO O HARE	14.6	3.7	9.2	33.9	AUG. 27	−22.2	JAN. 25	3694	934	74	SEP. 13-14	800	196	DEC. 22-23	80	84	63	67	4.6	SSW	19.7*	WSW	DEC. 12		6.3	96	99	170	118	9	36	23	9	44	145	11
CHICAGO MIDWAY	15.1	5.8	10.5	35.0	AUG. 31+	−19.4	DEC. 28	3379	1090	67	SEP. 13-14	1123	295	DEC. 22-23	74	79	58	61	4.9	S	21.0	SW	MAR. 27	54	6.3	95	92	178	132	12	44	11	16	36	121	7
MOLINE	15.6	4.3	9.9	35.6	JUN. 29+	−23.3	DEC. 28	3564	1166	160	SEP. 12-13	620	175	DEC. 22-23	79	83	60	64	4.0	WNW	19.7	SW	SEP. 1	59	6.3	88	103	174	115	8	49	20	24	42	135	18
PEORIA	15.1	4.3	9.7	34.4	JUN. 29	−22.8	DEC. 28	3572	1002	105	SEP. 12-13	556	135	FEB. 2- 3	82	86	65	67	4.5	S	19.2	SW	MAR. 27	56	6.2	97	103	165	112	8	51	28	11	45	136	11
ROCKFORD	14.5	3.7	9.1	34.4	JUN. 29	−23.3	DEC. 28	3762	1026	141	SEP. 13	699	193	MAR. 8	82	86	59	64	4.3	WNW	23.2*	SSW	SEP. 1		6.1	96	105	164	115	10	52	27	18	51	149	12
SPRINGFIELD	16.7	5.6	11.2	35.0	JUN. 29	−20.6	DEC. 28	3177	963	58	APR. 24-25	696	165	FEB. 2- 3	79	83	61	66	5.3	SSW	29.1	SW	MAR. 27	58	6.1	111	83	171	115	11	55	22	20	37	122	9
INDIANA																																			
EVANSVILLE	19.1	7.2	13.2	34.4	SEP. 24+	−25.0	JAN. 28	2557	1203	154	MAY 7- 8	490	109	FEB. 25	81	84	60	63	4.0	NW	21.0	NW	MAY 7	63	6.2	101	92	172	124	5	42	16	38	17	90	3
FORT WAYNE	15.0	4.8	9.9	34.4	JUL. 1	−22.8	DEC. 31	3508	918	40	FEB. 24-25	749	135	APR. 9-10	80	83	65	66	5.3	SW	25.5	SW	MAR. 6	56	6.5	77	120	168	134	9	43	21	5	43	134	11

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Greatest in 24 hours	Precipitation: Snow, Sleet: Date (s)	Relative humidity: 1:00 a.m. EST	Relative humidity: 7:00 a.m. EST	Relative humidity: 1:00 p.m. EST	Relative humidity: 7:00 p.m. EST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0–3	Number of days: Sunrise to sunset: Partly cloudy, 4–7	Number of days: Sunrise to sunset: Cloudy, 8–10	Number of days: Precipitation 25mm or more	Number of days: Snow, Sleet 25.4mm or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 32.2°C and above	Number of days: Max temp: 0°C and below	Number of days: Min temp: 0°C and below	Number of days: Min temp: −17.8°C and below
INDIANA	°C	°C	°C	°C		°C		Base 18.3°C	Mm	Mm		Mm	Mm		%	%	%	%	M.p.s		M.p.s.			%	Tenths											
INDIANAPOLIS	15.9	5.3	10.7	33.3	JUL. 31	−23.3	JAN. 28	3226	1185	90	MAY 7–8	704	168	FEB. 25	83	88	66	68	3.8	SW	17.9	N	MAR. 9+	57	6.5	80	105	180	128	9	40	31	12	36	122	10
SOUTH BEND	14.4	4.4	9.4	33.9	JUN. 30+	−26.7	JAN. 25	3617	858	38	AUG. 22–23	1461	226	JAN. 20–21	82	86	63	68	4.8	SSW	22.8*	SSW	MAR. 27		6.8	68	109	188	151	17	50	25	7	42	138	10
IOWA																																				
BURLINGTON	15.8	4.5	10.2	35.6	JUL. 4	−24.3	JAN. 27	3448	1062	151	SEP. 12–13	925	221	FEB. 2+ 3	79	84	60	64	4.8	S	21.5	SW	MAR. 27	66	6.0	105	103	157	119	15	53	14	17	40	134	11
DES MOINES	14.6	3.9	9.2	36.1	JUN. 30	−25.6	DEC. 13	3737	1089	114	SEP. 11–12	1476	279	DEC. 22–23	81	86	65	65	4.8	S	22.4	SW	JUL. 12	59	6.2	102	90	173	130	17	50	25	15	52	154	16
DUBUQUE	13.1	2.9	8.0	32.8	JUN. 22	−26.7	DEC. 28	4047	1610	160	JUN. 30 JUL. 1	1255	307	MAR. 7–8		82	61	65							6.3	99	87	179	113	12	48	27	2	57	154	18
SIOUX CITY	14.6	2.9	8.8	40.0	JUN. 30	−27.2	DEC. 20	3913	800	109	AUG. 21	1186	201	FEB. 17–18	75	80	61	59	5.0	NW	21.0	NW	APR. 5	62	6.0	113	86	166	97	12	36	21	15	56	157	23
WATERLOO	13.7	2.6	8.1	34.4	JUN. 29	−42.2	DEC. 13	4058	1203	78	SEP. 12–13	1100	203	MAR. 7–8	86	89	65	69	4.0	S	17.9*	NNW	JUL. 1		6.2	94	107	164	115	14	42	21	13	51	156	22
KANSAS																																				
CONCORDIA	17.1	6.[illegible]	11.6	33.4	JUL. 18	−21.7	DEC. 13	3119	892	80	SEP. 11–12	721	140	APR. 9	74	79	58	55	3.3	SS	15.2	N	JAN. 20	67	5.3	135	97	133	97	10	66	10	48	28	112	5
DODGE CITY	18.8	5.3	12.1	38.3	JUL. 18	−21.7	DEC. 12	2884	542	58	AUG. 12–13	246	53	FEB. 4–5	72	80	52	49	5.7	SSW	24.1	NW	DEC. 20+	69	5.3	137	99	129	86	4	51	13	51	20	137	3
GOODLAND	17.4	2.1	9.7	38.9	JUN. 29	−28.3	DEC. 12	3564	476	39	JUL. 11	950	130	APR. 7–8	82	51	51	75	5.4	NNW	35.9*	NW	JUL. 11+		5.2	139	100	126	77	14	56	35	45	29	176	6
TOPEKA	17.4	5.2	11.3	37.8	JUL. 18	−24.4	DEC. 13	3099	1058	72	SEP. 12–13	648	124	DEC. 8–9	82	86	61	61	5.5	S	30.0	SE	MAY 5	61	6.1	101	99	165	101	9	62	26	28	24	133	6
WICHITA	18.5	7.3	12.8	38.9	AUG. 1[illegible]	−18.9	DEC. 13	2739	997	74	JUL. 20–21	589	112	FEB. 4–5	79	85	62	60	5.4	S	26.4	W	MAR. 27	63	5.6	125	92	148	90	8	62	19	42	18	105	2
KENTUCKY																																				
LEXINGTON	17.8	7.2	12.5	32.8	SEP. 1[illegible]+	−22.2	JAN. 28	2679	1194	72	MAY 7–8	508	89	FEB. 25	83	87	62	69	4.4	S					6.2	101	92	172	133	9	46	13	12	24	91	4
LOUISVILLE	18.2	7.3	12.8	34.4	AUG. 1+	−22.2	JAN. 28	2665	1271	117	MAY 7	688	241	FEB. 25	81	87	64	65	3.4	S	19.2	W	APR. 25	52	6.3	91	102	172	125	6	45	8	26	22	94	2
LOUISIANA																																				
ALEXANDRIA	23.8	11.3	17.6	34.4	JUL. 18	−7.8	DEC. 29	1269	1836	136	JAN. 6–7	T	T	JAN. 28+	92	94	62	71	2.9	S					5.8	109	102	153	122	0	88	39	35	3	44	0
BATON ROUGE	24.4	12.9	18.7	33.9	JUL. 26	−6.1	JAN. 29	1001	1878	115	FEB. 17	0	0		89	93	65	71	4.0	NE					6.0	97	113	155	124	0	97	36	30	1	27	0
BURWOOD R	24.1	18.2	21.1	32.8	AUG. 2+	0	JAN. 22	503	1472	129	MAR. 19	T	T	JAN. 28	86	88	74	79	4.6	S									91		63		4	0	1	0
LAKE CHARLES	24.6	14.7	19.7	34.4	SEP. 5+	−3.9	JAN. 29	866	1615	279	NOV. 12–13	T	T	JAN. 25	86	89	63	69	3.2	S	22.8*	SSW	NOV. 22		6.1	96	104	165	113	0	71	49	52	0	18	0
NEW ORLEANS U	24.9	16.8	20.9	34.4	AUG. 2+	−1.1	JAN. 29	630	2061	114	FEB. 20–21	0	0						3.0	S	12.1	SE	MAY 24+	62	5.3	111	157	97	136	0	89	7	50	0	3	0
NEW ORLEANS	24.8	14.3	19.5	34.4	AUG. 2	−5.6	JAN. 22	804	2122	142	FEB. 21–22	T	T	JAN. 25	87	90	67	74	3.6	ENE	13.9*	E	AUG. 3		5.6	110	113	142	140	0	90	28	32	0	13	0
SHREVEPORT	23.4	12.4	17.9	34.4	SEP. 2	−6.1	JAN. 29	1249	1461	137	SEP. 12–13	20	20	JAN. 28	83	89	61	63	4.8	E				64	5.7	112	107	146	104	0	58	22	55	3	28	0
MAINE																																				
CARIBOU	9.2	−1.1	4.[illegible]	31.7	JUL. 23	−33.3	JAN. 24	5261	969	62	SEP. 25–26	3698	396	JAN. 1–2	83	82	64	73	4.8	NW	19.7	WNW	DEC. 15		7.3	48	107	210	172	38	29	36	0	100	191	44
PORTLAND	10.8	1.4	7.1	32.8	SEP. 12+	−30.0	FEB. 2	4196	984	63	SEP. 25–26	2207	269	MAR. 14	84	83	61	75	4.0	N	18.8	E	MAR. 9	58	6.4	88	108	169	109	20	15	68	4	49	164	22
MARYLAND																																				
BALTIMORE	18.5	9.8	14.2	36.1	JUL. 22	−14.4	FEB. 2	2392	1017	52	AUG. 23	0	0																108				41	47	63	0
BALTIMORE U	18.3	6.7	12.5	35.0	JUL. 23+	−18.3	JAN. 29	2752	1086	61	OCT. 21–22	1044	272	FEB. 3–4	77	79	56	65	4.5	W	29.1	SW	MAY 9	62	5.6	114	118	133	125	12	25	33	30	18	104	3
FREDERICK	17.1	5.4	11.3	34.4	JUL. 23	−23.9	FEB. 2	3079	1018	74	SEP. 8	1593	406	FEB. 3–4															126	17		13	29	27	123	0
MASSACHUSETTS																																				
BLUE HILL OBS R	13.8	4.6	9.2	33.3	SEP. 12	−24.4	FEB. 2	3595	1287	149	SEP. 20–21	2007	427	DEC. 24–25	80	80	58	69	6.7	NNW	30.0	NE	FEB. 4	53					130	17			4	44	129	5
BOSTON	14.7	6.4	10.6	35.0	JUN. 13	−20.0	FEB. 2	3234	1215	78	SEP. 25–26	1445	366	FEB. 4	75	75	58	66	5.7	WNW	21.9	ENE	FEB. 4	60	6.3	88	109	168	122	13	14	45	14	33	105	2
NANTUCKET	12.7	6.1	9.4	28.9	JUL. 26	−17.8	FEB. 2	3350	1265	67	JUL. 25+	1113	406	JAN. 19–20	85	83	71	82	6.1	WSW	25.0	E	FEB. 4	50	6.9	78	90	197	122	9	16	129	0	28	95	1
PITTSFIELD	12.9	1.7	7.3	31.7	SEP. 4+	−27.2	JAN. 23	4192	850	36	NOV. 6–7	2306	231	FEB. 4															156	24			0	54	168	20

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow, Sleet: Total	Snow, Sleet: Greatest in 24 hours	Snow, Sleet: Date (s)	Relative humidity: 1:00 a.m. EST	Relative humidity: 7:00 a.m. EST	Relative humidity: 1:00 p.m. EST	Relative humidity: 7:00 p.m. EST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0-3	Number of days: Sunrise to sunset: Partly cloudy, 4-7	Number of days: Sunrise to sunset: Cloudy, 8-10	Number of days: Precipitation 2.5mm or more	Number of days: Snow, Sleet 2.54mm or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max. temp 32.2°C and above	Number of days: Max. temp 0°C and below	Number of days: Min. temp 0°C and below	Number of days: Min. temp -17.8°C and below
	°C	°C	°C	°C		°C		Base 18.3°C	Mm	Mm		Mm	Mm		%	%	%	%	M.p.s.		M.p.s.			%	Tenths											
MASSACHUSETTS																																			
WORCESTER	12.8	3.8	8.3	31.7	JUN. 13	-18.3	FEB. 2	3884	1173	101	SEP. 20-21	2779	478	FEB. 4	78	76	60	68	4.1	W	17.7	NE	FEB. 4		6.4	78	126	161	114	18	14	40	0	56	151	6
MICHIGAN																																			
ALPENA	12.1	-.4	5.9	33.9	JUN. 29	-27.8	FEB. 2	4667	642	65	SEP. 13-14	1323	279	MAR. 8-9		82	61	70	5.4	SW$	17.4	NW	JUN. 2	51	6.4	61	115	189	122	16	40	17	3	63	194	25
DETROIT	14.6	5.4	10.1	34.4	JUN. 30	-20.6	FEB. 2	3431	890	55	AUG. 4-5	445	74	FEB. 11	76	79	61	65	4.6	W	18.4	W	JUL. 23+	51	6.7	72	101	192	127	7	35	14	8	39	122	4
DETROIT M. WAYNE CO.	14.6	4.4	9.5	33.9	JUL. 1+	-20.6	JAN. 25	3563	947	60	AUG. 4-5	535	107	APR. 16-17	81	83	60	67	4.6	WSW					6.7	79	100	186	126	9	40	26	6	36	134	7
DETROIT WILLOW RUN	15.0	4.2	9.6	35.6	JUN. 30	-21.7	FEB. 2	3573	859	56	SEP. 23-24	478	94	APR. 16-17	81	84	58	67	4.9	SW	20.6*	ENE	MAR. 8		6.8	73	104	188	116	9	38	30	8	38	145	6
ESCANABA U	10.3	1.8	6.1	34.4	JUN. 29	-23.9	JAN. 23	4572	700	41	APR. 16	1128	226	DEC. 11-12	79	81	67	71	4.5	S	[illegible]	NE	OCT. 10	62	6.4	82	120	163	121	14	22	6	3	73	153	16
FLINT	13.8	2.9	8.3	33.3	JUN. 30	-22.8	JAN. 25	3893	776	57	AUG. 19	859	104	FEB. 25	83	84	61	70	4.1	SW	17.9*	WSW	MAR. 6		7.0	67	96	202	133	10	47	25	5	45	152	10
GRAND RAPIDS	14.2	3.9	9.1	33.3	JUN. 30	-25.6	JAN. 25	3704	753	89	SEP. 25	1897	305	APR. 16-17	79	81	60	64	4.4	WNW	17.9	SW	MAR. 27	51	6.9	73	95	197	137	23	42	21	6	42	144	7
LANSING	14.1	2.8	8.4	33.3	JUN. 30	-23.3	FEB. 2	3861	695	44	SEP. 25	790	135	APR. 16-17	81	82	61	67	5.7	W	26.4	NW	JUN. 13+	57	6.8	63	104	198	124	10	39	27	3	47	159	11
MARQUETTE U	10.3	1.9	6.1	33.9	AUG. 31+	-22.8	FEB. 3	4564	701	41	APR. 16	2855	361	DEC. 11-12		76	64	68	3.6	WS	16.5	SW	OCT. 11+	57	7.0	63	101	201	147	27	23	17	6	82	164	12
MUSKEGON	13.1	4.2	8.7	32.8	JUN. 30	-20.0	FEB. 2	3754	775	48	SEP. 13-14	2141	279	APR. 16	76	79	65	66	4.4	W	17.9*	SSW	SEP. 22		6.7	79	100	186	137	24	40	29	1	47	136	4
SAULT STE MARIE	9.8	-.1	4.9	31.7	JUN. 29	-27.8	FEB. 2	4954	648	91	JUN. 22-23	2022	191	DEC. 12	83	85	65	71	4.3	WNW	14.3*	NW	MAY 9+	48	7.1	62	91	212	149	27	33	55	0	83	176	26
MINNESOTA																																			
DULUTH	9.9	-1.2	4.4	35.0	AUG. 30	-33.3	JAN. 24	5196	596	43	MAR. 26-27	1610	284	APR. 14-15	76	80	61	61	4.9	WNW	20.6	NE	MAY 14	57	6.7	82	92	191	118	22	29	50	8	86	203	34
INTERNATIONAL FALLS	9.7	-2.7	3.6	35.6	JUN. 28	-37.2	JAN. 24	5468	626	71	SEP. 1	1085	112	APR. 15	78	81	60	62	3.6	NW	13.9*	SE	APR. 20		6.5	78	104	183	124	12	35	28	5	96	204	49
MINNEAPOLIS	12.4	1.1	6.8	36.7	JUN. 28	-29.4	JAN. 24	4513	654	43	AUG. 18	1443	198	MAR. 5-6	78	84	62	63	4.2	S	17.9	S	MAY 11	58	6.3	88	106	171	101	18	32	15	12	64	175	34
ROCHESTER	11.7	1.4	6.6	33.3	JUN. 30	-28.9	JAN. 24	4528	769	56	JUN.30 JUL. 1	1433	213	DEC. 11-12	82	85	68	69	5.2	S					6.3	97	96	172	118	13	42	42	5	76	174	24
ST CLOUD	12.1	.0	6.1	34.4	SEP. 2+	-31.1	JAN. 24	4733	530	35	AUG. 18+	907	173	DEC. 8-9	79	83	58	60							6.3	91	108	166	94	13	33	20	15	68	189	34
MISSISSIPPI																																			
JACKSON	23.6	11.5	17.6	34.4	AUG. 30	-7.2	JAN. 29	1334	1653	91	NOV. 13	T	T	FEB. 25+	82	88	59	64	2.5	S	17.9	N	DEC. 17+	55	5.7	108	114	143	130	0	81	14	61	4	43	0
MERIDIAN	23.9	10.6	17.3	35.6	AUG. 3	-10.6	JAN. 22	1378	1753	142	FEB. 21-22	T	T	DEC. 8+	91	94	60	69	3.0	SSW	14.3	E	JUN. 30		5.7	109	118	138	119	0	68	36	70	1	48	0
VICKSBURG U	22.6	12.8	17.7	33.3	SEP. 4+	-7.2	JAN. 29	1260	1647	98	DEC. 16-17	T	T	DEC. 14+					3.6		25.0	W	APR. 3	56	5.8	111	104	150	123	0	81	14	21	4	27	0
MISSOURI																																			
COLUMBIA	17.4	6.4	11.9	34.4	SEP. 2	-20.0	JAN. 27	2890	1190	88	SEP. 12-13	538	104	DEC. 8-9	80	85	61	63	4.7	SSE	21.0	NW	MAY 25	59	5.8	115	89	161	112	7	62	16	21	25	100	5
KANSAS CITY	17.4	7.0	12.2	35.0	JUL. 18	-20.6	JAN. 27	2831	1530	138	SEP. 12-13	592	203	DEC. 22-23	71	77	58	57	4.2	SW	19.2	NE	JUN. 13+	62	6.0	107	96	162	108	4	60	10	24	22	101	2
ST JOSEPH	16.8	5.2	11.0	36.1	JUL. 1	-24.4	DEC. 13	3217	1356	113	SEP. 12-13	643	114	DEC. 8-9					5.1	S	20.6*	NW	OCT. 29		5.7	127	90	148	112	8	50	28	29	33	134	10
ST LOUIS	17.7	6.5	12.1	33.9	SEP. 10+	-21.1	JAN. 25	2862	1046	74	MAY 7-8	676	198	FEB. 2	72	78	56	59	4.5	S	18.3	S	NOV. 2	57	6.2	97	102	166	113	10	44	14	27	19	105	4
ST LOUIS PFC	18.2	8.9	13.6	35.0	JUL. 29	-18.3	JAN. 21	2511	1136	104	MAY 7-8	681	254	FEB. 2															110	8			31	17	69	1
SPRINGFIELD	18.8	6.4	12.6	35.0	AUG. 29+	-17.2	JAN. 28	2671	1124	73	MAR. 5	422	224	FEB. 7	80	84	60	63	5.3	SSE	26.4	SE	NOV. 21	59	6.1	101	102	162	109	5	57	31	38	13	104	0
MONTANA																																			
BILLINGS	15.9	3.2	9.6	40.6	AUG. 5	-27.2	DEC. 11	3676	343	37	SEP. 9-10	1316	218	NOV. 14-15	54	62	47	41	5.4	WSW	25.9	NW	MAY 10	67	6.1	90	118	157	84	18	24	16	49	30	151	7
GLASGOW	13.4	.2	6.8	38.9	AUG. 5	-30.0	DEC. 19	4606	226	29	JUL. 29-30	455	81	OCT. 28	67	74	54	49							6.2	83	123	159	71	5	21	11	41	57	187	29
GREAT FALLS	14.8	1.6	8.2	41.1	AUG. 5	-28.9	DEC. 10	3976	266	21	MAY 30-31	978	163	NOV. 25+	57	65	47	42	5.1	SW	25.0	SW	JUN. 29+	64	6.3	83	118	164	89	12	20	10	26	32	164	11
HAVRE	14.7	-.5	7.1	43.9	AUG. 5	-37.2	DEC. 12	4408	189	23	SEP. 10-11	391	102	DEC. 5		72	52		4.1	SWS	31.7	NW	JUL. 28	71	5.8	111	97	157	63	5	13	2	42	42	193	25
HELENA	14.6	.7	7.7	39.4	AUG. 5	-30.0	DEC. 11	4148	207	15	MAR. 26-27	800	147	MAR. 26-27	58	68	50	42	3.9	W	25.9	W	JUL. 5	62	6.2	96	103	166	93	8	33	1	28	34	185	10
KALISPELL	13.2	.1	6.7	40.6	AUG. 4	-25.6	DEC. 11	4403	417	19	JUL. 4-5	2014	218	DEC. 19+			64								6.8	80	82	203	128	23	28	24	28	42	191	10

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Greatest in 24 hours	Precipitation: Snow, Sleet: Date (s)	Relative humidity: 1:00 am EST	Relative humidity: 7:00 am EST	Relative humidity: 1:00 pm EST	Relative humidity: 7:00 pm EST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0–3	Number of days: Sunrise to sunset: Partly cloudy, 4–7	Number of days: Sunrise to sunset: Cloudy, 8–10	Number of days: Precipitation 25mm or more	Number of days: Snow, Sleet 25.4mm or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp. 32.2°C and above	Number of days: Max temp. 0°C and below	Number of days: Min. temp 0°C and below	Number of days: Min. temp −17.8°C and below
MONTANA	°C	°C	°C.	°C		°C		Base 18.3°C	Mm	Mm		Mm.	Mm.		%	%	%	%	M.p.s.		M.p.s.			%	Tenths											
MILES CITY	15.4	2.0	8.7	40.6	AUG. 3	−26.7	DEC. 12	4068	253	31	MAY 22–23	442	76	MAR. 4	65	71	52	47	4.5	NW	20.6*	WNW	FEB. 25		5.8	110	109	146	82	11	23	3	59	43	173	18
MISSOULA	13.7	− .2	6.8	40.6	AUG. 4	−26.1	DEC. 11	4388	350	25	MAY 4– 5	1488	165	MAY 4– 5	74	84	66	54	2.9	NW	18.8	NW	NOV. 1+	54	6.9	81	73	211	138	20	25	32	40	47	206	10
NEBRASKA																																				
GRAND ISLAND	16.7	3.0	9.8	41.1	JUN. 30	−24.4	DEC. 15	3636	661	75	MAY 21–22	899	221	DEC. 11	74	79	54	53	5.3	S					5.4	135	80	150	88	9	44	17	43	38	160	16
LINCOLN U	16.2	4.8	10.5	40.6	JUN. 30	−24.4	JAN. 27	3433	803	57	OCT. 9–10	798	221	DEC. 10–11					4.6	SS	22.4	NE	NOV. 15	65	5.8	109	111	145	95	10	47	12	38	45	133	14
NORFOLK	15.1	2.2	8.7	40.0	JUN. 30	−28.3	DEC. 13	3959	585	72	JUL. 31	986	147	FEB. 17–18		80	56	55							5.7	126	87	152	77	12	35	9	31	47	170	21
NORTH PLATTE	16.5	1.2	8.8	38.9	AUG. 4	−28.9	DEC. 12	3863	475	38	JUN. 13–14	1143	226	MAR. 5	72	82	51	47	5.1	NNW	27.3	NW	MAY 31	63	5.8	119	92	154	85	13	40	18	41	31	180	12
OMAHA	15.7	4.5	10.1	38.3	JUN. 30	−24.4	JAN. 24	3523	961	85	MAY 30–31	1074	226	DEC. 11	78	83	60	59	5.2	SSE	22.4	NW	APR. 15	60	5.8	113	102	150	105	12	47	20	27	44	140	14
OMAHA N. OMAHA AP	14.6	3.7	9.2	37.8	JUN. 30	−26.7	JAN. 27	3769	801	81	OCT. 9–10	935	218	DEC. 12											6.1	100	103	162	103	10	49	16	14	51	151	18
SCOTTSBLUFF	16.6	1.1	8.8	38.3	JUN. 29	−23.3	DEC. 12	3822	360	47	MAY 13–14	907	124	MAR. 3	79	50	46	71	5.2	WNW	23.2*	W	APR. 23+		5.7	114	110	141	89	13	37	15	35	27	179	9
VALENTINE	16.0	.7	8.3	40.0	JUN. 29	−25.6	JAN. 24	4027	368	41	JUN. 13–14	411	64	MAR. 7+	84	53	51	77	4.8	WS	25.5	S	SEP. 28	68	5.4	131	88	146	70	7	33	7	45	39	190	17
NEVADA																																				
ELKO	16.8	− .7	8.1	36.7	AUG. 4+	−24.4	DEC. 11	3987	193	34	AUG. 5– 6	907	99	MAR. 25	50	62	47	35	2.6	SW	13.4*	WNW	APR. 12		5.6	119	101	145	77	13	23	5	49	14	217	7
ELY	15.3	− 2.2	6.9	35.0	JUN. 30	−26.1	DEC. 11	4247	185	13	JUN. 3– 4	1323	155	MAR. 24–25	55	63	40	35	4.4	S	24.1	SE	MAY 31	82	5.6	108	123	134	71	24	39	1	23	15	232	7
LAS VEGAS	26.2	11.0	18.7	45.0	JUL. 10+	− 6.1	DEC. 13	1443	81	13	JUL. 2– 3	T	T	DEC. 15+	33	41	27	19	4.1	SW	25.9*	NNW	MAR. 17	85	3.5	211	93	61	27	0	22	0	126	0	39	0
RENO	20.2	− .7	9.8	38.3	AUG. 4+	−22.8	DEC. 11	3293	136	19	MAY 31	348	170	NOV. 19–20	54	70	44	30	3.4	SW	26.4	NW	DEC. 17	82	4.5	155	101	109	47	5	22	2	53	1	202	2
WINNEMUCCA	18.8	− .3	9.3	40.0	AUG. 4	−26.7	DEC. 11	3579	198	20	SEP. 16–17	335	137	NOV. 19–20	54	65	44	33	3.4	S	26.4	W	FEB. 24	64	5.7	119	90	156	71	4	21	2	55	6	203	8
NEW HAMPSHIRE																																				
CONCORD	16.3	1.7	8.0	35.9	JUN. 13	−32.6	JAN. 24	4020	813	35	AUG. 29	1791	241	NOV. 20–21	79	78	52	63	2.6	NW	14.8	NW	NOV. 25	55	6.2	91	123	151	107	18	16	62	13	41	165	24
MT. WASHINGTON OBS	1.2	− 6.2	− 2.5	16.9	JUL. 4	−26.7	FEB. 1	1984	1526	63	NOV. 20–21	5702	424	NOV. 20–21	85	84	83	84	13.5	W	58.6	NW	JAN. 25	37	7.3	63	86	216	173	57	16	321	0	164	239	62
NEW JERSEY																																				
ATLANTIC CITY	17.9	7.2	12.6	35.0	SEP. 3	−22.2	JAN. 22	2803	1109	77	SEP. 20–21	627	272	JAN. 19–20	81	82	56	70	5.2	WNW	20.6	NW	SEP. 21+	57	6.1	91	118	156	122	5	25	56	26	16	93	4
NEWARK	16.9	7.9	12.4	36.7	JUN. 13	−18.9	FEB. 2	2830	1152	80	JUL. 2	1613	508	FEB. 3– 4	72	73	54	61	4.4	SW	20.6	NNW	SEP. 21		5.8	102	117	146	124	13	24	22	34	24	84	1
TRENTON U	16.4	7.5	12.1	35.6	JUL. 3	−18.9	FEB. 2	2875	1160	78	JUL. 15	907	257	JAN. 19–20					4.0	NW	19.2	NW	DEC. 5	61	6.0	97	124	144	135	10	35		19	24	86	0
NEW MEXICO																																				
ALBUQUERQUE	20.3	5.8	13.1	37.2	JUN. 22	−13.9	DEC. 12	2517	225	45	JUL. 8– 9	249	86	NOV. 14–15	47	59	39	29	3.7	N	24.1	NW	JUL. 20	82	4.1	183	106	76	58	4	39	2	58	3	113	0
CLAYTON	18.7	3.1	10.9	35.0	JUL. 18+	−19.4	DEC. 12	3039	386	40	NOV. 14–15	627	323	NOV. 14–15		71	41	41							4.9	145	104	116	79	4	51	24	27	15	154	3
RATON	17.3	.0	8.7	32.8	JUL. 31+	−28.9	DEC. 12	3613	452	33	MAY 22	724	124	NOV. 14–15			42								5.1	126	131	106	97	10	73	9	5	19	194	4
ROSWELL	24.3	4.4	14.4	39.4	AUG. 7+	−18.3	NOV. 15	2221	199	26	NOV. 13–14	500	244	NOV. 13–14	59	74	41	33	3.9		20.1	W	APR. 11		4.4	163	111	91	47	5	31	21	118	6	138	1
SILVER CITY	22.2	5.9	14.1	38.3	AUG. 8	− 8.3	FEB. 6	2126	274	38	JUN. 15	147	104	NOV. 14			34	30							3.8	189	112	64	65	1	65	1	59	0	110	0
NEW YORK																																				
ALBANY	14.3	3.3	8.7	33.7	JUL. 2	−27.8	FEB. 2	3868	907	83	AUG. 25–26	1880	262	MAR. 8–09+	82	82	59	69	3.7	S	21.5	S	SEP. 2	55	6.9	71	99	195	135	13	30	33	10	51	151	21
BINGHAMTON	14.3	4.2	9.2	33.3	JUN. 13	−28.3	FEB. 2	3712	836	50	APR. 24	1745	465	FEB. 4	81	84	67	71	4.2	WNW	17.9	E	APR. 16	50	7.3	98	116	211	149	16	34	73	4	49	134	12
BUFFALO	13.2	3.9	8.6	31.7	SEP. 14+	−28.9	FEB. 2	3856	943	54	SEP. 13–14	2271	452	DEC. 3	82	81	67	73	4.5	SW	19.2	SW	FEB. 19	49	7.4	44	104	217	177	28	32	30	0	56	139	5
NEW YORK C. P.	17.1	8.6	12.8	36.1	JUL. 22	−18.9	FEB. 2	2718	999	67	FEB. 3– 4	1113	442	FEB. 3– 4	69	72	54	60	4.1	NW	21.0	NE	FEB. 4	57	5.3	137	115	113	119	9	11		29	22	74	1
NEW YORK LAG	16.2	8.7	12.4	36.1	JUN. 13	−18.3	FEB. 2	2763	1151	59	FEB. 3– 4	1189	442	FEB. 3– 4	72	73	57	63	5.9		26.4	NE	APR. 13		6.1	88	133	144	124	12	19	20	14	25	68	1
ROCHESTER	13.9	3.9	8.9	32.8	JUL. 23	−26.7	FEB. 2	3764	775	47	FEB. 25–26	2052	229	FEB. 3– 4	83	83	63	72	5.3	WSW	24.6	W	APR. 26	51	7.1	56	104	205	151	25	33	14	5	50	135	7

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow, Sleet: Total	Snow, Sleet: Greatest in 24 hours	Snow, Sleet: Date (s)	Relative humidity: 1:00 am EST	Relative humidity: 7:00 am EST	Relative humidity: 1:00 pm EST	Relative humidity: 7:00 pm EST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0–3	Number of days: Sunrise to sunset: Partly cloudy, 4–7	Number of days: Sunrise to sunset: Cloudy, 8–10	Number of days: Precipitation 25mm or more	Number of days: Snow, Sleet 25.4mm or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp 32.2°C and above	Number of days: Max temp 0°C and below	Number of days: Min temp 0°C and below	Number of days: Min temp −17.8°C and below
NEW YORK	°C	°C	°C	°C		°C		Base (18.3°C)	Mm	Mm.		Mm.	Mm.		%	%	%	%	M.p.s.		M.p.s.			%	Tenths											
SYRACUSE	14.0	4.1	9.1	33.3	JUL. 23	−28.3	FEB. 2	3740	955	51	JUL. 14	3297	544	FEB. 3–4	79	80	60	67	4.6	WSW	21.9	NW	JUN. 10	46	7.0	61	109	195	165	33	31	18	7	53	137	9
NORTH CAROLINA																																				
ASHEVILLE U	18.8	7.2	13.1	32.2	SEP. 3+	−16.1	JAN. 22	2330	1151	77	AUG. 23–24	127	76	FEB. 3		84	55	65	3.5	NW	18.3	NW	FEB. 25	51	5.9	106	104	155	129	1	46	84	2	9	79	0
CAPE HATTERAS P	20.6	12.3	16.4	33.3	JUL. 26	−5.0	JAN. 31	1512	1084	75	AUG. 4–5	T	T	JAN. 26+	84	83	66	80	5.6	WSW	27.3	SSW	APR. 10	66	5.8	110	105	150	112	0	48	12	3	1	26	0
CHARLOTTE	21.4	9.5	15.4	35.0	JUL. 31	−13.3	JAN. 22	1849	1114	73	FEB. 20–21	51	30	JAN. 26	78	85	54	61	3.0	SW	21.9	SW	FEB. 25	64	5.8	113	101	151	111	1	35	27	34	3	67	0
GREENSBORO	20.2	8.0	14.1	33.9	SEP. 3	−13.3	JAN. 22	2190	1113	54	MAY 10–11	64	20	FEB. 3	82	84	53	65	3.5	SW	19.2	SW	FEB. 25	64	5.7	114	111	140	126	0	46	30	22	5	88	0
RALEIGH	21.1	8.6	14.8	34.4	JUL. 31	−13.9	JAN. 22	2021	1044	48	AUG. 2	97	30	FEB. 3+	81	85	52	65	3.4	SSW	17.9	SE	APR. 9	62	5.6	127	96	142	118	3	44	38	41	5	78	0
WILMINGTON	22.9	11.6	17.3	36.1	AUG. 1	−7.8	JAN. 22	1407	1327	89	APR. 9–10	T	T	FEB. 2+	88	89	58	76	4.3	SSW	21.5	SW	APR. 12	67	5.7	108	117	140	123	0	52	24	52	1	44	0
WINSTON-SALEM	20.1	8.9	14.5	33.9	JUL. 31	−13.3	JAN. 22	2081	1101	83	JUN. 20–21	71	23	FEB. 7–8	72	75	50	58	4.1	SW	33.5	SSW	FEB. 25		5.5	120	98	147	124	0	46	31	23	5	69	0
NORTH DAKOTA																																				
BISMARCK	13.5	−.8	6.4	40.0	AUG. 29+	−31.1	JAN. 24	4648	283	38	JUN. 29–30	546	147	APR. 23	66	73	51	47	4.8	WNW	25.5	W	SEP. 2	68	6.3	94	102	169	82	3	29	16	43	64	189	38
DEVILS LAKE U	10.6	−1.8	4.4	39.4	JUN. 27	−36.1	JAN. 24	5329	356	27	SEP. 21	907	127	DEC. 3–4		81	59	58	3.8	SS	14.8	NW	NOV. 6+	64	6.1	105	100	160	88	12	26	13	28	92	198	54
FARGO	12.0	−.5	5.8	37.2	AUG. 29+	−32.8	JAN. 24	4898	452	60	SEP. 9–10	348	69	DEC. 8–9	76	81	61	60	5.9	S	26.8	SW	JUN. 28	57	6.4	86	109	170	82	4	23	15	26	78	186	38
WILLISTON U	12.8	.3	6.6	37.2	AUG. 5	−31.7	DEC. 19	4663	253	33	APR. 22–23	826	229	APR. 23		76	56	50	3.1	WS	21.0	SE	JUN. 29	66	6.3	86	121	158	68	8	17	6	36	65	186	32
OHIO																																				
AKRON	14.8	4.5	9.7	32.8	JUN. 12	−23.3	JAN. 25	3518	872	82	JUL. 18–19	1565	150	APR. 17–18	83	85	62	69	4.9	SW					6.9	71	99	195	155	21	44	26	3	41	131	8
CINCINNATI	17.6	7.0	12.3	33.3	SEP. 5+	−19.4	JAN. 25	2763	1114	70	MAY 7–8	767	142	DEC. 9	77	82	58	61	2.7	SSW	17.0	SW	APR. 25	55	7.0	71	97	197	136	11	45	24	21	23	99	2
CLEVELAND	14.9	4.7	9.8	33.3	JUL. 22	−21.7	JAN. 25	3456	898	69	AUG. 21	622	89	FEB. 3–4	79	79	63	68	4.8	S	19.2	NW	FEB. 25	54	7.0	62	99	204	142	9	35	11	5	40	130	6
COLUMBUS	16.4	5.5	11.0	34.4	JUL. 1	−25.0	JAN. 25	3143	885	43	JUN. 8–9	869	114	FEB. 3–4	82	84	62	66	3.5	S	17.9	NW	APR. 28	53	6.8	69	106	190	133	13	47	23	15	30	115	4
DAYTON	15.9	5.8	10.8	33.3	JUL. 1	−22.2	JAN. 25	3183	1019	53	SEP. 1	803	104	DEC. 23+	79	84	61	66	4.6	SSW	26.4	NW	FEB. 25	51	6.7	77	100	188	133	12	43	19	5	33	115	7
MANSFIELD	14.5	4.6	9.6	31.7	SEP. 6+	−23.3	JAN. 25	3544	975	71	FEB. 25–26	792	109	FEB. 25–26		85	67								6.9	63	112	190	144	12	47	22	0	44	138	9
SANDUSKY U	15.4	6.1	10.8	35.0	JUL. 1	−21.7	JAN. 25	3246	1051	88	SEP. 1	427	127	APR. 16–17					4.0		25.0	SW	APR. 16	61	5.8	99	122	144	120	6	49	17	18	34	111	8
TOLEDO	14.9	3.3	9.1	32.8	JUL. 1	−23.9	JAN. 25	3662	702	36	APR. 24–25	627	119	APR. 16–17	85	88	64	70	4.2	SW	21.0	W	JUN. 1	57	6.7	68	115	182	124	8	41	24	7	43	152	6
YOUNGSTOWN	14.3	4.1	9.2	31.7	AUG. 31+	−23.9	FEB. 2	3642	933	48	JUL. 19	1349	163	APR. 1–2	81	83	62	69	4.3	SW	18.3	WSW	APR. 15		7.2	60	97	208	152	17	35	32	0	42	137	6
OKLAHOMA																																				
OKLAHOMA CITY	20.8	9.1	14.9	37.2	AUG. 3	−13.9	DEC. 12	2086	884	92	SEP. 12–13	269	84	FEB. 6–7	75	81	57	55	5.9	SSE	25.0	NW	DEC. 22	65	5.3	138	88	139	90	4	54	24	46	9	78	0
TULSA	20.3	8.6	14.5	37.2	SEP. 2	−15.0	JAN. 21	2197	1305	122	JUL. 14–15	183	109	FEB. 6–7	80	87	63	60	4.9	SSE	25.5	NW	APR. 30	60	5.7	127	90	148	90	3	49	18	49	8	84	0
OREGON																																				
ASTORIA	14.8	6.6	10.7	37.8	JUL. 11	−3.9	DEC. 11	2751	2042	73	FEB. 20–21	10	10	MAR. 3	87	90	79	72	4.2	SSE	23.2*	WSW	DEC. 17		7.7	52	64	249	205	0	7	40	1	0	26	0
BURNS U	16.0	.7	8.4	39.4	AUG. 4	−20.6	DEC. 11	3857	274	17	DEC. 18	1062	157	DEC. 18	60	70	56	40							5.8	114	85	166	94	13	12	10	37	9	201	2
EUGENE	17.7	5.7	11.7	40.6	JUL. 12	−6.7	DEC. 11	2556	1351	106	FEB. 9–10	51	51	NOV. 23–24			72	58	4.1		25.9*	SSW	JAN. 7		6.7	80	80	205	148	2	6	61	15	1	46	0
MEACHAM	11.9	2.3	7.1	40.6	AUG. 4	−21.1	DEC. 11	4226	845	44	DEC. 18–19	3155	236	DEC. 7–8			61								6.5	96	71	198	174	37	13	44	9	36	166	2
MEDFORD	19.7	4.5	12.1	42.8	JUN. 15	−10.0	NOV. 17	2639	499	35	OCT. 26–27	216	91	DEC. 13–14	73	86	68	48	2.1	WNW	16.1*	SSW	FEB. 24		6.1	108	80	177	121	3	10	51	68	2	91	0
PENDLETON	18.2	5.9	12.1	45.0	AUG. 4	−17.2	DEC. 11	2784	291	16	MAR. 13–14	378	168	NOV. 24–25	59	67	53	45	4.3	W	25.9*	WSW	DEC. 17		6.1	116	71	178	112	3	10	22	52	19	74	0
PORTLAND															76	84	72	58	3.8	NW	25.0	SW	NOV. 21	49	7.1	77	68	220			9	37				
PORTLAND U	17.5	8.7	13.1	40.6	JUL. 12	−5.6	DEC. 11	2181	1263	56	NOV. 21–22	38	38	DEC. 12–13															169	1			15	0	11	0
ROSEBURG	18.8	5.8	12.3	41.1	JUL. 11	−7.2	DEC. 11	2404	1050	122	NOV. 22–23	274	239	NOV. 23–24			71	54	2.1	NS	17.0	SW	FEB. 24	55	6.8	75	88	202	140	2	5	57	31	1	42	0

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow, Sleet: Total	Snow, Sleet: Greatest in 24 hours	Snow, Sleet: Date (s)	Relative humidity: 1:00 a.m. EST	Relative humidity: 7:00 a.m. EST	Relative humidity: 1:00 p.m. EST	Relative humidity: 7:00 p.m. EST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0–3	Number of days: Sunrise to sunset: Partly cloudy, 4–7	Number of days: Sunrise to sunset: Cloudy, 8–10	Number of days: Precipitation 25mm or more	Number of days: Snow, Sleet 25.4mm or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp. 32.2°C and above	Number of days: Max temp. 0°C and below	Number of days: Min. temp. 0°C and below	Number of days: Min. temp. −17.8°C and below
OREGON	°C	°C	°C.	°C		°C		Base 18.3°C	Mm.	Mm		Mm.	Mm.		%	%	%	%	M.p.s		M.p.s.			%	Tenths											
SALEM	17.7	5.2	11.4	40.0	JUL. 12	− 9.4	DEC. 11	2637	1171	75	FEB. 9–10	T	T	DEC. 13+	81	89	74	59	3.2	S	19.2*	SSE	DEC. 16		6.8	90	62	213	170	0	5	39	23	1	58	0
SEXTON SUMMIT R	13.4	4.3	8.8	35.0	JUN. 15	− 8.3	DEC. 11	3594	1376	120	NOV. 22–23	2278	216	NOV. 24+			71		5.7	S					5.9	124	59	182	131	27	2	148	7	14	112	0
PACIFIC AREA																																				
CANTON ISLAND	31.7	25.8	28.8	33.3	NOV. 23+	22.2	JUL. 24	0	508	58	JUN. 9–10	0	0		76	79	79	64	5.9	ENE	16.5*	E	AUG. 1		6.8	74	117	174	119	0	2	0	138	0	0	0
ENIWETOK	30.3	25.4	27.9	32.2	OCT. 2+	21.7	JUL. 12	0	1539	73	OCT. 3– 4	0	0		75	80	81	72	7.4										211	0	6	0	11	0	0	0
JOHNSTON	28.2	23.4	25.8	30.6	MAY 4+	17.2	NOV. 17	0	756	242	OCT. 1– 2	0	0		78	79	79	72	7.1		17.9	SE	NOV. 16	68	5.6	71	201	93	163	0	2	0	0	0	0	0
KOROR R	30.4	24.2	27.3	32.8	APR. 18	21.7	SEP. 3	0	4164	111	AUG. 18–19	0	0		78	90	92	81	3.0	NE	13.0	E	DEC. 23+	50	9.7	0	13	352	264	0	34	0	20	0	0	0
KWAJALEIN	30.1	24.8	27.4	32.2	MAR. 17	22.2	MAR. 19	0	2654	88	SEP. 16–17	0	0		78	82	83	76	6.2	ENE	17.9*	ESE	DEC. 20		8.1	20	90	255	262	0	15	0	1	0	0	0
MAJURO	29.8	25.2	27.5	31.1	NOV. 8+	22.2	SEP. 22	0	3345	243	JAN. 27–28	0	0		78	81	82	76	4.7	ENE	16.1	E	DEC. 20		8.8	9	66	290	269	0	21	0	0	0	0	0
PONAPE R	30.3	23.4	26.9	32.8	OCT. 25+	20.6	NOV. 8	0	5242	175	FEB. 23–24	0	0		81	90	92	78	2.2	NE	13.0	NE	MAR. 14	51	9.3	3	35	327	308	0	41	0	15	0	0	0
TAGHAT GUAM R	29.4	22.7	26.1	31.7	OCT. 1+	17.2	NOV. 22	0	2533	108	SEP. 10–11	0	0						3.1	NES	15.2	NE	SEP. 10						292	0	34	0	0	0	0	0
TRUK	30.1	24.5	27.3	32.2	OCT. 15	21.7	JUL. 8	0	4172	159	JUL. 10–11	0	0		79	87	89	79	2.7	NNE				74	9.2	0	51	314	270	0	27	0	2	0	0	0
WAKE ISLAND	29.3	23.8	26.6	32.2	AUG. 12+	19.4	MAR. 3	0	1108	117	SEP. 24–25	0	0		74	79	80	71	6.5	ENE	20.6*	SE	AUG. 22		6.1	91	129	145	153	0	6	0	5	0	0	0
YAP R	29.9	24.2	27.1	32.8	NOV. 14+	20.6	SEP. 28	0	3696	135	OCT. 23–24	0	0		79	88	90	81	3.7	NE	22.4	NE	MAR. 25	40	9.9	0	3	362	282	0	15	0	4	0	0	0
PENNSYLVANIA																																				
ALLENTOWN	15.9	5.0	10.4	33.9	JUL. 2+	−24.4	JAN. 22	3328	997	58	JUL. 15	1651	429	FEB. 3– 4	83	83	58	68	4.5	WSW	22.8	W	APR. 26		6.0	104	113	148	127	16	27	36	11	30	133	12
ERIE	13.8	5.2	9.6	32.2	SEP. 13+	−21.1	FEB. 2	3533	927	61	APR. 24–25	1514	168	APR. 1	78	78	68	71	5.5	S	17.9	SSW	APR. 16+		7.1	65	96	204	151	18	52	24	3	46	119	4
HARRISBURG	16.8	6.2	11.5	35.6	JUL. 1	−19.4	JAN. 22	3031	1028	71	JUL. 19–20	2075	462	JAN. 19–20	77	77	55	64	3.7	W	16.5	NW	FEB. 26	60	6.4	87	109	169	140	16	41	27	24	24	109	5
PHILADELPHIA	16.6	6.4	11.5	33.9	JUL. 22	−20.0	FEB. 2	3009	1043	52	APR. 12–13	1016	335	JAN. 19–20	77	77	58	66	4.1	WSW	17.4	E	APR. 13	61	6.3	89	114	162	119	11	28	33	12	26	103	2
PITTSBURGH	15.3	4.6	10.0	35.0	AUG. 31	−23.3	JAN. 25	3369	968	35	NOV. 23–24	1532	287	FEB. 3– 4	79	82	63	68	3.9	WSW	17.0	NNW	JAN. 24	52	7.3	49	103	213	166	17	41	18	2	39	125	5
READING, U	16.9	7.4	12.2	35.0	JUL. 23	−18.3	FEB. 2	2853	1009	64	JUL. 29	1491	432	FEB. 3– 4					4.6		25.5	N	APR. 16	59	6.2	88	118	159	130	12	37	11	20	22	85	2
SCRANTON	14.2	4.2	9.2	32.2	JUL. 2+	−23.9	FEB. 2	3703	884	59	AUG. 25–26	1748	338	FEB. 3– 4	79	81	59	66	3.8	SW	18.8	SW	JUN. 2	51	6.6	73	116	176	147	21	31	31	2	46	144	11
WILLIAMSPORT	15.6	4.4	10.0	33.9	SEP. 12	−25.0	JAN. 22	3423	1039	57	JUN. 21	1887	373	FEB. 3– 4		83	57	66							6.8	57	130	178	147	20			11	32	127	13
PUERTO RICO																																				
SAN JUAN P.R.	28.7	22.9	25.8	34.4	SEP. 17	20.0	NOV. 14	0	1689	115	DEC. 5– 6	0	0		88	85	64	79	3.4	ENE	15.6	NE	NOV. 13	58	6.1	55	205	105	202	0	29	0	22	0	0	0
RHODE ISLAND																																				
BLOCK ISLAND	12.9	5.6	9.8	31.1	JUL. 26	−18.9	FEB. 2	3304	1327	184	SEP. 20–21	902	429	FEB. 3– 4		80	69								6.5	85	112	168	104	10	11	122	0	28	95	1
PROVIDENCE	14.9	5.4	10.2	33.9	JUN. 13	−21.1	FEB. 2	3326	1259	124	SEP. 20–21	1511	465	FEB. 4	78	77	57	68	5.0	S	18.8	S	SEP. 15	54	6.1	98	111	156	116	14	18	34	6	30	120	5
SOUTH CAROLINA																																				
CHARLESTON	24.1	12.1	18.1	35.6	JUL. 31+	− 7.8	JAN. 22	1178	1271	105	JUN. 26–27	T	T	JAN. 28+	87	88	57	75	3.8	SSW	22.8	S	APR. 9+	69	5.6	107	130	128	115	0	59	24	47	0	44	0
COLUMBIA	24.1	10.4	17.3	37.8	JUL. 31	−10.0	JAN. 22	1431	1396	103	AUG. 3– 4	58	36	JAN. 26	82	86	50	63	3.0	SW	19.7	SSE	AUG. 3	57	5.5	120	101	144	110	1	51	32	75	2	54	0
FLORENCE	23.4	10.9	17.2	36.1	JUL. 31	−10.0	JAN. 22	1418	1126	79	JUN. 26–27	25	13	JAN. 26	83	86	53	68	3.6	SW	15.6	SW	JUN. 21		5.4	123	11[illegible]	132	121	0	52	41	55	3	48	0
GREENVILLE	22.1	10.0	16.1	35.0	JUL. 31	−13.3	JAN. 22	1669	1419	97	FEB. 20–21	53	25	FEB. 3+	75	79	53	62	3.5	NE	18.8	SW	MAR. 8	61	5.7	117	94	154	116	2	49	22	48	3	54	0
SPARTANBURG	21.5	9.7	15.6	35.0	AUG. 1+	−12.2	JAN. 22	1761	1547	105	AUG. 4	58	30	FEB. 3	77	82	53	61	3.0	SW	19.7	SW	FEB. 25		5.6	127	87	151	110	2	41	24	39	3	57	0
SOUTH DAKOTA																																				
HURON	13.8	− .3	6.7	38.3	AUG. 23	−32.8	JAN. 24	4622	506	107	OCT. 10–11	498	119	FEB. 1– 2	82	87	62	61	5.1	SSE	29.1	SW	JUL. 25	71	6.0	103	98	164	78	6	36	17	42	68	190	37
RAPID CITY	16.3	2.1	9.2	41.1	JUN. 29	−22.8	DEC. 11	3805	253	28	JUL. 1	617	94	OCT. 28–29	67	45	44	62	4.9	NNW	26.4	NW	NOV. 2	60	5.7	113	103	149	72	13	23	11	47	31	174	10

See reference notes at end of table

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Precipitation: Snow, Sleet: Total	Precipitation: Snow, Sleet: Greatest in 24 hours	Precipitation: Snow, Sleet: Date (s)	Relative humidity: 1:00 a.m. E.S.T.	Relative humidity: 7:00 a.m. E.S.T.	Relative humidity: 1:00 p.m. E.S.T.	Relative humidity: 7:00 p.m. E.S.T.	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile (1.6 kilometers): Direction	Wind: Fastest mile (1.6 kilometers): Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0–3	Number of days: Sunrise to sunset: Partly cloudy, 4–7	Number of days: Sunrise to sunset: Cloudy, 8–10	Number of days: Precipitation 25mm or more	Number of days: Snow, Sleet 25.4mm or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp: 32.2°C and above	Number of days: Max temp: 0°C and below	Number of days: Min temp: 0°C and below	Number of days: Min temp: −7.8°C and below
SOUTH DAKOTA	°C	°C	°C	°C		°C		Base 18.3°C	Mm	Mm		Mm	Mm		%	%	%	%	M.p.s.		M.p.s.			%	Tenths											
SIOUX FALLS	13.7	1.3	7.5	36.7	AUG. 4+	−30.6	JAN. 24	4331	585	49	JUN. 6–7	907	193	FEB. 1–2	73	78	56	55	4.5	NW	17.9*	WSW	JUL. 20+		6.0	108	103	154	85	12	38	31	23	60	174	28
TENNESSEE																																				
BRISTOL	19.2	7.6	13.4	30.8	AUG. 2	−18.9	JAN. 22	2313	1126	50	AUG. 24–25	409	84	FEB. 2–3	81	85	57	64	3.0	NE	20.6	WSW	FEB. 25		6.5	89	92	164	130	8	45	55	7	13	80	1
CHATTANOOGA	21.4	9.4	15.4	35.0	AUG. 30+	−13.9	JAN. 22	1882	1507	123	DEC. 17–18	51	46	DEC. 27	82	87	56	62	3.1	S	20.1	S	NOV. 23+	55	6.3	94	104	167	126	1	56	50	45	5	66	0
KNOXVILLE	19.7	8.4	14.1	33.3	SEP. 25+	−15.0	JAN. 22	2090	1384	87	MAR. 7–8	340	64	FEB. 3+	80	86	60	63	3.5	NE	32.6	SW	JUL. 15	49	6.6	88	89	188	136	4	47	44	6	8	64	0
MEMPHIS	21.3	10.3	15.8	35.0	JUL. 20	−11.7	JAN. 28	1847	1261	80	NOV. 22–23	5	5	FEB. 24–25	76	82	58	60	4.2	SSW	15.6	NW	APR. 15+	61	6.1	91	117	157	118	0	53	14	51	6	57	0
NASHVILLE	20.7	8.6	14.7	34.4	SEP. 24+	−18.3	JAN. 28	2068	1139	62	DEC. 8–9	173	38	FEB. 25+	79	85	58	61	3.4	S	19.2	SW	MAY 8	55	6.3	88	106	171	131	3	56	13	41	8	66	1
OAK GROVE	20.1	8.4	14.3	35.0	SEP. 24	−16.7	JAN. 28	2085	1432	64	MAR. 7–8								2.4	SW									132				9	5	74	0
OAK RIDGE	20.0	8.3	14.2	32.8	SEP. 24+	−16.1	JAN. 22	2110	1547	77	MAR. 7–8	284	86	DEC. 27					1.9	E	22.4		JUL. 17		6.1	110	79	176	134	4	64	47	8	5	72	0
TEXAS																																				
ABILENE	23.6	10.7	17.2	36.1	AUG. 4+	−11.7	JAN. 29	1527	903	170	SEP. 3–4	218	76	JAN. 27–28	71	79	53	48	4.5	SSE	25.5	NE	JUN. 4	71	4.8	158	99	108	77	3	48	4	87	8	45	0
AMARILLO	21.2	6.1	13.6	36.7	MAY 12	−19.4	DEC. 12	2418	570	59	AUG. 18–19	643	160	MAR. 17	64	74	45	41	6.2	S	20.1	SE	JUN. 2+	76	4.6	152	113	100	74	8	44	27	66	12	114	1
AUSTIN	25.3	13.9	19.6	38.3	AUG. 4	−4.4	DEC. 13	984	926	139	JUL. 9–10	T	T	FEB. 6+	78	86	57	55	4.3	SSE	20.1	NE	SEP. 12+	59	5.7	104	120	141	72	0	36	21	101	1	15	0
BROWNSVILLE	27.7	17.9	22.8	36.1	AUG. 31+	1.1	JAN. 28	351	660	146	SEP. 13–14	0	0		87	91	61	69	5.4	SE	19.7	SE	APR. 30	62	5.8	94	143	128	79	0	22	23	98	0	0	0
CORPUS CHRISTI	26.7	16.7	21.7	36.7	AUG. 4	−1.7	JAN. 28	564	672	95	JUL. 10–11	T	T	JAN. 2	82	87	61	66	5.1	SE	28.2	NW	SEP. 11	63	6.2	88	123	154	68	0	26	25	92	0	4	0
DALLAS	23.8	12.7	18.3	37.8	AUG. 3	−8.9	JAN. 29	1342	1016	109	SEP. 11–12	155	81	JAN. 27–28	72	81	57	53	5.2	S	25.9	N	APR. 30	64	5.2	143	87	135	94	4	39	10	84	4	32	0
DEL RIO U	26.8	14.7	20.8	38.3	AUG. 4	−2.2	DEC. 28	829	578	74	JUN. 17	T	T	FEB. 6+															53	0			134	0	9	0
EL PASO	24.9	9.8	17.4	39.4	JUN. 24	−6.1	JAN. 13	1523	195	42	JUL. 4	198	198	NOV. 13–14	53	35	26	42	4.0	S	25.5	NW	APR. 8	84	4.0	187	103	75	47	2	34	5	113	0	68	0
FORT WORTH	23.8	12.2	18.1	37.8	AUG. 4+	−11.7	JAN. 29	1401	777	60	JAN. 6–7	163	89	JAN. 27–28	75	84	58	54	5.9	S	29.1*	N	JUL. 7		5.2	141	93	131	80	3	44	12	87	4	41	0
GALVESTON U	23.0	17.8	20.4	32.8	AUG. 6	−.6	JAN. 29	673	1625	319	JUN. 18–19	T	T	JAN. 29					5.6	S	35.8	SE	SEP. 11	70					82	0			3	0	5	0
GALVESTON	23.4	17.5	20.5	33.3	AUG. 6+	−1.1	JAN. 29	689	1708	288	JUN. 18–19	T	T	JAN. 29	75	77	67	68	5.0	SE					5.7	109	117	139	83	0	49	41	17	0	5	0
HOUSTON U	25.1	16.3	20.7	36.1	AUG. 3	−2.2	JAN. 29	651	1251	134	NOV. 12–13	T	T	JAN. 25															109	0			64	0	5	0
HOUSTON	26.0	15.3	20.7	35.6	SEP. 6+	−2.2	JAN. 29	724	1599	186	JUN. 18–19	T	T	DEC. 13	86	89	63	68	4.1	SSE					6.2	92	108	165	107	0	66	44	91	0	12	0
LAREDO	29.4	16.7	23.1	40.0	AUG. 4	−1.1	FEB. 7	526	348	59	SEP. 13–14	0	0		70	82	49	42	5.1	SE	19.7*	NNW	FEB. 24		5.3	120	128	117	63	0	25	15	177	0	2	0
LUBBOCK	22.2	7.0	14.6	38.3	JUN. 1	−14.4	DEC. 12	2119	478	74	JUN. 14–15	653	307	FEB. 2	67	78	50	44	6.6	S	23.2*	WSW	JUN. 24+		4.4	164	112	89	66	5	37	20	70	8	102	0
MIDLAND	24.1	9.5	16.8	37.2	JUN. 1+	−10.0	FEB. 7	1581	522	152	JUL. 21–22	107	56	FEB. 6	64	77	45	38	4.9	SE	19.7*	WNW	APR. 11		4.7	161	93	111	51	2	24	16	100	1	65	0
PORT ARTHUR	25.6	14.2	19.9	35.6	SEP. 6+	−3.9	JAN. 30	833	1711	259	JUN. 18–19	0	0		89	92	63	74	4.4	S	25.0	NW	APR. 11	50	6.0	96	109	160	115	0	74	51	73	0	20	0
SAN ANGELO	25.1	10.8	17.9	38.9	MAY 12	−10.0	FEB. 7	1389	543	73	JUN. 15–16	150	81	FEB. 5–6	70	80	50	46	5.2	S	25.9*	W	MAR. 16		4.7	155	112	98	62	2	30	6	117	3	45	0
SAN ANTONIO	26.4	14.6	20.5	37.8	AUG. 4	−2.8	DEC. 29	852	672	99	JUL. 22–23	T	T	FEB. 6+	78	85	57	53	4.5	SSE	21.0	N	SEP. 11	59	5.4	112	127	126	65	0	26	19	120	0	18	0
VICTORIA	26.1	15.2	20.7	36.1	AUG. 4	−1.7	DEC. 28	718	918	141	SEP. 10–11	T	T	JAN. 25		90	60	64	4.6		67.1Y	NNE	SEP. 11		5.9	91	132	142	85	0	44	21	89	0	11	0
WACO	24.7	13.1	18.9	38.3	AUG. 4	−8.3	JAN. 29	1172	1085	105	JUN. 15–16	58	51	JAN. 28	78	87	59	56	6.2	SSE	30.8*	E	JUN. 5		5.4	128	104	133	74	1	37	10	98	3	27	0
WICHITA FALLS	23.5	10.2	16.9	38.9	AUG. 5+	−11.7	JAN. 29	1714	700	122	JUN. 24–25	173	109	FEB. 6	73	81	52	50	5.4	S	20.6*	NNE	APR. 30		4.8	156	99	110	79	2	45	16	96	6	55	0
UTAH																																				
MILFORD	18.6	.6	9.6	39.4	JUN. 23	−25.6	JAN. 28	3578	201	25	SEP. 17	770	112	MAR. 17–18			39	31							4.9	145	108	112	64	12	39	3	64	8	188	9
SALT LAKE CITY	18.4	4.1	11.2	40.0	JUN. 21	−23.3	DEC. 10	3253	298	23	OCT. 27–28	1262	188	FEB. 18	62	69	47	42	4.2	S	21.9	W	AUG. 6	62	5.8	116	102	147	84	16	30	6	82	13	138	2
WENDOVER	17.4	5.6	11.5	38.9	JUL. 23+	−16.1	JAN. 28	3262	106	14	NOV. 15–16	333	140	NOV. 15–16		50	37	30							5.0	138	109	118	56	5	34	1	66	21	137	0
VERMONT																																				

See reference notes at end of table.

ANNUAL CLIMATOLOGICAL DATA
METRIC UNITS

State and Station	Temperature: Averages: Daily maximum	Temperature: Averages: Daily minimum	Temperature: Averages: Monthly	Temperature: Extremes: Highest	Temperature: Extremes: Date	Temperature: Extremes: Lowest	Temperature: Extremes: Date	Heating degree days	Precipitation: Total	Precipitation: Greatest in 24 hours	Precipitation: Date (s)	Snow, Sleet: Total	Snow, Sleet: Greatest in 24 hours	Snow, Sleet: Date (s)	Relative humidity: 1:00 am EST	Relative humidity: 7:00 am EST	Relative humidity: 1:00 pm EST	Relative humidity: 7:00 pm EST	Wind: Average speed	Wind: Prevailing direction	Wind: Fastest mile (1.6 kilometers): Speed	Wind: Fastest mile: Direction	Wind: Fastest mile: Date	Possible sunshine	Average sky cover sunrise to sunset	Number of days: Sunrise to sunset: Clear, 0–3	Number of days: Sunrise to sunset: Partly cloudy, 4–7	Number of days: Sunrise to sunset: Cloudy, 8–10	Number of days: Precipitation 25mm or more	Number of days: Snow, Sleet 25.4mm or more	Number of days: Thunderstorms	Number of days: Heavy fog	Number of days: Max temp. 32.2°C and above	Number of days: Max temp. 0°C and below	Number of days: Min. temp 0°C and below	Number of days: Min. temp −17.8°C and below
VERMONT	°C	°C	°C.	°C		°C		Base 18.3°C	Mm	Mm		Mm.	Mm.		%	%	%	%	M.p.s		M.p.s.			%	Tenths											
BURLINGTON	11.8	.6	6.2	32.8	AUG. 10	−28.9	FEB. 1	4618	811	46	JUL. 2	1748	368	JAN. 1	83	81	62	71	3.4	SSW	17.0	NW	DEC. 15	50	7.1	64	94	207	141	17	25	21	2	73	180	36
VIRGINIA																																				
LYNCHBURG	18.7	7.9	13.3	33.9	JUL. 31	−13.9	JAN. 22	2409	1135	84	OCT. 20–21	498	112	JAN. 19		81	55	66	3.6		22.4	S	FEB. 25	62	5.7	123	95	147	132	5	42	39	12	12	75	0
NORFOLK	20.1	10.3	15.2	37.2	JUL. 31	−11.1	JAN. 27	1998	1236	113	AUG. 5	109	61	JAN. 26	80	82	60	70	4.6	SW	20.1	SW	FEB. 25	65	5.6	118	115	132	123	1	46	29	37	8	57	0
RICHMOND	20.4	7.9	14.2	36.1	JUL. 31+	−18.3	JAN. 28	2295	1246	165	OCT. 20–21	333	81	JAN. 26	82	82	51	67	3.4	SW	17.0	SW	FEB. 25	58	6.0	105	100	160	122	6	41	28	54	8	91	1
ROANOKE	19.2	7.9	13.6	35.0	SEP. 12+	−15.6	JAN. 22	2373	1030	58	OCT. 2	975	361	FEB. 7– 8	73	77	52	60	3.9	SW					5.8	119	94	152	132	8	43	18	35	13	75	0
WASHINGTON																																				
OLYMPIA	16.2	4.1	10.2	37.8	JUL. 12	− 8.3	DEC. 10	3005	1462	57	FEB. 20–21	61	33	DEC. 12–13	86	91	78	63	3.2	SW	18.3*	SW	NOV. 10		7.3	57	82	226	172	0	4	12	8	1	87	0
SEATTLE-TACOMA	15.6	6.7	11.1	36.1	JUL. 12	− 5.0	DEC. 11	2747	1080	40	JAN. 4– 5	69	46	MAR. 3– 4	76	83	74	62	4.2	S	20.6*	SSW	FEB. 21		7.1	61	91	213	173	1	6	49	5	1	76	0
SEATTLE															76	85	73	61	3.2	SSE																
SEATTLE U	16.0	8.7	12.4	35.6	JUL. 13+	− 2.2	DEC. 11	2314	990	43	DEC. 16–17	5	5	DEC. 12							25.9	SW	MAR. 20	45					168	0			4	0	8	0
SPOKANE	14.7	3.1	8.9	42.2	AUG. 4	−21.1	DEC. 10	3733	490	24	DEC. 16–17+	1461	226	DEC. 16–17	67	77	63	50	3.7	SSW	21.0	SW	DEC. 21	56	6.6	87	85	193	129	19	12	44	34	30	140	2
STAMPEDE PASS R	7.8	.9	4.4	30.0	AUG. 4+	−15.6	DEC. 11	5102	2675	136	NOV. 21–22	14341	645	FEB. 24		90	83	78							7.3	80	49	236	216	95	7	254	0	80	199	0
TATOOSH ISLAND	11.9	7.1	9.5	25.6	JUL. 13	− 1.2	MAR. 4	3178	2358	81	JAN. 9–10	8	8	DEC. 16	86	87	83	81	7.9	S	34.4	SW	MAR. 10+	35	7.8	48	63	254	202	0	4	76	0	0	7	0
WALLA WALLA U	18.3	7.7	13.0	45.0	AUG. 4	−14.4	DEC. 11	2544	403	23	DEC. 7	493	152	NOV. 24–25			56		2.5	WS	21.0	W	DEC. 21+	61	6.3	113	66	186	107	5	16	15	53	18	55	0
YAKIMA	17.8	3.0	10.4	42.2	AUG. 4	−12.8	NOV. 17	3239	253	22	FEB. 1	450	135	DEC. 16	68	78	55	43	3.5	WNW	20.6*	S	MAY 25+		5.7	117	89	159	71	5	15	12	51	16	154	0
WEST VIRGINIA																																				
CHARLESTON	17.7	6.8	12.3	33.4	AUG. 31	−21.1	JAN. 25	2680	1395	142	JUL. 19	805	165	JAN. 19–20	79	82	59	65	2.6	WSW	15.6	WNW	MAY 15+		7.3	47	11[illegible]	2[illegible]6	162	11	45	129	14	22	90	1
HUNTINGTON U	18.8	7.6	13.2	36.0	SEP. 6	−17.2	JAN. 28	2471	1307	55	JUN. 8– 9	455	86	JAN. 19															156	7			30	19	88	0
PARKERSBURG U	18.1	6.8	12.4	33.9	SEP. 13+	−18.3	JAN. 25	2701	1150	61	JUL. 30–31	747	135	FEB. 3					2.6		21.9	W	SEP. 25	46					135	10	41	26	25	20	92	2
WISCONSIN																																				
GREEN BAY	12.2	1.6	6.9	32.8	AUG. 30+	−27.2	DEC. 15	4359	784	45	AUG. 9–10	980	183	DEC. 11–12	81	82	64	66	5.0	SW	22.8	SW	OCT. 11	52	6.2	99	108	158	110	16	33	30	7	70	165	26
LA CROSSE	13.3	2.9	8.1	35.0	JUN. 28	−25.0	DEC. 15	4099	672	51	SEP. 29–30	1334	226	MAR. 7– 8	82	84	61	62	4.4	S	24.6*	ESE	JUN. 10		6.2	96	105	164	109	15	40	22	11	59	156	22
MADISON	13.3	1.7	7.5	33.9	AUG. 30	−26.1	DEC. 15	4202	788	91	SEP. 12–13	820	254	MAR. 8	83	86	64	67	4.3	S	18.8	S	NOV. 2	57	6.5	93	89	183	114	7	37	24	8	57	172	23
MILWAUKEE	13.2	2.9	8.1	35.0	JUN. 29	−22.2	DEC. 28	4018	833	67	SEP. 13–14	958	284	MAR. 8	80	82	65	70	4.8	SSW	20.1	S	MAR. 27	55	6.0	104	99	162	119	11	36	28	10	48	152	13
WYOMING																																				
CASPER	14.3	.9	7.6	35.6	AUG. 6	−27.8	DEC. 10	4146	253	20	JUL. 6– 7	1344	117	MAR. 27–28	63	70	47	44	6.1	SW	23.2*	WSW	OCT. 22		6.0	90	126	149	91	19	40	5	23	38	181	7
CHEYENNE	14.0	.4	7.2	34.4	AUG. 6	−28.9	JAN. 27	4202	432	50	AUG. 16–17	1445	262	MAY 13	62	65	42	46	6.2	WNW	26.8	W	NOV. 3	60	5.8	98	124	143	107	15	45	30	11	42	193	6
LANDER	13.7	− .6	6.6	36.7	AUG. 5	−29.4	DEC. 11	4524	336	43	OCT. 7– 8	2840	465	OCT. 7– 8	59	65	48	44	2.9	SWS	29.1	W	DEC. 5+	75	5.6	103	139	123	[illegible]1	25	38	5	29	53	198	12
SHERIDAN	14.9	.4	7.7	38.9	AUG. 5	−27.2	DEC. 11	4183	373	36	MAY 15–16	1120	180	OCT. 28–29	66	74	53	49	3.6	NW	27.7	NW	MAR. 1	64	5.8	100	126	139	98	15	29	9	43	37	195	11

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
* Data extend in column "Fastest Mile" is the fastest mile observed. This station is not equipped with anemometer which recording instrument.
+ An asterisk or an earlier date or dates.
A Maximum hourly average.
b Number of days average 2.1 or more for Alaskan Stations.

Data in this table is obtained by conversion from data in the English Units table.

Y Peak gust.
$ Wind direction to 8 compass points only.
P Computed as of 8:00 a.m. local time.
k Computed as of noon local time.
V Sun below horizon November 18 – January 24.
X Sun below horizon November 26 – January 16.

NORMALS, MEANS AND EXTREMES

State and Station	Elevation above ground (feet)	Temperature (°F) Normals (1921-1950) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length yrs.	Record highest	Record lowest	Normal degree days (1921-1950) January	Annual	Precipitation (inches) (1921-1950) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet Mean total January	Seasonal	Extreme Maximum in 24 hours	Relative humidity (percent) January 7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	July 7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	Wind Speed (mph) Mean hourly January	July	Fastest mile	Sunshine (percent of possible) January	July	Average number of days Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet 1 inch or more	Thunderstorms	Heavy fog	Temperature Max. 90 and above	Max. 32 and below	Min. 32 and below	Min. 0 and below
ALABAMA							78	112	-18								0.00	20.33																								
Anniston (1952)	599	56.6	34.9	91.2	68.2	62.5	47	105	-3	614	2820	6.09	2.58	52.20	16.25	.02	6.98	0.9	1.8	11.0	82	65	78	83	57	67	6.8	3.9	54	50	69	143	114	108	120	*	61	6	54	51	*
Birmingham	610	55.5	34.9	90.2	69.0	62.5	18	106	3	623	2780	6.31	2.71	53.52	17.67	T	6.57	.4	1.2	4.5	84	62	69	87	56	65	9.0	6.2	65	39	60	98	119	148	118	1	56	7	66	53	0
Huntsville	605	----	----	----	----	----	3	99	7	----	----	----	----	-----	12.17	.49	3.50	.2	4.0	6.2	83	64	69	87	54	59	7.4	5.6	---	---	---	94	110	161	121	1	55	11	75	72	0
Mobile (U) (1952)	10	61.4	44.8	89.8	74.0	68.1	81	103	-1	412	1529	7.94	3.07	62.23	26.67	.00	12.98	.1	.2	----	--	--	--	--	--	--	10.1	8.0	98	51	59	110	138	117	119	*	64	15	47	12	*
Mobile	211	62.2	43.2	89.4	72.0	67.3	20	104	11	416	1612	8.97	3.75	67.57	19.29	.05	13.36	.2	.4	3.5	86	62	76	90	64	78	11.6	7.6	---	---	---	105	119	141	125	*	85	32	70	18	0
Montgomery (U)	201	59.1	41.5	90.6	72.4	66.3	t	t	t	483	1954	6.40	2.15	50.93	t	t	t	t	t	t	t	t	t	t	t	t	---	---	t	t	t	t	t	t	t	t	t	t	t	t	t
Montgomery	195	59.7	38.7	91.3	71.0	65.4	2	98	15	517	2137	6.50	2.36	53.66	21.32	.08	8.81	.1	.1	2.5	82	61	65	95	62	72	7.8	5.9	60	50	66	107	108	150	111	*	63	21	68	36	0
ALASKA (Northern)#							75	100	-76								.00																									
Anchorage	90	20.4	5.5	65.4	49.1	35.3	8	81	-30	1612	10789	2.71	.40	14.27	5.43	.01	2.06	9.7	80.4	17.7	71	72	71	80	72	61	5.6	7.2	---	38	42	65	65	235	111	23	2	30	14	202	42
Barrow	22	-8.5	-21.6	46.0	33.3	10.1	41	78	-56	2483	19994	.83	.10	4.11	2.44	.00	1.00	2.1	27.0	15.0	63	63	62	95	92	88	10.9	11.7	---	--	--	x 62	x 51	x184	69	6	*	65	*	323	169
Barter Island	39	-8.4	-22.5	47.0	34.6	10.6	14	72	-59	2496	19803	1.18	.19	7.18	4.91	T	2.23	5.3	46.1	17.0	69	69	68	93	90	87	13.6	10.2	---	--	--	z 44	z 74	z192	98	13	*	74	*	308	167
Bethel	125	14.6	-1.1	62.4	46.6	29.6	3	86	-34	1804	12880	4.02	.55	18.17	4.94	.02	1.21	4.4	52.1	6.5	71	71	71	94	88	68	16.1	13.7	---	--	--	69	67	229	148	18	2	57	10	215	87
Fairbanks	436	-.3	-19.2	70.5	51.2	26.2	32	93	-66	2319	14158	2.26	.29	11.92	6.88	T	2.33	13.4	59.8	15.5	67	68	68	88	72	52	3.2	6.0	---	--	--	72	87	206	108	20	8	20	48	232	120
Galena (1952)	120	-.9	-17.7	69.2	51.0	25.2	5	88	-64	2303	14538	2.84	.18	14.62	4.45	.08	2.34	8.8	51.2	9.0	69	70	69	82	73	59	6.0	8.2	---	--	--	72	77	216	126	17	5	11	23	232	113
King Salmon	44	21.7	6.5	62.6	46.6	34.1	19	88	-40	1578	11235	4.01	.84	22.46	7.30	.00	1.69	6.6	42.9	9.5	79	79	77	91	84	65	11.3	10.2	---	--	--	55	64	246	150	14	1	32	12	205	54
Kotzebue	10	.6	-13.7	58.5	46.7	20.6	19	85	-48	2220	16151	1.95	.27	8.02	5.18	T	1.78	5.3	40.7	8.6	71	71	71	88	86	78	14.5	12.9	---	--	--	89	72	204	112	12	*	21	4	252	119
McGrath	334	1.1	-18.5	68.0	49.3	25.5	19	88	-67	2285	14390	3.63	.49	19.13	6.26	T	2.39	16.4	86.2	15.2	70	69	71	87	75	57	2.7	5.9	---	--	--	66	66	233	140	26	6	11	28	231	114
Nome	13	12.9	-1.7	55.4	43.8	26.3	15	81	-42	1841	14086	3.76	.59	18.69	7.82	T	2.38	11.6	60.5	8.4	78	77	78	87	83	84	11.6	9.8	---	--	--	79	69	217	131	20	*	23	2	238	88
Northway (1956)	1713	-8.5	-25.7	69.8	48.5	22.4	14	88	-72	2545	15506	2.89	.22	11.35	6.42	T	3.91	7.7	40.1	11.5	68	67	65	87	67	50	3.0	5.9	---	--	--	45	84	236	102	11	12	17	37	247	138
ALASKA (Southern)#							78	99	-51																																	
Annette	110	38.6	30.5	62.5	51.0	45.6	1	90	14	942	7096	14.38	4.49	96.59	34.87	.71	7.59	12.1	50.0	14.2	81	82	74	85	73	59	13.5	8.6	---	--	--	43	57	265	222	16	1	18	34	73	0
Cold Bay	94	33.5	24.7	54.4	45.5	38.4	17	78	-9	1113	9687	4.38	1.34	33.20	9.97	.02	2.75	7.6	47.2	9.7	86	84	85	91	82	88	18.2	15.9	---	--	--	12	50	303	206	15	0	27	1	163	1
Cordova	40	32.4	17.6	60.1	46.4	38.6	18	84	-33	1240	9615	15.56	4.19	98.64	27.72	.08	7.92	24.9	126.7	22.9	83	82	81	91	86	79	4.4	3.8	---	--	--	52	51	262	216	37	2	12	8	191	19
Juneau (U)	80	33.5	25.5	61.9	50.1	42.5	--	--	---	1101	8187	13.03	4.13	90.25	-----	----	----	----	----	----	--	--	--	--	--	--	---	---	---	--	--	---	---	---	---	---	---	---	---	---	---	---
Juneau	17	31.2	21.1	62.4	47.0	40.6	18	84	-21	1203	8888	8.47	2.98	55.94	13.29	.27	4.66	18.0	91.2	31.0	80	80	77	88	79	68	8.3	7.7	---	--	--	44	38	283	223	26	*	21	21	146	9
St. Paul Island	22	29.9	22.9	49.3	42.4	35.2	44	64	-26	1197	10839	3.49	1.02	24.24	9.32	.08	1.93	12.8	53.7	13.0	87	86	87	96	91	94	---	---	---	--	--	22	69	274	200	18	*	42	0	189	5
Shemya	122	----	----	----	----	----	16	63	17	----	-----	----	----	-----	7.96	.14	2.40	13.3	62.3	15.3	84	84	84	96	91	94	20.6	13.1	n139	--	--	5	63	297	208	21	0	85	0	124	0
Yakutat	28	33.0	19.9	58.6	46.8	39.3	15	86	-22	1194	9354	19.93	4.96	134.15	43.88	.52	7.13	38.1	216.0	32.4	81	82	80	96	84	79	8.8	7.3	---	--	--	40	48	277	224	50	1	31	5	171	10
ARIZONA							67	127	-33							.00	5.95																									
Flagstaff	6993	38.9	11.7	79.2	51.1	44.6	12	94	-16	1231	7525	2.60	.53	18.47	6.60	T	3.11	17.9	69.7	22.0	80	55	--	71	33	--	---	---	---	--	--	175	94	96	70	18	47	4	2	211	9
Phoenix (U)	1083	64.3	38.2	103.5	77.5	70.5	--	---	---	425	1492	.96	.06	7.12	-----	----	----	----	----	----	--	--	--	--	--	--	---	---	---	--	--	---	---	---	---	---	---	---	---	---	---	---
Phoenix	1117	64.8	34.5	105.1	75.1	69.4	23	118	17	474	1698	1.00	.06	7.16	5.56	.00	3.07	T	T	.6	74	47	39	52	31	23	4.4	6.3	75	77	84	210	85	70	34	0	22	2	163	17	0
Prescott	5014	50.2	20.4	90.9	61.0	55.2	19	103	-5	921	4533	3.70	.23	15.98	9.61	.00	3.08	6.5	17.0	12.4	72	50	46	60	31	32	7.1	8.3	72	71	74	184	99	82	61	6	47	5	48	131	*
Tucson	2584	63.1	36.3	99.4	73.0	67.6	21	111	16	474	1776	2.15	.21	10.66	7.93	.00	3.93	.4	1.1	6.4	63	40	34	57	33	29	7.3	7.7	59	79	76	193	93	79	49	1	40	1	146	21	0
Winslow	4880	46.2	19.2	92.6	61.8	55.0	1	105	-11	1001	4702	1.62	.37	7.83	2.72	.00	2.12	2.4	8.9	7.8	86	65	55	51	25	24	7.6	9.3	---	--	--	181	95	89	53	4	36	5	80	141	7
Yuma	199	67.2	43.3	107.7	81.5	74.7	11	120	28	318	951	.64	.01	3.39	2.68	.00	2.09	.0	.0	.0	53	35	26	48	30	21	7.2	9.7	54	85	91	255	66	44	14	0	7	2	186	2	0
ARKANSAS							71	120	-29							.00	12.00																									
Fort Smith	449	50.6	29.4	94.2	70.4	62.0	16	111	-9	775	3188	5.06	2.56	41.56	14.01	.06	7.13	1.9	5.4	5.6	81	64	68	88	53	54	8.5	6.7	58	44	69	132	93	140	96	2	61	13	83	71	*
Little Rock	257	51.1	32.4	92.7	71.1	62.4	18	107	-5	719	2982	5.16	2.81	47.38	12.53	T	7.71	2.3	4.7	11.3	80	66	68	86	56	60	9.0	7.3	65	43	68	118	102	145	105	1	57	15	74	48	*
Texarkana	361	56.3	35.5	94.6	71.1	65.1	20	106	-3	600	2362	5.13	2.79	50.59	15.33	.04	6.55	1.2	1.8	4.5	84	67	70	90	57	59	7.3	6.4	---	--	--	---	---	---	99	1	63	19	82	39	*
CALIFORNIA							77	134	-45							.00	26.12																									
Bakersfield	494	57.3	36.5	101.1	67.3	65.0	24	115	21	561	2115	1.12	.01	6.36	4.61	.00	1.68	T	T	---	86	72	59	48	30	19	4.8	7.2	---	--	--	200	83	82	37	0	3	20	110	15	0
Beaumont (U) (1952)	2589	57.4	35.6	94.7	57.4	60.1	13	110	11	574	2840	3.67	.09	17.86	8.63	.00	4.16	1.9	2.4	7.1	63	44	44	63	26	25	8.7	6.8	---	--	--	184	95	86	49	*	9	51	83	32	0
Bishop	4108	53.6	22.2	96.9	54.1	56.0	14	109	-6	840	4222	1.12	.10	5.38	5.03	.00	3.32	4.0	6.9	9.0	--	47	36	--	19	14	---	---	---	--	--	204	88	73	28	2	14	*	100	146	*
Blue Canyon	5280	43.8	28.5	77.7	57.9	50.1	18	93	5	893	5719	9.47	.03	53.51	45.12	.00	9.31	51.8	244.9	38.5	--	63	--	--	31	--	10.7	7.3	70	--	--	171	69	125	88	40	13	67	1	102	0
Burbank	699	65.2	39.9	87.3	59.0	62.8	30	111	21	396	1808	3.06	T	13.88	13.84	.00	7.76	.2	.2	4.7	70	53	46	82	51	42	4.1	5.5	---	--	--	188	102	75	38	*	4	30	47	4	0
Eureka (U)	43	53.6	40.8	60.6	52.2	52.3	51	85	22	552	4632	6.20	.09	36.15	13.97	.00	5.83	.2	.2	3.0	--	--	--	--	--	--	7.0	6.8	56	40	51	81	103	181	118	*	4	48	0	4	0
Fresno	326	53.5	35.9	100.1	64.1	63.0	12	111	21	629	2532	1.66	T	9.31	6.73	.00	1.91	T	T	.1	94	83	69	62	38	21	5.6	6.9	43	52	97	204	69	92	42	0	5	37	99	26	0
Long Beach	34	----	----	----	----	----	1	111	31	----	----	----	----	-----	9.05	.00	6.86	T	T	T	59	42	37	82	67	62	5.3	7.1	---	--	--	154	135	76	27	0	3	69	18	0	0
Los Angeles (U)	312	64.6	45.4	83.2	61.7	63.9	21	110	28	328	1451	3.37	T	14.54	12.42	.00	6.11	T	T	.3	64	45	51	84	49	53	6.8	5.4	49	71	81	185	106	74	36	0	6	17	18	*	0
Los Angeles	97	63.3	43.0	74.4	60.8	60.9	2	106	36	378	2015	2.75	T	12.37	8.14	.00	6.19	T	T	T	60	48	53	87	69	71	6.2	6.8	62	--	--	141	115	109	36	0	3	51	5	0	0
Mount Shasta (R)	3544	41.4	24.1	84.8	49.5	49.3	19	103	-2	998	5913	5.39	.13	33.71	17.60	.00	5.90	34.0	107.6	37.4	--	77	73	--	39	29	---	---	---	--	--	162	84	119	88	19	14	8	21	135	*
Oakland	3	56.0	38.4	72.0	53.4	56.5	33	107	23	552	3163	3.42	.01	17.63	11.29	.00	3.23	T	T	1.0	86	74	68	88	69	62	6.2	8.9	---	--	--	144	120	101	63	*	2	18	5	7	0
Red Bluff	341	53.3	36.9	98.9	67.4	63.2	17	114	21	617	2546	4.23	.02	21.57	11.38	.00	4.00	1.2	1.8	9.9	81	72	60	48	29	17	8.9	8.1	63	51	96	178	67	120	71	1	12	16	98	23	0
Sacramento (U)	23	52.1	38.3	92.0	58.6	60.9	28	112	22	614	2600	3.31	T	16.32	12.20	.00	3.52	T	T	T	90	82	70	76	47	28	9.4	10.1	70	41	97	197	67	101	58	0	5	32	67	9	0
Sacramento	17	52.4	36.2	92.0	57.2	60.0	17	---	--	642	2822	3.01	T	15.02	-----	----	----	.2	.2	4.0	90	81	69	76	46	28	7.3	8.3	70	44	96	225	72	68	---	*	4	21	---	---	---
Sandberg (R)	4517	46.0	33.6	85.1	62.7	55.3	29	102	3	781	4243	2.85	.02	12.42	11.12	.00	4.09	9.3	25.7	38.5	--	a58	--	--	a25	--	17.4	13.1	--	--	--	212	79	74	40	6	4	80	21	54	0
San Diego	13	64.3	45.5	75.5	63.1	62.4	20	104	29	317	1574	2.57	.01	10.86	7.60	.00	3.07	T	T	T	75	57	59	86	68	64	5.5	6.7	51	68	67	154	120	91	42	0	3	30	3	*	0
San Francisco (U)	52	55.4	44.8	64.4	53.4	56.7	25	101	30	462	3069	4.07	.01	20.51	11.47	.00	3.65	T	T	T	--	a69	--	--	a74	--	6.8	11.2	47	54	65	---	---	---	67	0	2	--	1	*	0
San Francisco	8	55.8	39.9	69.2	51.5	55.6	34	106	20	530	3421	3.59	.01	17.43	12.30	.00	3.33	T	T	1.0	87	78	69	90	69	66	6.9	13.8	62	--	--	162	105	98	62	*	2	21	3	6	0
San Jose (1950)	95	58.0	40.5	80.8	54.5	59.3	50	106	20	487	2410	2.53	T	12.69	12.38	.00	4.56	T	T	1.0	--	--	66	--	--	50	6.6	7.1	43	54	87	210	84	71	59	*	*	23	13	14	0
Santa Catalina (1952)	1568	59.0	46.7	77.0	58.3	60.1	8	102	29	375	2249	2.97	T	12.88	7.81	.00	2.68	.4	.5	2.0	72	65	67	65	58	54	---	---	---	--	--	190	81	94	45	*	*	112	10	*	0
Santa Maria	239	62.7	38.0	72.6	51.7	57.1	19	104	21	453	2934	2.71	.03	13.48	5.88	.00	3.07	T	T	T	82	61	61	93	66	63	7.0	6.4	---	--	--	175	112	78	45	0	2	88	4	15	0
COLORADO							74	118	-60							.00	8.05																									
Alamosa	7536	36.3	-2.5	81.3	46.8	41.4	16	91	-50	1491	8659	1.10	.17	6.23	2.45	T	1.82	4.7	30.2	11.2	75	58	58	83	38	36	---	---	---	--	--	146	139	80	64	13	44	14	1	226	46

See reference notes at end of table.

NORMALS, MEANS AND EXTREMES

State and Station	Elevation of ground (feet)	Temperature (°F) Normal (1921-1950) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length (yrs)	Record highest	Record lowest	Normal degree days (1921-1950) January	Seasonal	Precipitation (inches) (1921-1950) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet Mean total January	Seasonal	Extreme Max. month in 24 hours	Relative humidity (percent) January 7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	July 7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	Wind Speed (mph) Mean hourly January	July	Fastest mile	Sunshine (percent of possible) January	July	Annual mean number of days: Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Thunderstorms	Heavy fog	Temperature Max. 32 and below	Min. 32 and below	Min. 32 and below
COLORADO (Cont'd.)																																								
Colorado Springs	6173	40.9	16.6	84.8	57.6	49.1	1	97	-13	1122	6254	2.72	0.22	14.26	5.90	T	3.09	4.5	39.8	18.0	51	29	39	78	41	48	10.3	10.0	--	---	-	138	122	105	88	11	59	23	10	184	6
Denver (U)	5221	42.5	20.3	85.9	61.5	51.4	87	105	-29	1042	5673	2.06	.50	13.43	8.57	.00	6.53	5.9	54.6	23.0	54	37	41	55	27	30	7.6	6.9	65	67	68	146	151	68	84	15	42	4	23	137	7
Denver	5283	41.7	15.6	87.2	58.3	49.8	1	99	-16	1125	6132	2.20	.50	14.20	7.31	T	3.43	8.6	60.3	19.4	59	43	50	73	32	36	9.8	9.0	56	71	71	113	137	115	87	18	42	10	31	168	7
Grand Junction	4825	33.8	14.1	92.5	63.8	52.1	15	102	-14	1271	5796	1.20	.45	9.06	3.48	.00	1.24	8.1	27.6	9.1	75	63	61	45	26	20	5.8	9.9	66	58	78	140	108	117	71	9	39	7	56	138	3
Pueblo	4639	44.9	13.8	89.8	59.9	51.5	21	105	31	1104	5709	1.81	.38	11.87	6.17	T	3.77	6.3	33.6	16.8	69	46	48	73	35	35	7.5	7.9	80	74	77	137	125	103	72	10	45	8	56	158	8
CONNECTICUT							74	105	32							.00	12.12																							
Bridgeport	7	36.6	21.8	81.6	63.9	50.5	13	103	-5	1110	5896	1.43	2.83	42.01	13.29	.07	5.84	6.5	24.3	15.0	74	63	69	79	59	72	10.2	8.0	62	---	---	102	107	156	119	7	23	28	8	101	1
Hartford (Bradley Fld.)	169	36.1	17.9	85.6	62.0	50.1	2	96	26	1178	6068	3.81	2.57	40.48	21.87	.73	12.12	12.9	54.1	14.3	76	59	65	83	54	65	10.8	8.1	51	53	57	86	111	168	130	14	23	34	13	145	9
Hartford	15	35.4	18.5	83.0	62.3	49.7	1	1	1	1178	6139	3.93	2.70	42.43	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
New Haven	6	37.0	21.2	80.1	62.3	49.7	18	100	8	1113	6026	4.12	3.00	44.99	10.95	.12	5.55	9.6	36.6	17.2	76	65	--	81	68	--	8.1	6.3	57	53	67	100	107	158	132	10	28	29	3	112	1
DELAWARE							69	110	-17							T	7.83																							
Wilmington	78	41.8	24.7	86.7	65.0	54.2	14	102	-4	983	4910	5.28	2.98	44.50	12.09	.16	6.24	6.0	21.3	15.6	76	62	70	81	54	69	9.5	7.5				94	108	163	123	6	31	44	21	102	*
DIST. OF COLUMBIA																																								
Silver Hill obs. (1955)	284	43.4	27.1	84.6	66.2	55.3	2	101	8	918	4539	5.94	2.58	43.91	9.99	.66	3.03	2.4	11.9	7.5	--	--	--	-	--	--	--	--	---	---	---	---	---	---	120	5	37		27	44	0
Washington (U) (1958)	72	41.0	28.9	87.1	68.4	56.8	87	100	-15	884	4258	4.49	2.64	41.44	17.45	.14	7.31	5.9	19.4	25.0	73	56	64	78	52	67	7.7	5.7	62	16	64	125	116	124	124	6	33	12	28	81	*
Washington Nat'l, AP	11	43.8	28.5	86.1	68.4	56.5	20	103	1	893	4333	4.75	2.44	40.48	14.31	.22	6.39	4.7	15.9	14.4	73	57	62	77	53	63	10.7	8.5	78	47	64	102	106	157	115	5	31	15	30	73	0
FLORIDA							72	109	2							.00	38.70																							
Apalachicola (U)	13	62.2	48.1	87.4	75.1	68.8	32	102	18	352	1307	7.65	2.45	56.03	22.55	.01	11.71	T	T	1.2	87	69	80	85	72	76	8.5	6.7	67	60	64	134	112	119	106	*	73	24	17	4	0
Daytona Beach	31	69.3	49.6	89.8	71.7	70.5	18	102	24	245	868	7.11	2.10	51.07	19.89	.06	9.29	.0	T	T	90	59	80	90	67	81	9.5	7.8	---	---	---	98	136	131	117	0	81	33	66	5	0
Fort Myers	13	75.2	53.9	90.5	73.4	73.9	2	96	33	124	405	9.20	1.21	53.27	16.32	.00	10.85	.0	.0	.0	85	60	71	80	55	70	8.3	6..	---	---	--	104	156	105	118	0	100	21	147	0	0
Jacksonville (U)	18	65.9	48.7	89.6	75.7	69.8	86	104	10	303	1113	7.89	1.57	52.40	23.32	T	9.86	----	----	----	--	--	--	--	--	--	-	-	-	-	-	-	---	---	122	*	--		61	5	0
Jacksonville	24	66.3	45.1	91.4	72.7	69.3	20	105	17	331	1243	7.64	1.62	52.08	19.36	.04	10.17	T	.1	1.5	88	56	74	86	57	75	8.5	7.9	72	59	59	100	126	139	115	*	61	34	89	11	0
Key West (U)	9	75.8	65.8	89.1	78.3	77.6	90	97	41	28	77	6.78	1.54	39.57	23.56	T	19.88	.0	.0	.0	84	69	79	77	68	74	10.3	8.2	91	68	69	140	157	68	112	0	59	*	33	0	0
Key West (Int. AP)	5	75.8	65.8	89.1	78.3	77.6	9	95	46	28	77	6.78	1.54	39.52	14.73	.00	8.89	.0	.0	.0	84	69	78	77	66	72	12.6	10.3	122	69	66	108	170	87	113	0	57	1	59	0	0
Lakeland (U)	214	71.5	52.5	90.2	72.2	72.2	21	101	25	185	649	8.16	1.39	51.43	15.67	T	10.12	T	T	T	--	--	--	-	--	--	7.1	5.5	---	63	61	98	157	110	122	0	100	19	86	1	0
Melbourne (1955)	26	71.3	53.8	89.1	73.0	72.4	16	100	22	169	537	7.68	2.11	52.40	19.68	.11	8.56	.0	.0	.0	92	62	82	87	67	82	---	---	---	---	-	81	155	129	119	*	88	14	60	*	0
Miami (U)	8	71.4	62.6	86.8	76.4	75.3	49	95	27	97	173	7.88	1.73	47.26	25.34	T	15.10	.0	.0	.0	--	--	--	--	--	--	-	-	-	122	70	61	155	114	96						
Miami (Int. AP)	7	77.9	68.6	91.0	74.1	75.7	19	98	32	58	178	8.33	1.65	56.41	24.40	.01	9.95	.0	.0	.0	86	55	73	84	64	76	9.3	7.7	80	-	---	86	174	105	127	0	77	7	66	*	1
Miami Beach	9	75.5	64.1	87.6	77.1	76.6	20	98	35	43	123	7.07	1.75	42.90	18.02	.01	8.35	.0	.0	.0	-		-	--	--	--	7.6	7.7	122	70	62	155	115	95	125	0	---	---	12	0	0
Orlando	106	73.0	50.7	91.4	72.7	72.5	2	100	29	188	650	7.85	1.32	51.23	19.57	T	9.67	T	T	T	87	54	64	90	51	71	8.8	7.5	---	---	---	99	149	117	117	0	81	29	119	2	0
Pensacola (U)	13	61.1	46.9	86.9	75.0	68.0	22	103	13	383	1435	7.59	3.84	61.60	18.80	T	9.16	T	.2	2.1	86	64	79	85	64	74	8.1	6.7	91	56	66		---		112	*	65	--	39	9	0
Pensacola	110		--		- -		--				----	----	----	-----	---	--	----	----	----	----	83	69	77	83	69	76	---	---	---	---	---	---							-	-
Tallahassee	61	63.2	42.0	91.0	71.0	67.7	22	103	15	385	1519	7.87	2.38	56.66	20.32	T	7.07	T	.1	2.8	87	57	72	91	64	77	6.5	4.9	-	---	---	100	131	134	115	*	80	41	80	20	0
Tampa	19	70.8	52.1	89.5	73.8	72.3	15	98	24	201	674	8.11	1.04	49.94	20.59	T	12.11	T	T	T	88	57	74	88	62	77	8.6	7.3	---	69	60	100	146	119	113	0	91	26	85	2	0
West Palm Beach	15	75.4	58.6	89.9	74.0	75.0	23	101	31	85	248	9.12	2.20	61.72	24.86	.12	15.23	.0	.0	.0	86	59	74	84	64	78	9.8	7.5	---	---	---	73	158	134	134	0	79	7	89	*	0
GEORGIA							70	112	-17							.00	18.00																							
Albany (1954)	190	62.4	40.3	93.0	71.9	67.4	65	106	2	446	1763	5.46	2.09	49.50	20.48	.00	7.60	T	T	1.0	88	57	70	85	55	70	7.0	4.9	60	--	---	116	118	131	111	*	66	25	100	18	0
Athens	803	54.6	34.8	92.4	69.1	62.7	18	105	5	629	2800	5.17	2.94	49.94	14.98	.09	5.54	.4	1.5	5.0	80	56	65	90	58	69	10.1	7.1	---	-	--	109	109	147	110	1	50	30	57	49	0
Atlanta (U)	1050	52.5	36.6	87.5	70.0	62.0	1	1	1	632	2811	5.49	2.50	47.96	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Atlanta	975	54.3	35.9	89.4	69.6	62.2	1	92	10	632	2826	5.67	2.60	49.16	15.72	.07	5.67	.7	1.6	8.3	72	50	53	87	62	69	11.4	7.8	70	47	62	110	111	144	115	*	50	27	7	49	0
Augusta	143	59.2	35.6	91.9	70.1	64.0	11	106	10	554	2407	5.21	2.44	43.17	8.48	T	3.96	.1	.4	1.3	85	54	70	88	54	68	6.8	5.7	---	---	---	110	104	151	102	*	56	24	85	54	0
Columbus	386	58.1	36.7	91.0	70.7	64.2	16	104	10	563	2396	5.92	2.04	49.00	12.53	.02	5.32	T	T	T	86	60	73	86	58	71	8.3	6.3	---	--	---	112	102	151	111	0	59	18	79	44	0
Macon	356	60.4	38.6	93.3	71.5	66.1	13	106	10	497	2049	5.34	2.27	46.31	11.77	.00	4.60	.3	.3	3.7	83	53	62	86	53	65	9.1	7.6	70	58	65	117	105	143	111	*	58	23	96	34	0
Rome	637	53.6	31.8	92.2	67.7	61.3	16	106	1	700	3138	5.83	2.86	52.96	17.37	.36	7.53	.3	1.6	3.7	82	59	73	88	54	67	--	-	-	---	---	100	121	144	123	1	62	26	67	79	0
Savannah	18	62.2	40.9	90.8	71.5	66.4	11	104	14	439	1808	7.09	1.51	45.75	15.70	.09	6.36	T	.1	1.0	85	55	70	88	59	75	9.2	7.5	66	56	65	107	120	138	108	*	64	38	71	30	0
Thomasville (U)	283	64.2	44.2	90.9	71.1	67.9	39	106	13	376	1472	7.02	2.24	51.86	18.83	.01	9.00	T	.1	2.0	--	a60	--	--	a60	--	5.3	4.1	--	54	57	122	119	124	116	*	72	13	76	14	0
Valdosta (1954)	200	65.4	41.7	92.0	70.5	67.8	6	103	18	386	1525	8.03	2.14	51.62	15.94	.05	4.85	.0	T	T	--	--	--	--	--	--	---	---	---	---	---	113	114	138	115	0	73	39	101	18	0
HAWAII							57	100	18							.00																								
Hilo	31	78.4	62.4	82.6	67.0	73.0	15	93	55		----	15.99	6.75	139.98	50.82	.36	15.59	.0	.0	.0	85	80	67	88	82	67	7.5	7.2	---	46	44	25	121	219	287	0	6	0	*	0	0
Honolulu (U)	12	76.7	67.2	82.2	73.5	75.2	39	88	57	---		4.31	.63	23.92	18.70	.06	17.41	.0	.0	.0	80	80	61	74	69	56	10.0	13.7	67	66	77	100	170	95	148	0	5	0	0	0	0
Honolulu	7	78.6	65.8	84.6	73.0	75.9				----	----	4.65	.23	21.78	-----	----	-----	----	----	----	80	80	62	74	69	56	10.0	13.9	67	65	76	101	169	95	148	0	6	0	0	0	0
Lihue	115	77.4	62.7	82.4	72.4	74.0	11	90	51	-	----	6.23	1.65	42.49	18.45	.30	11.20	.0	.0	.0	84	84	67	80	76	65	10.2	12.6	73	51	61	55	170	140	205	0	8	0	*	0	0
IDAHO							69	118	-60							.00	7.17																							
Boise	2838	31.6	19.9	90.5	59.1	50.8	2	111	-4	1169	5890	1.35	.21	11.48	4.00	.00	2.24	7.2	20.8	13.0	82	76	71	45	31	19	8.9	8.7	61	41	89	124	95	146	90	8	16	19	57	131	1
Idaho Falls 46W (R)	4943	27.6	3.8	88.1	50.3	42.3	12	101	-32	1528	8556	1.02	.36	7.69	4.42	.00	1.73	6.8	25.1	8.5	--	--	--	--	--	--	5.9	8.0	51	---	---	---	---	---	67	10	14	13	28	213	32
Idaho Falls 42NW (R)	4790	25.3	-.7	87.9	48.3	41.1	11	103	-43	1634	8925	1.08	.31	7.35	3.00	.00	1.33	----	----	----	--	--	--	--	--	--	4.7	7.8	50	---	---	---	- -	---	66	---	---	---	33	219	40
Lewiston	1443	37.2	24.4	90.1	60.2	52.1	15	115	-22	1060	5483	1.75	.38	13.12	4.80	T	1.73	7.2	18.3	11.9	80	75	72	61	36	23	---	---	-	-	---	96	81	188	104	6	16	20	37	101	3
Pocatello	4444	31.0	13.0	89.4	55.9	47.2	23	103	-31	1333	6976	1.32	.72	12.44	3.80	.00	1.65	10.1	36.5	10.1	82	76	74	56	30	21	9.7	9.6	72	38	82	112	101	152	92	13	27	10	33	161	9
Salmon	3949	28.2	4.1	89.6	46.8	44.0	48	---	- -	1513	7922	1.28	.42	8.64	3.88	.00	1.50	----	----	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	-	---	-	---	---	---
ILLINOIS							72	117	35							.00	14.25																							
Cairo (U)	314	44.9	29.8	90.7	71.7	59.8	19	104	-5	856	3756	4.72	2.60	43.65	14.95	.33	7.56	2.7	9.0	7.3	80	68	-	84	60	--	9.8	6.5	59	43	77	108	105	152	117	3	52	5	52	64	*
Chicago (Midway)	610	32.7	17.1	85.3	63.9	50.1	19	104	-15	1243	6310	4.15	1.41	32.72	14.17	.26	6.24	7.4	36.1	12.5	81	70	75	78	51	55	11.1	7.8	60	43	69	96	103	166	121	10	38	15	26	123	7
Joliet (1952)	584	32.5	15.0	86.9	60.5	49.1	11	101	-20	1277	6578	4.14	1.51	34.25	9.23	.25	5.32	5.7	25.0	8.0	--	--	--	--	--	--	---	---	---	---	---	83	124	157	110	9	40	24	26	143	12

See reference notes at end of table.

NORMALS, MEANS AND EXTREMES

Station	Elev. (feet)	Temperature (°F) Normal (1931-1960) Monthly Daily maximum	Daily minimum	Daily mean	Extreme Record highest	Record lowest	Average number of days 90° and higher	32° and lower	Normal degree days (65°F base) Heating	Cooling	Precipitation (inches) (1931-1960) Monthly Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet Mean total January	Season	Extreme Maximum in 24 hours	Relative humidity (percent) January 7:00 am EST	1:00 pm EST	7:00 pm EST	July 7:00 am EST	1:00 pm EST	7:00 pm EST	Wind Speed (m.p.h.) Mean hourly January	July	Fastest mile	Sunshine (percent of possible) January	July	Average number of days Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max. 32° or lower	Min. 32° or lower	Min. 0° or lower
ILLINOIS (Cont'd.)																																								
Moline	582	31.9	14.4	87.2	65.7	50.2	25	106	-23	1296	6364	4.63	1.17	33.10	11.00	0.04	6.29	6.6	26.3	9.6	83	71	77	83	54	57	10.4	7.4	77	46	73	104	99	162	111	8	47	22	28	139	10
Peoria	652	33.3	16.7	87.0	64.4	51.0	19	103	-16	1240	6087	3.94	1.91	35.18	13.09	.25	5.06	5.0	23.0	9.0	82	72	76	84	55	57	11.4	8.2	75	44	69	101	102	162	110	9	49	20	27	127	8
Rockford	728	--	---	---	---	48.6	11	103	-20	---	---	4.62	1.41	34.77	11.81	.01	5.56	8.2	31.2	10.9	82	73	78	87	55	59	9.0	7.7	---	---	---	94	101	170	113	11	38	23	21	150	12
Springfield (U)	632	36.4	21.6	89.1	68.3	54.4	--	---	---	1116	5225	4.11	1.67	35.82	-----	----	----	---	----	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Springfield	588	35.3	19.4	87.4	65.2	52.4	13	112	-15	1166	5693	4.19	1.62	36.65	8.87	.15	5.12	2.9	18.5	8.0	81	70	75	86	57	60	13.3	8.7	75	41	73	108	91	166	114	7	52	16	30	121	4
INDIANA							75	116	-35							.00	10.50																							
Evansville	381	43.4	26.0	89.1	67.3	56.9	21	105	-23	939	4360	4.29	2.82	41.37	13.50	.13	6.05	3.3	11.6	10.6	83	69	75	85	55	60	10.0	6.7	59	40	77	101	102	162	116	4	47	15	13	101	1
Fort Wayne	791	33.4	19.1	84.3	62.6	49.9	14	100	-17	1200	6287	3.56	1.77	34.21	9.72	.40	4.60	6.8	28.8	7.7	83	74	80	84	54	59	11.1	8.2	65	38	71	79	107	179	131	9	43	21	18	134	6
Indianapolis (U)	718	38.7	23.4	88.3	67.7	54.5	--	---	---	1051	5134	4.18	2.08	39.24	-----	----	----	---	----	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Indianapolis	793	37.1	20.5	87.9	64.1	52.5	22	104	-19	1122	5611	4.21	2.08	39.69	12.69	.21	3.90	4.0	18.6	6.6	83	72	78	84	55	61	11.9	7.9	90	38	73	92	102	171	123	6	47	23	22	120	4
South Bend	768	31.9	17.2	84.6	62.1	49.1	22	101	-22	1252	6524	3.84	1.56	35.59	9.75	.02	3.18	14.1	56.9	15.0	85	75	80	85	54	59	11.8	8.3	---	---	---	76	105	184	138	20	43	23	16	137	7
Terre Haute (1953)	578	38.4	20.2	88.9	64.9	53.5	41	110	-20	1107	5366	4.43	2.14	40.91	11.94	.03	5.16	4.7	17.7	10.2	82	70	76	77	50	56	10.4	7.3	66	44	74	98	128	139	121	6	48	11	34	100	4
IOWA							89	118	-47							.00	12.99																							
Burlington	694	32.5	15.5	88.0	65.5	51.3	64	111	-27	1271	6101	5.64	1.41	36.61	15.10	.08	6.28	7.1	25.5	13.0	81	70	75	85	57	59	11.1	8.0	73	52	77	102	103	160	103	10	54	20	33	128	11
Charles City (U) (1952)	1013	25.7	7.8	84.8	62.3	46.5	61	108	-34	1494	7504	4.28	1.15	31.42	12.78	T	6.74	9.9	43.4	17.5	--	--	--	--	--	--	7.7	6.0	48	49	74	121	118	126	111	---	42	---	17	155	28
Davenport (U) (1956)	568	32.0	16.5	87.3	67.2	51.4	84	111	-27	1262	6091	4.79	1.31	34.27	12.68	.01	6.57	7.2	26.6	11.2	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	---	---	---	9	42	9	22	123	11
Des Moines (U)	807	31.4	14.2	87.6	66.6	50.9	80	110	-30	1308	6274	5.05	1.11	30.93	15.79	T	5.37	8.9	32.2	17.7	83	a69	75	77	a49	54	10.1	8.0	71	54	74	124	118	123	107	10	47	7	25	129	15
Des Moines	948	30.8	13.3	86.8	65.6	50.2	21	105	-21	1330	6446	4.99	1.08	30.74	14.19	.03	5.50	8.7	33.0	19.8	79	71	73	85	56	55	12.3	9.5	76	50	71	103	98	164	103	11	48	18	28	140	13
Dubuque (U) (1950)	641	27.9	11.3	84.7	60.4	48.3	76	110	-32	1407	6910	4.68	1.31	33.26	14.16	.02	5.48	9.2	34.9	14.9	81	70	75	78	52	60	7.0	5.8	47	48	73	114	115	136	114	11	39	12	16	131	17
Dubuque	1065	27.2	11.6	83.2	63.3	47.0	11	99	-26	1414	7271	5.09	1.11	32.85	13.13	T	6.28	9.0	42.9	15.5	82	71	77	85	58	63	---	---	---	---	---	94	99	172	111	13	44	27	8	155	17
Sioux City	1095	28.9	9.2	88.4	64.2	48.6	6	107	-20	1423	7012	4.41	.74	24.90	8.67	T	4.28	6.2	31.2	11.4	76	65	66	85	55	51	11.0	9.0	91	58	76	107	105	153	97	10	43	20	41	150	18
Waterloo	868	28.0	9.4	86.2	62.8	47.7	10	103	-27	1435	7144	4.76	1.01	32.06	8.56	T	3.15	8.4	32.0	12.2	--	--	--	--	--	--	10.4	8.2	---	---	---	---	---	---	85	10	37	24	22	159	19
KANSAS							75	121	-40							.00	12.59																							
Concordia (U)	1375	37.6	18.6	91.2	68.7	54.5	77	116	-25	1144	5323	4.23	.59	25.40	13.74	T	6.46	4.5	21.4	17.2	78	63	68	77	47	48	7.7	7.0	65	60	78	142	126	97	86	7	45	10	48	118	6
Dodge City	2594	42.0	18.6	92.9	66.9	55.0	20	107	-15	1076	5058	3.01	.49	20.58	8.69	T	4.17	4.6	19.8	9.3	79	59	62	78	46	43	14.6	13.6	78	69	77	142	107	116	78	6	53	26	63	127	3
Goodland	3645	39.3	12.3	90.9	60.2	49.9	41	111	-26	1215	6367	3.02	.31	18.21	8.09	.00	2.95	5.5	33.3	15.2	77	54	62	81	42	40	12.0	11.7	---	---	---	142	127	96	77	11	53	32	60	156	9
Topeka (U)	926	39.8	20.8	91.8	69.4	55.9	70	114	-25	1088	4919	4.61	1.00	33.28	14.10	T	8.08	---	----	----	--	--	--	--	--	--	--	--	--	---	---	142	122	101	97	---	---	---	48	106	4
Topeka	877	38.8	18.6	90.7	67.7	54.6	15	109	-13	1125	5209	4.66	.97	33.09	12.02	T	4.48	5.4	22.2	9.3	78	63	67	87	57	56	10.7	9.4	81	52	65	116	97	152	97	6	57	13	51	129	5
Wichita (U) (1955)	1372	41.3	22.6	92.3	69.4	57.0	67	114	-22	1023	4571	4.99	.98	30.70	14.43	.00	7.99	3.2	13.6	12.3	78	63	66	77	48	49	12.5	11.6	100	61	80	158	112	95	87	4	52	11	54	96	2
Wichita	1321	41.3	22.6	92.3	69.4	57.0	9	113	-10	1023	4571	4.99	.98	30.70	10.46	T	4.24	3.8	17.0	7.2	81	64	66	81	50	46	13.1	11.5	66	60	75	129	97	139	85	5	56	20	66	112	1
KENTUCKY							73	114	-33							.00	10.40																							
Bowling Green (1952)	534	45.6	27.0	88.9	65.6	56.9	65	113	-20	890	4279	5.66	2.88	50.10	20.70	.03	6.15	3.0	8.8	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Lexington	979	42.7	25.1	87.4	65.7	55.4	17	103	-15	964	4677	4.50	2.44	43.71	16.65	.24	5.88	4.6	13.2	9.5	83	71	77	85	56	66	12.8	8.1	---	---	---	99	104	162	130	5	49	18	29	97	2
Louisville (U)	457	43.2	27.9	87.9	69.3	57.3	f	f	f	911	4279	4.67	2.48	41.60	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f
Louisville	474	43.6	26.2	89.1	66.6	56.5	1	94	-8	933	4439	4.67	2.45	41.47	11.38	.23	5.14	4.2	15.7	9.5	85	66	67	89	64	63	10.0	6.7	61	36	68	100	101	164	123	5	46	10	26	94	2
LOUISIANA							71	114	-16							.00	21.40																							
Baton Rouge	64	61.3	43.4	90.0	72.2	67.5	8	103	19	424	1595	5.87	2.98	59.13	13.23	.09	4.96	T	.2	1.0	86	60	66	93	60	72	9.9	6.4	---	---	---	101	117	147	107	*	75	36	100	16	0
Burrwood (1952)	5	65.2	49.0	89.0	76.1	70.7	45	99	10	303	1033	7.31	3.56	58.40	18.99	.00	10.80	T	T	T	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Lake Charles	14	61.8	43.4	91.1	73.3	68.3	23	104	12	416	1543	6.93	3.44	57.82	17.94	T	16.01	.4	.7	5.0	89	67	75	93	62	71	10.1	6.3	---	---	---	95	121	149	106	*	70	37	86	12	0
New Orleans (U)	9	63.5	48.3	90.3	75.8	70.4	47	102	17	341	1175	7.09	3.66	63.54	25.11	T	14.01	T	.1	1.3	85	67	73	84	63	71	7.5	5.6	98	49	61	110	135	120	119	*	74	15	68	4	0
New Orleans (1950)	3	63.2	46.5	90.1	73.4	69.1	14	100	19	364	1317	5.90	3.18	59.65	16.87	.21	7.87	T	T	T	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Shreveport (U) (1955)	174	56.4	39.2	93.4	73.8	66.4	82	110	-5	550	2117	4.83	2.22	45.10	25.45	T	12.44	.9	1.8	11.0	83	67	66	86	56	62	9.0	7.1	59	47	78	150	109	106	99	---	49	6	84	22	*
Shreveport	252	56.1	39.5	93.3	73.6	66.8	9	106	15	550	2058	4.83	2.22	45.10	12.39	.04	7.17	.2	.4	1.5	82	63	64	90	56	57	10.7	8.2	---	52	75	124	96	145	96	*	57	18	93	31	0
MAINE							74	105	-48							.00	7.72																							
Caribou	620	18.1	-.8	74.5	53.5	37.2	22	96	-41	1745	10173	4.03	1.73	35.88	8.45	.12	6.23	22.3	106.7	18.2	73	68	73	82	58	71	12.4	9.9	---	---	---	56	103	206	162	31	20	26	2	192	42
Eastport (U) (1952)	33	29.8	14.1	69.2	51.9	42.3	80	93	-23	1333	8266	3.66	2.49	35.92	13.22	.13	5.48	16.9	71.6	18.5	74	72	71	85	77	83	13.5	7.5	83	45	56	89	114	162	149	23	13	60	*	137	10
Portland	61	30.7	10.6	78.7	56.9	44.5	21	100	-39	1373	7681	4.43	2.59	41.78	9.97	.26	7.49	19.5	70.7	21.0	80	65	73	80	59	76	9.5	7.7	76	54	67	113	99	153	126	18	19	53	6	160	15
MARYLAND							66	109	-40							T	14.75																							
Baltimore (U)	14	43.6	29.6	86.9	70.0	57.1	91	107	-7	880	4203	4.38	2.95	42.59	17.69	.05	7.82	6.1	22.7	24.5	72	58	66	71	52	65	10.3	8.8	66	48	65	121	123	121	123	6	32	15	25	71	*
Baltimore (Int. AP)	146	42.8	25.6	86.6	66.0	54.7	11	102	-4	955	4787	4.38	2.95	42.59	18.35	.15	7.82	5.5	21.3	15.5	75	59	66	81	54	66	10.8	9.1	80	50	67	107	113	145	116	9	31	32	30	99	1
Frederick	294	41.4	24.0	87.9	65.4	54.7	12	102	-11	1001	4854	4.03	2.58	40.23	11.26	.15	5.56	5.2	22.0	16.0	--	64	--	--	57	--	---	---	---	---	---	---	---	---	123	8	--	9	28	119	1
MASSACHUSETTS							74	106	-34							.00	11.14																							
Blue Hill Obs. (R)	629	34.0	18.6	79.7	61.4	47.3	76	101	-21	----	----	4.20	3.50	46.28	18.78	.06	9.93	15.5	59.6	27.2	77	63	69	80	57	75	17.4	13.0	121	44	57	---	---	---	136	16	--	--	5	132	4
Boston	15	36.5	21.6	80.0	64.3	50.7	10	100	-12	1113	5791	3.50	2.79	38.76	17.09	.35	8.40	12.9	40.2	19.4	70	59	63	73	54	66	14.6	10.2	65	47	66	99	107	159	132	10	20	24	14	94	1
Nantucket	43	39.3	24.8	73.8	60.3	48.8	15	95	0	1020	6102	4.05	2.83	41.69	12.92	.01	4.48	7.3	33.1	20.1	80	73	76	86	74	90	14.7	11.3	73	39	62	84	94	187	125	8	21	100	*	93	*
Pittsfield	1153	29.8	12.5	79.0	56.1	44.5	23	95	-25	1358	7694	4.95	2.51	44.24	10.32	.60	4.25	17.7	74.8	----	--	--	--	--	--	--	---	---	---	---	---	57	127	181	155	23	28	45	3	160	13
Worcester	986	31.3	16.6	79.3	61.0	47.0	6	93	-19	1271	6979	4.31	2.57	42.02	8.25	.83	4.79	19.9	84.5	18.8	73	60	66	74	59	69	14.4	9.7	---	---	---	87	112	166	132	21	20	86	2	148	7
MICHIGAN							75	112	-51							.00	9.91																							
Alpena (U) (1958)	587	28.1	14.2	76.8	57.9	43.5	45	104	-28	1358	8073	3.20	1.45	26.63	7.43	.16	4.40	16.0	64.4	16.7	80	70	76	77	61	68	11.7	9.2	61	29	70	82	119	164	144	19	29	20	3	155	10
Detroit (City AP)	619	33.1	19.3	83.5	62.6	49.3	28	105	-16	1203	6404	3.61	2.02	31.03	8.05	.23	3.72	8.1	31.6	9.8	81	70	76	75	51	55	11.4	8.2	77	31	70	80	105	180	134	12	34	12	14	125	2
Detroit (Willow Run)	711	32.1	18.5	84.3	62.6	49.2	15	100	-11	1231	6469	3.44	1.74	30.16	8.71	.25	4.78	7.8	31.8	8.0	82	71	76	79	47	55	11.7	8.8	---	---	---	80	102	183	123	11	34	29	18	134	3
East Lansing (U) (1958)	856	30.9	16.6	82.4	59.7	47.3	53	102	-25	1277	6982	3.75	1.81	31.08	9.21	.04	5.47	11.2	46.9	18.1	80	71	--	80	50	--	9.7	6.3	50	34	72	94	111	160	143	14	38	12	10	145	7

See reference notes at end of table.

NORMALS, MEANS AND EXTREMES

State and Station	Elevation ground (feet)	Temperature (°F) Normal (1921-1950) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Lengths years	Record highest	Record lowest	Normal degree days (1921-1950) January	Seasonal	Precipitation (inches) (1921-1950) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet Mean total January	Seasonal	Extreme Maximum in 24 hours
MICHIGAN (Cont'd.)																				
Escanaba (U)	594	25.0	10.0	75.3	58.4	41.9	52	100	31	1473	8657	3.22	1.37	27.08	9.93	0.07	5.05	13.5	55.7	14.5
Flint	766	30.5	15.8	82.7	59.2	46.8	5	95	-22	1296	7128	3.48	1.58	30.11	8.68	.07	6.04	9.9	38.7	13.4
Grand Rapids (U)	638	31.8	19.7	84.0	63.2	49.3	1	1	1	1215	6474	3.47	1.73	31.35	1	1	1	1	1	1
Grand Rapids	681	30.7	16.3	83.6	59.4	47.1	23	102	-22	1287	7075	3.45	1.67	31.50	9.15	.03	4.26	18.7	69.4	12.0
Lansing	852	30.9	16.6	82.4	59.7	47.3	3	94	-10	1277	6982	3.75	1.81	31.08	5.08	.35	2.49	8.3	42.4	11.0
Marquette (U)	677	25.2	12.1	75.1	57.1	42.2	25	102	-17	1435	8529	3.45	1.72	31.24	10.20	.21	4.65	19.3	104.2	16.1
Muskegon	627	31.4	18.3	80.5	59.2	46.8	20	97	14	1243	7089	3.34	1.64	29.01	8.54	.19	3.51	21.9	74.0	12.5
Sault Ste. Marie	721	21.9	5.7	75.4	52.4	39.3	21	98	25	1587	9475	3.49	1.52	30.19	6.93	.25	3.58	20.3	97.8	14.3
MINNESOTA							75	114	-59							.00	10.75			
Duluth (U)	1162	18.7	1.9	75.8	55.8	39.2	84	106	-41	1696	9574	3.72	1.00	26.67	11.52	.07	5.35	11.1	56.0	23.0
Duluth	1426	17.2	-.7	76.8	56.0	38.2	20	97	-35	1758	9937	4.33	1.20	29.72	8.48	.13	4.05	15.6	75.5	25.4
International Falls	1179	13.6	7.7	78.6	53.0	36.3	21	98	-41	1922	10600	3.73	.85	24.20	11.26	.10	4.82	10.4	59.5	13.9
Minneapolis	822	23.1	6.1	84.9	63.3	45.6	21	104	-31	1562	7853	4.26	.80	24.71	7.80	T	4.12	6.2	40.8	16.2
Rochester (1951)	1017	23.5	5.1	84.2	59.4	44.5	19	108	-40	1572	8095	4.33	.75	28.48	9.66	T	5.26	8.5	42.4	10.0
St. Cloud	1034	20.7	.2	83.2	58.0	41.9	22	103	-40	1690	8893	3.85	.69	24.16	9.34	.01	4.62	6.5	40.6	12.2
St. Paul (1952)	763	23.3	6.5	84.9	63.7	45.8	80	108	-41	1553	7804	4.23	.87	26.50	11.67	T	5.67	8.9	41.2	17.0
MISSISSIPPI							73	115	-16							.00	12.35			
Jackson	305	58.6	37.9	93.6	70.5	65.4	6	100	10	535	2202	6.23	2.10	50.86	11.16	.04	5.29	T	1.9	9.1
Meridian	294	58.5	36.5	92.0	69.8	64.5	16	104	8	561	2333	6.58	2.38	55.07	15.29	T	6.95	.4	.7	4.7
Vicksburg (U)	234	57.6	40.8	90.0	72.9	66.1	24	101	6	507	2000	6.03	1.77	49.63	16.58	.03	9.97	1.0	1.6	10.0
MISSOURI							74	118	40							.00	12.25			
Columbia	778	38.8	20.7	88.8	66.8	54.6	23	113	18	1091	5113	4.90	1.57	39.33	13.30	.09	4.05	4.3	19.5	10.3
Kansas City	742	39.0	21.0	91.2	70.5	56.1	26	113	-13	1085	4888	5.02	1.16	35.31	11.94	.04	5.96	5.1	19.7	12.8
St. Joseph	809	36.9	17.3	91.4	68.8	54.5	15	107	-13	1175	5336	6.46	1.01	35.28	13.73	.05	4.76	5.9	22.2	11.3
St. Louis (U) (1958)	165	41.0	25.6	89.6	71.6	57.3	23	112	12	983	4469	4.10	1.88	37.86	20.45	.03	8.78	3.8	14.6	12.4
St. Louis	535	40.8	23.6	90.0	69.3	56.3	4	99	-5	1017	4699	4.37	1.66	36.73	7.97	.32	4.29	3.9	17.3	11.2
Springfield	1265	41.7	23.7	87.7	67.2	55.7	15	113	-11	1001	4693	5.56	1.76	41.51	18.75	.08	6.85	2.9	13.4	12.5
MONTANA							95	117	-70							.00	10.10			
Billings	3567	32.3	13.4	87.9	58.6	47.2	2	105	-22	1305	7106	2.61	.44	13.10	7.64	T	2.83	7.1	53.5	23.7
Butte	5530	28.0	.4	79.8	45.0	38.3	29	100	-52	1575	9760	2.28	.55	12.69	5.40	T	2.02	7.1	51.0	13.0
Glasgow	2277	19.6	1.4	86.7	57.6	42.0	18	108	-50	1690	8869	3.48	.34	13.26	6.95	T	2.83	6.9	43.8	8.4
Great Falls	3662	31.7	13.6	83.8	55.3	45.1	23	105	-35	1311	7555	2.96	.55	14.03	8.13	T	3.20	8.1	54.0	11.0
Havre (U)	2582	26.3	6.1	85.9	56.6	43.6	57	107	-57	1513	8213	2.98	.39	12.31	7.09	T	2.94	7.3	37.4	22.9
Helena (U)	4090	27.3	9.9	80.5	53.2	43.2		-	---	1438	8126	2.45	.49	12.55		---	-----	----	---	
Helena	3893	27.7	7.5	83.8	52.2	43.0	21	103	-42	1469	8250	2.15	.41	11.30	4.74	.02	1.99	8.0	47.9	21.5
Kalispell	2965	28.0	12.6	82.1	49.9	43.2	2	105	29	1386	8055	2.43	.92	16.35	4.44	T	1.99	18.4	69.0	15.4
Miles City	2629	26.6	5.5	89.9	60.0	45.4	24	110	-37	1516	7850	2.84	.36	12.81	9.78	T	2.67	5.5	28.8	10.5
Missoula	3190	28.6	10.1	86.3	50.4	44.1	1	105	-15	1414	7873	1.87	.78	12.76	4.19	.02	1.82	10.7	45.1	11.2
NEBRASKA							86	118	-47							.00	13.15			
Grand Island	1841	34.0	11.9	92.9	64.9	51.0	15	109	-26	1302	6311	3.87	.55	22.70	9.60	.00	5.41	6.2	29.0	8.7
Lincoln (U) (1954)	1184	34.3	15.7	90.5	67.8	52.7	68	115	-29	1240	5865	4.10	.82	25.73	14.21	.00	8.38	5.7	26.3	12.4
Lincoln (U)	1150	34.3	15.7	90.5	67.8	52.7	5	105	-10	1240	5865	4.10	.82	25.73	11.40	.05	4.86	8.2	34.6	10.4
Norfolk	1544	29.4	9.2	88.7	63.7	48.3	16	113	26	1417	7065	4.78	.78	25.69	9.11	T	3.46	5.6	29.2	8.3
North Platte	2779	36.8	11.2	89.4	62.2	49.5	10	112	-22	1271	6546	2.92	.34	17.54	7.21	T	3.61	4.6	34.8	9.7
Omaha	978	32.4	13.5	89.3	67.6	51.6	8	107	15	1302	6160	4.51	.81	25.90	10.81	T	3.62	8.4	32.2	13.7
Scottsbluff	3950	36.7	10.3	90.1	59.0	48.2	19	107	-27	1287	6841	2.78	.33	15.00	8.33	T	3.74	6.0	39.4	12.1
Valentine	2587	33.3	6.7	88.6	60.5	47.2	7	106	29	1395	7266	3.16	.46	18.23	5.39	T	3.19	4.0	23.8	7.7
NEVADA							73	122	-50							.00	4.37			
Elko	5075	34.5	9.2	91.3	49.1	45.7	31	104	43	1336	7335	1.07	.29	9.13	3.35	T	1.62	10.3	36.2	16.7
Ely	6257	37.4	8.6	88.6	48.1	45.2	23	99	-27	1302	7443	1.29	.50	10.52	2.68	.00	1.42	8.5	44.0	13.1
Las Vegas	2162	55.4	33.0	105.4	75.6	66.8	1	113	21	653	2425	.58	.13	4.35	2.59	.00	2.59	1.5	1.6	5.0
Reno	4404	45.7	16.6	91.8	47.3	49.5	20	104	-16	1048	6036	1.05	.22	6.96	5.25	.00	2.37	6.8	23.4	16.9
Tonopah (1952)	6101	37.4	22.7	87.1	62.0	51.0	--	---	---	1082	5813	.55	.19	4.81	3.26	.00	1.97	---	-- -	----
Winnemucca	4299	37.4	18.2	92.0	56.4	49.1	12	105	-19	1153	6369	1.01	.18	8.75	2.86	T	1.79	6.1	22.0	9.9
NEW HAMPSHIRE							85	106	-46							.00	8.00			
Concord	339	31.6	8.6	82.6	55.3	44.8	20	100	-37	1392	7612	3.62	2.30	37.23	10.10	.41	4.47	18.3	61.6	19.0
Mt. Washington Obs.	6262	14.1	-3.3	55.1	43.4	27.0	77	71	-47	1790	13694	6.58	4.75	70.20	18.23	.75	7.03	29.2	195.6	32.0
NEW JERSEY							77	110	-34							.00	14.81			
Atlantic City (U) (1958)	8	42.4	29.1	79.3	67.9	54.1	85	104	-9	905	4741	4.72	2.98	41.77	14.87	.01	9.21	4.2	14.6	18.0
Atlantic City (NAF Exp.)	58	42.9	26.6	83.8	66.3	54.1	18	102	-8	942	4884	4.90	2.83	42.36	13.09	.10	6.46	4.2	14.3	10.7
Newark	11	39.0	24.0	84.9	65.6	52.9	20	105	-7	1039	5252	4.20	3.10	42.96	11.84	.27	4.17	7.1	27.2	26.0
Trenton (U)	56	39.8	25.4	84.6	66.0	53.5	29	106	-14	1004	5068	4.59	2.65	40.06	14.10	.06	4.79	5.3	22.4	16.6

State and Station	Relative humidity (percent) January 1:30 a.m. EST	January 7:30 a.m. EST	January 1:30 p.m. EST	January 7:30 p.m. EST	July 1:30 a.m. EST	July 7:30 a.m. EST	July 1:30 p.m. EST	July 7:30 p.m. EST	Wind Speed (mph) Mean hourly January	Mean hourly July	Fastest mile January	Fastest mile July	Sunshine (percent of possible) January	July	Annual mean number of days, Sunrise to sunset: Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet, ice pellets	Thunderstorms	Heavy fog	Temperature Max 90 and above	Min 32 and below	Min 0 and below
MICHIGAN (Cont'd.)																								
Escanaba (U)	78	70	74	80	65	69	10.2	9.0	68	41	66	102	108	155	129	18	33	19	*	163	20
Flint	84	73	79	85	50	56	12.0	8.2	--		--	65	110	190	132	12	33	20	4	155	14
Grand Rapids (U)	81	69	75	83	54	55	12.9	10.2	59	26	75	85	99	181	141	13	34	25	1	152	11
Grand Rapids	86	77	81	83	51	55	10.0	8.0	65	29	70	70	96	199	140	24	37	19	14	150	6
Lansing	81	69	75	83	54	55	12.9	10.2	59	26	75	85	99	181	141	13	34	25	1	152	11
Marquette (U)	75	69	73	76	64	66	8.8	7.1	59	31	66	62	105	198	155	30	29	18	6	161	10
Muskegon	82	76	78	83	57	60	10.9	7.6	---	--	---	81	92	192	138	26	35	25	6	145	2
Sault Ste. Marie	84	77	82	89	62	68	10.1	8.4	---	33	62	65	93	207	161	33	30	17	1	178	26
MINNESOTA																								
Duluth (U)	78	74	71	87	61	66	12.3	10.5	75	46	67	110	119	136	126	16	31	37	2	173	41
Duluth	78	73	73	88	61	64	12.6	10.6	75	52	69	79	104	182	132	22	33	52	2	191	51
International Falls	74	69	71	88	57	58	9.0	7.9	52	---	---	83	105	177	134	18	30	14	4	198	66
Minneapolis	81	71	74	82	53	54	10.5	9.4	92	51	69	105	101	159	112	12	36	10	17	154	29
Rochester (1951)	75	67	72	83	55	57	-		-	---	---	78	135	152	105	13	40	16	14	166	34
St. Cloud	77	70	72	87	55	57	8.2	7.0		--	---	96	108	161	108	13	38	20	11	176	43
St. Paul (1952)	75	69	69	79	51	53	9.5	8.1	92	-	-	104	128	133	114	13	34	9	12	154	32
MISSISSIPPI																								
Jackson	83	61	66	91	59	65	7.8	4.6	54	43	64	104	110	151	119	1	72	14	79	44	0
Meridian	89	63	71	93	58	70	7.5	5.4	---		--	124	112	129	105	*	57	19	90	47	0
Vicksburg (U)	83	62	70	93	62	71	9.3	6.7	56	44	65	107	116	142	105	*	63	11	66	21	0
MISSOURI																								
Columbia	80	66	69	85	55	57	11.0	7.9	63	48	74	115	101	149	110	5	53	15	43	110	5
Kansas City	78	64	67	76	49	48	10.1	9.0	72	51	76	120	106	139	100	4	50	12	56	100	2
St. Joseph	79	66	70	88	59	59	11.8	8.5	---	46	62	123	99	143	97	5	57	22	41	127	6
St. Louis (U) (1958)	b77	b65	b68	b73	b50	b55	12.6	9.5	82	45	72	128	106	131	110	6	51	8	46	83	2
St. Louis	80	67	69	85	61	57	10.0	7.3	15	49	69	103	104	158	107	8	43	11	42	98	2
Springfield	83	69	72	88	58	61	13.2	10.1	66	47	70	112	100	153	107	4	60	20	46	101	1
MONTANA																								
Billings	63	58	53	50	32	24	12.6	9.9	73	50	78	92	121	152	92	19	30	18	45	149	9
Butte	--	--	--	--	-	--	6.9	8.0		---	---	79	107	179	105	19	41	6	4	228	43
Glasgow	78	72	76	71	38	31	---	--	---	---	---	89	107	169	89	12	28	12	29	184	46
Great Falls	66	62	61	63	36	30	16.8	10.9	82	54	80	89	109	167	98	19	28	13	16	146	22
Havre (U)	82	71	--	74	38		8.8	7.2	70	49	78	121	124	120	90	13	25	5	22	172	38
Helena (U)		-	--	--	--	--			--	---	---	---				--	---	---	---	- -	---
Helena	73	69	66	71	41	32	6.6	8.0	73	52	79	83	108	174	97	14	38	8	15	182	25
Kalispell	--	84		--	37	-	-	- - -	---	-	--	75	86	204	132	23	25	29	26	197	19
Miles City	--	--	--	-	--	--	8.9	10.0	--	---	--	98	110	157	88	12	28	8	40	174	31
Missoula	90	92	85	71	38	26	4.8	6.5	72	30	79	76	82	207	124	15	26	25	40	206	10
NEBRASKA																								
Grand Island	79	64	71	83	51	48	11.6	11.3	---	---	--	123	106	136	84	10	47	16	40	153	13
Lincoln (U) (1954)	--	--	-	-			10.4	9.2	66	57	76	131	112	122	95	---	47	5	40	41	11
Lincoln (U)	--	--	--	--	--		9.9	9.0	64	61	75	119	103	143	95	10	49	7	41	125	5
Norfolk	79	65	70	84	54	50	-- -	-	-	---	---	117	103	145	86	11	49	13	36	158	20
North Platte	81	63	67	85	48	43	9.2	10.2	72	60	74	121	109	135	80	9	46	17	44	178	13
Scottsbluff	78	66	68	85	54	52	11.4	9.4	109	54	76	117	107	141	96	10	49	15	37	140	13
Valentine	73	55	58	79	42	38	9.6	9.7	---	---	---	122	110	133	83	13	45	11	39	180	14
	81	69	67	84	45	40	9.6	10.1	65	69	77	121	105	139	79	10	43	3	41	183	25
NEVADA																								
Elko	79	72	65	54	24	19	5.2	6.2	---	-	- -	134	102	129	75	13	21	5	44	214	18
Ely	73	59	55	49	21	21	11.2	10.9	74	63	80	135	108	122	69	14	31	2	16	218	19
Las Vegas	51	34	24	30	20	16	6.5	9.8	---	76	85	219	80	66	23	1	15	1	126	39	0
Reno	81	67	53	72	26	19	6.1	6.5	59	64	91	171	91	103	47	8	13	8	47	189	3
Tonopah (1952)	-	--	--	--	--		- -	---	---	---	---	---	---	---		---	---	---	--	---	--
Winnemucca	78	66	59	44	21	15	8.0	8.2	63	44	84	142	88	135	65	8	14	2	53	195	8
NEW HAMPSHIRE																								
Concord	78	60	70	80	50	68	7.3	5.6	72	48	62	96	111	158	126	20	22	55	13	168	17
Mt. Washington Obs.	81	82	82	91	87	91	46.8	25.3	231	34	31	51	78	236	205	59	16	306	0	242	63
NEW JERSEY																								
Atlantic City (U) (1958)	79	68	74	81	72	82	16.2	13.3	91	51	67	118	122	125	122	5	23	21	3	75	*
Atlantic City (NAF Exp.)	78	58	68	86	59	72	13.6	9.6	---	62	58	94	105	166	114	4	24	42	13	92	*
Newark	72	59	65	75	51	63	11.2	8.7	---	---	---	97	111	157	124	8	27	23	25	94	*
Trenton (U)	--	--	--	--	--	--	9.8	7.7	64	49	68	99	117	149	123	7	34	---	18	89	*

See reference notes at end of table.

NORMALS, MEANS AND EXTREMES

State and Station	Elevation of ground (feet)	Temperature (°F) Normals (1921-1950) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Length yrs	Record highest	Record lowest	Normal degree-days (1921-1950) January	Season	Precipitation (inches) (1921-1950) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet Mean total January	Season	Maximum in 24 hours	Relative humidity (percent) January 7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	July 7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	Wind Speed (mph) Mean daily January	July	Fastest mile	Sunshine (percent of possible) January	July	Average number of days Sunrise to sunset Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Thunderstorms	Heavy fog	Temperature Max. 32° and below	Max. 90° and above
NEW MEXICO							70	116	-50							0.00	11.28																						
Albuquerque	5310	45.6	21.8	91.6	66.4	56.6	1	101	7	970	4389	1.43	0.28	8.68	3.25	.00	1.92	1.9	10.5	14.2	67	48	35	60	37	24	8.0	9.2	90	70	76	172	115	78	58	1	44	5	58	113	0
Clayton	4969	46.7	19.0	88.4	59.8	53.1	17	102	-21	995	5138	2.59	.27	15.42	7.77	.00	4.67	3.9	20.7	12.7	63	44	51	77	43	43	---	---	---	---	---	168	99	98	68	7	54	12	40	144	3
Raton	6379	42.8	9.5	84.4	52.7	48.2	17	98	-24	1203	6417	2.50	.35	15.42	7.61	.00	3.97	5.3	25.6	8.0	--	46	--	--	38	--	---	---	---	---	---	131	135	99	79	9	77	8	17	185	8
Roswell	3617	53.8	25.3	92.1	65.8	59.8	1	103	-1	787	3424	2.00	.39	12.07	5.64	.00	3.37	3.4	10.4	15.3	82	51	43	82	42	29	8.6	9.6	75	---	---	183	100	82	49	4	42	9	118	138	1
Silver City	5371	----	----	----	----	----	1	102	13	----	---	----	----	------	1.99	.00	1.50	---	----	6.0	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	-
NEW YORK							72	108	-52							.00	11.17																						
Albany (U)	19	32.9	17.4	82.6	63.6	49.4	--	---	---	1234	6319	4.08	2.18	35.81	---	----	----	---	---	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Albany	277	30.9	14.0	82.5	60.2	47.2	15	100	26	1318	6962	3.37	2.03	31.82	8.96	.64	4.08	15.9	61.2	17.9	79	66	73	77	51	63	9.9	7.3	71	44	65	76	112	177	134	15	29	23	15	145	12
Bear Mountain (1952)	1300	32.8	18.9	79.5	62.6	48.3	13	99	-23	1212	6511	4.71	2.90	44.29	16.87	.25	5.50	11.3	48.9	23.0	--	--	--	--	--	--	---	--	---	---	---	73	122	170	126	13	27	98	4	130	3
Binghamton (U)	858	34.0	17.3	82.8	60.0	48.4	70	103	-28	1218	6556	3.69	2.32	36.34	9.59	.16	4.55	12.5	51.4	21.0	--	--	--	--	--	--	---	---	---	---	---	---	---	---	152	15	--	---	10	133	7
Binghamton	858	34.0	17.3	82.8	60.0	48.4	71	103	-28	1218	6556	3.69	2.24	36.26	9.59	.16	4.55	12.5	51.6	21.0	82	74	76	84	57	65	12.5	8.6	72	35	65	48	105	212	152	15	33	50	9	134	7
Buffalo	693	32.4	18.5	81.1	60.0	47.5	1	90	-20	1225	6838	3.09	2.43	32.29	9.13	.11	3.11	26.3	106.8	19.9	79	72	77	87	67	71	11.9	11.1	91	34	70	59	113	193	168	30	29	22	0	139	5
New York (U)	10	39.9	25.8	82.3	66.9	53.4	90	102	-14	995	5050	4.34	3.04	42.03	14.51	.11	9.40	7.3	30.1	25.8	72	a62	66	76	a58	67	16.4	14.5	113	51	65	104	131	130	124	8	30	20	7	91	*
New York Central Park	132	39.2	26.1	84.7	67.4	54.0	93	106	-15	1001	4965	4.40	3.03	43.36	16.85	.02	11.17	7.7	30.0	26.4	68	61	61	76	57	64	11.1	7.8	---	85	66	102	128	135	121	8	---	---	16	81	*
New York (LaGuardia)	19	39.1	26.8	84.0	67.8	53.9	21	103	-7	992	4989	4.27	2.91	40.38	16.05	.03	7.11	7.0	31.9	22.8	69	59	62	74	54	65	---	---	---	---	---	---	---	---	123	7	---	---	17	77	*
Oswego (U) (1952)	292	31.7	17.6	77.8	62.3	47.0	82	100	-23	1249	6975	3.33	2.48	33.07	10.50	.18	3.76	23.8	87.9	19.1	78	68	77	76	63	70	12.1	7.9	48	19	69	79	102	184	163	28	26	9	2	127	6
Rochester	543	32.7	16.7	82.7	59.7	47.5	21	100	-16	1249	6863	3.09	2.36	31.74	9.70	.28	3.13	19.3	82.3	18.7	82	73	79	81	51	60	11.3	7.8	73	36	71	64	113	188	157	25	25	14	14	136	5
Schenectady (1952)	217	28.8	14.2	82.5	62.8	47.2	8	102	-28	1349	7050	3.86	2.22	35.25	8.69	.64	7.46	16.7	62.7	-----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Syracuse	424	33.9	17.0	83.5	61.4	48.8	12	98	-24	1225	6520	3.68	2.52	36.42	8.41	.93	4.27	26.7	113.3	21.4	78	70	75	77	53	61	10.3	8.4	63	32	68	67	102	196	171	34	29	10	10	135	8
NORTH CAROLINA							75	109	-23							.00	22.22																						
Asheville (U)	2203	48.8	30.0	84.1	63.4	56.3	31	99	-3	794	4072	4.50	2.11	37.22	13.75	.22	6.78	2.2	11.5	15.8	82	59	66	89	57	70	9.5	5.6	52	48	60	104	121	140	129	3	50	46	13	83	*
Cape Hatteras (R)	7	54.3	41.6	83.4	73.5	63.1	4	94	14	527	2392	6.48	3.08	54.77	8.74	.45	4.46	T	3.1	7.0	79	64	75	87	71	85	12.4	10.2	72	---	---	109	104	152	116	*	45	16	4	31	0
Charlotte	725	52.2	32.3	88.8	68.3	60.5	1	95	8	704	3205	4.67	2.65	43.09	10.89	T	4.84	1.4	4.0	8.0	76	46	53	96	60	73	8.5	6.7	57	56	70	111	107	147	111	1	45	23	34	67	0
Greensboro	891	49.0	29.0	87.4	66.9	58.1	33	102	-7	806	3810	4.94	2.60	42.49	13.26	.13	7.49	2.6	7.5	14.3	82	58	70	86	57	72	8.4	6.7	63	51	65	113	111	141	119	2	49	31	37	85	*
Raleigh (U)	400	51.3	34.0	88.9	69.6	61.1	f	f	f	691	3075	5.64	2.68	45.83	f	f	f	f	f	f	--	--	--	--	-	--	f	f	f	f	f	f	f	f	f	f	f	f	f	f
Raleigh	433	50.8	32.0	89.0	68.0	59.9	17	105	7	732	3369	5.45	2.82	45.09	12.94	.44	5.20	2.4	6.3	9.1	81	56	68	87	56	72	8.3	6.5	---	61	69	118	106	141	117	2	47	34	47	73	0
Wilmington	30	58.7	36.9	89.1	70.9	63.8	10	104	11	533	2323	8.16	2.59	49.84	15.51	.17	8.24	.1	1.3	5.3	83	57	74	87	62	78	10.4	9.7	88	58	65	124	113	128	113	1	45	19	48	42	0
Winston-Salem	967	48.6	30.0	87.0	67.9	58.5	7	100	1	797	3721	4.57	2.79	43.15	10.86	.44	3.48	2.5	7.9	10.9	72	51	59	84	57	67	9.4	7.5	---	- -	---	117	106	142	118	3	43	32	37	76	0
NORTH DAKOTA							70	121	-60							.00	7.70																						
Bismarck	1647	20.1	-1.8	85.5	58.6	41.7	20	109	-44	1730	9033	3.33	.36	15.40	8.29	T	3.25	6.8	37.0	13.5	77	71	75	85	52	49	10.2	10.0	72	54	75	96	108	161	95	11	35	13	22	186	49
Devils Lake (U)	1471	14.2	-4.7	81.7	56.9	38.7	58	112	-46	1866	9940	3.18	.40	17.61	8.55	T	4.82	6.2	35.4	13.4	76	72	76	86	53	52	9.7	8.4	57	53	71	112	109	144	101	11	30	9	10	189	60
Fargo	900	16.9	-2.8	84.2	58.3	40.9	7	102	-30	1795	9274	3.04	.60	18.73	8.52	.02	4.72	5.7	31.6	11.2	74	70	71	88	55	53	13.7	11.4	115	49	69	92	113	160	101	10	31	12	14	181	48
Williston (U)	1877	19.8	.2	83.5	58.2	41.3	46	110	-50	1705	9068	3.59	.46	14.66	7.88	T	3.06	5.5	32.9	10.6	74	67	69	77	45	41	6.8	6.9	60	52	78	122	116	127	89	12	27	7	18	178	43
OHIO							88	113	-39							.00	8.70																						
Akron-Canton	1209	34.8	20.0	83.1	61.6	49.7	13	100	-11	1166	6203	4.20	2.13	37.26	11.43	.20	4.18	8.3	44.8	8.5	84	74	80	83	55	65	11.8	7.7	---	---	---	74	100	191	152	14	42	28	9	136	4
Cincinnati (U) (1950)	553	42.3	26.9	88.0	68.1	50.3	80	109	-17	942	4532	4.07	2.19	39.34	13.68	.13	5.22	5.4	18.1	11.0	--	--	--	--	--	--	8.9	5.5	49	40	72	f	f	f	130	7	46	10	26	89	1
Cincinnati	869	39.7	23.8	85.9	64.3	53.6	17	---	---	1021	5195	4.04	2.17	39.16	-----	----	----	---	----	----	82	70	74	84	52	60	---	---	---	---	---	108	115	142	---	---	---	---	---	---	---
Cincinnati Obs.	761	40.9	25.2	87.2	65.9	54.9	46	109	-17	989	4870	4.07	2.19	39.34	13.68	.17	4.77	5.1	18.7	11.0	81	69	73	84	54	61	8.3	5.3	49	41	71	83	95	187	134	7	51	22	29	98	2
Cleveland (U)	653	36.0	23.0	80.9	66.5	51.5	---	---	---	1101	5717	3.35	2.19	33.50	-----	----	----	---	----	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cleveland	787	36.0	20.9	84.7	62.6	50.6	1	92	-7	1132	6006	3.13	2.12	32.08	9.50	.36	3.73	9.8	50.1	15.0	76	67	70	85	59	66	12.6	9.0	74	27	68	73	104	188	154	18	38	14	5	130	6
Columbus (U)	724	38.2	23.9	85.8	65.8	53.4	---	---	---	1051	5277	3.66	2.00	34.36	-----	----	----	---	----	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Columbus	812	37.8	21.6	86.2	62.6	52.0	2	94	-13	1094	5615	4.33	2.18	37.88	9.75	.33	4.81	6.3	26.2	8.7	77	68	70	89	57	61	9.9	6.0	63	37	69	77	107	181	137	8	43	19	14	122	4
Dayton	1002	37.3	22.1	85.3	64.7	52.2	18	102	-16	1094	5597	3.90	2.11	35.15	10.89	.10	4.30	6.0	25.0	10.0	82	72	77	83	54	58	12.1	8.2	78	38	68	80	104	181	130	8	43	21	17	116	4
Mansfield	1296	----	----	----	----	----	2	90	-10	----	----	----	----	------	5.21	.65	2.79	4.7	39.8	7.5	84	77	--	83	58	--	---	---	---	---	---	65	107	193	147	15	39	24	1	134	7
Portsmouth (R) (1954)	670	42.7	23.4	87.7	61.6	54.1	34	107	-25	989	4965	4.26	2.28	38.56	9.92	.51	3.43	8.8	32.9	10.1	b71	b59	b59	b88	b47	b54	7.7	3.4	60	---	---	39	75	142	106	9	63	64	36	113	0
Sandusky (U)	603	35.7	21.8	83.7	65.5	51.3	34	105	-12	1122	5859	3.73	1.92	33.16	12.51	.19	5.95	5.2	26.9	12.3	--	--	--	--	--	--	10.1	6.9	75	35	75	93	115	157	137	10	37	8	19	111	2
Toledo	676	34.7	18.0	85.3	60.9	49.4	6	97	-11	1197	6394	3.55	1.86	31.84	6.71	.27	2.50	8.5	31.6	9.8	83	71	77	88	55	61	10.3	7.8	72	44	71	76	105	184	130	9	44	21	12	143	5
Youngstown	1178	34.9	20.0	83.3	61.2	49.8	18	100	-12	1163	6172	4.16	2.72	41.33	9.87	.27	4.31	11.5	53.4	20.7	84	74	79	83	54	65	11.9	7.9	---	---	---	73	101	191	163	17	37	29	9	136	4
OKLAHOMA							70	120	-27							.00	19.75																						
Oklahoma City (U) (1953)	1254	47.2	28.3	93.1	71.8	61.0	63	113	-17	843	3519	4.42	1.28	32.59	14.12	T	7.87	f2.7	f7.8	f11.3	f79	f62	f65	f80	f49	f51	---	---	66	f57	f78	f161	f107	f97	82	f2	f45	f8	64	70	*
Oklahoma City	1280	47.0	27.2	93.3	70.9	60.4	8	107	-4	865	3644	4.25	1.24	30.22	10.78	T	4.82	3.4	9.5	8.4	83	66	67	85	56	51	14.8	12.1	87	56	77	148	95	122	81	3	51	18	65	85	*
Tulsa	650	46.9	27.9	93.1	71.1	60.6	23	112	-8	856	3584	5.15	1.57	37.68	18.00	T	7.30	4.0	9.7	9.0	80	62	64	84	54	53	11.4	9.0	75	50	71	125	103	137	91	3	54	7	72	75	1
OREGON							72	119	-54							.00	10.17																						
Astoria	8	44.0	36.1	66.7	54.8	51.4	8	100	15	772	4995	13.21	1.07	75.99	21.89	.01	3.55	1.7	3.7	5.9	87	84	80	91	75	69	8.5	8.4	---	---	---	51	70	244	201	2	9	41	1	36	0
Baker (U) (1952)	3446	32.3	15.9	84.2	51.0	46.1	62	104	-25	1268	7087	1.31	.33	10.02	4.00	T	1.83	11.3	40.4	16.7	†83	†81	†78	†69	†68	†36	5.9	5.8	53	41	83	122	107	136	103	45	16	3	15	156	6
Burns (U)	4151	35.5	12.2	87.3	52.2	46.8	11	103	-25	1274	6918	1.47	.25	10.25	3.97	.00	1.57	16.4	51.3	10.9	83	76	70	53	33	20	---	---	---	---	---	128	87	150	89	18	14	11	23	184	5
Eugene	361	44.8	31.6	82.4	50.7	52.4	19	105	-4	831	4779	6.00	.26	37.51	19.49	T	4.82	4.6	6.9	7.2	--	86	81	--	54	37	8.5	8.5	---	---	---	78	87	200	142	3	6	57	14	59	*
Meacham	4050	32.0	17.7	77.3	49.0	43.5	17	105	-15	1243	7888	4.38	.46	33.29	9.29	.00	3.00	32.4	154.1	22.9	--	80	--	--	40	--	---	---	---	---	---	90	70	205	153	47	18	32	4	170	4
Medford	1298	44.6	29.8	88.8	54.7	54.0	31	115	-3	862	4547	3.13	.17	18.15	9.16	.00	3.17	3.7	7.7	7.9	92	88	74	75	45	27	4.5	5.6	---	---	---	118	81	166	101	3	9	45	48	80	*
Pendleton	1482	36.9	24.2	89.0	59.9	52.7	26	113	-22	1066	5204	1.69	.26	12.96	3.03	.00	1.49	8.2	18.4	13.3	83	78	78	54	34	23	7.8	9.8	---	---	---	106	94	165	101	6	12	29	32	86	3
Portland (U)	30	44.2	34.7	79.2	57.8	54.6	59	107	3	791	4143	7.10	.42	39.91	17.45	.00	5.01	5.2	8.9	16.0	86	81	77	84	62	46	10.4	7.2	61	22	69	67	69	229	152	3	7	29	8	22	0
Portland	21	43.3	31.5	79.2	55.3	53.0	17	---	---	856	4632	6.17	.42	35.23	-----	----	----	----	----	-----	87	82	78	86	63	48	9.8	6.8	57	19	65	67	68	230	---	---	8	23	---	---	---
Roseburg (U) (1952)	479	47.5	34.5	83.4	54.3	54.6	75	109	-6	744	4122	4.93	.20	30.50	12.82	.00	4.15	3.1	6.6	8.0	91	87	79	85	54	38	3.9	5.1	40	f	f	f	f	f	133	1	4	49	14	34	*
Roseburg	505	47.1	31.8	83.2	51.2	53.1	9	106	9	791	4556	4.93	.20	30.50	15.74	T	4.80	3.1	6.9	9.4	--	86	74	--	54	34	4.1	6.0	38	23	81	77	86	202	135	2	6	56	21	57	0
Salem	195	44.8	31.9	83.2	52.2	53.1	24	108	-10	825	4574	7.12	.32	39.85	15.40	.00	3.16	3.8	6.2	10.8	88	84	79	87	55	39	8.7	6.6	---	---	---	76	86	203	151	2	6	40	16	60	*

See reference notes at end of table.

NORMALS, MEANS AND EXTREMES

State and Station	Elevation above ground (feet)	Temperature (°F) Normal (1921-1950) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Highest	Lowest	Range	Normal degree days (1921-1950) January	Season	Precipitation (inches) (1921-1950) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum 24 hours	Snow, sleet Mean total January	Season	Maximum 24 hours	Relative humidity (percent) January 7:00 a.m. EST	1:00 p.m. EST	July 7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	Wind Speed (miles) Mean hourly January	July	Extreme	Sunshine (percent of possible) January	July	Annual mean number of days Precipitation .01 or more	Snow, sleet 1.0 or more	Fog	Clear	Partly cloudy	Cloudy	Thunderstorms	Heavy fog	Temperature Max 90 and above	Min 32 and below	Min Zero and below
OREGON (Cont'd.)																																										
Sexton Summit (R)	3836	41.6	30.0	76.4	50.0	48.1	17	100	8	905	6217	4.70	0.29	30.96	14.71	0.00	5.20	24.4	98.9	22.6	--	83	--	--	60	--	13.9	12.0	---	---	---	120	70	175	132	30	7	164	3	112	0
Troutdale (1952)	29	42.2	31.4	80.0	53.1	52.4	7	103	3	874	4775	7.24	.53	42.92	11.25	.03	2.84	8.9	14.8	7.3	85	80	76	91	63	50	11.7	4.7	---	---	---	67	77	221	164	5	9	26	13	52	0
PACIFIC AREA																																										
Canton Island	8	88.0	78.0	90.0	78.4	83.7	10	98	70	--	--	3.78	.27	20.01	16.39	T	5.21	.0	.0	.0	79	65	75	80	65	77	15.2	13.3	---			66	150	149	100	0	4	0	180	0	0
Eniwetok	13	---	---	---	---	---	8	93	71	----	----	----	----	-----	18.07	.12	----	.0	.0	.0	--	--	--	--	--	--	---	---	---	---	---	--	--	--	198	0	3	0	6	0	0
Guam (R)	361	83.8	71.5	87.0	72.2	78.8	5	95	59			14.50	2.37	86.45	20.59	.67	7.26	.0	.0	.0	--	--	--	--	--	--	8.8	4.3	34	37	41	--		---	268	0	23	0	8	0	0
Johnston Island	7	---	---	---	---	---	6	88	63	---	----	----	----	-----	15.80	.22	9.51	.0	.0	.0	76	67	73	77	70	76	12.9	15.2	49	71	84	38	221	106	170	0	1	0	0	0	0
Kwajalein	94	85.0	75.4	85.2	75.8	80.9	12	93	69	---	---	18.81	7.68	147.98	27.46	1.65	11.57	.0	.0	.0	90	81	77	92	82	79	7.7	4.4	31	--	--	2	59	304	278	0	40	0	46	0	0
Majuro, Marshall Is.	8	---	---	--	---		9	97	70	---	----	----	----	-----	30.38	.61	3.48	.0	.0	.0			--	--	--	--									245	0			34	0	0
Ponape (R)	10	---	---	--	---		6	91	69						24.26	.96	10.01	.0	.0	.0	82	76	78	85	78	80	12.4	8.6	36	--	---	7	54	304	259	0	18	0	*	0	0
Truk Moen Island	123	86.4	76.0	88.0	72.7	81.0	11	96	67			19.66	7.87	182.44	38.65	2.40	22.48	.0	.0	.0	85	76	78	95	80	81	7.4	3.8	36	52	61	4	63	298	302	0	31	0	39	0	0
Wake Island	5	85.3	76.5	86.6	74.0	80.8	11	94	70			13.46	7.10	131.91	34.89	.84	14.92	.0	.0	.0	84	77	77	91	80	79	7.9	4.5	40	--	---	4	55	306	278	0	21	0	6	0	0
Yap (R)	11	81.1	73.8	86.3	77.6	79.9	11	92	64	--	----	8.90	1.26	41.30	17.06	.27	15.00	.0	.0	.0	71	75	66	81	82	73	13.7	12.8	---	--	---	123	157	85	186	0	7	0	7	0	0
	33	85.4	76.1	87.6	75.7	81.6	13	97	69	-	---	16.60	4.71	122.14	29.44	1.08	10.45	.0	.0	.0	87	79	77	91	80	77	9.0	5.0	72	42	41	8	56	301	263	0	12	0	60	0	0
PENNSYLVANIA																																										
Allentown	376	36.5	20.4	85.5	62.7	50.9	74	111	12							.00	34.50																									
Erie	732	34.2	20.1	80.6	60.1	48.3	18	102	-12	1132	5880	4.78	2.64	42.25	12.10	.34	4.79	7.7	31.4	17.5	78	62	70	82	52	64	11.3	7.1				92	117	156	127	9	34	31	18	129	2
Harrisburg	335	38.6	23.6	85.6	65.1	53.0	8	94	6	1172	6558	3.50	2.07	34.48	9.87	.58	4.84	18.8	75.6	23.0	--	--	--	--	--	--	11.0	7.8	--			64	99	202	153	27	40	16	4	130	2
Park Place (U) (1953)	1932	40.8	16.8	77.8	59.3	46.1	25	102	-8	1051	5258	3.70	2.24	36.01	9.07	.25	4.36	9.5	33.2	21.0	72	58	64	78	51	61	8.2	6.1	68	47	69	85	105	175	125	9	35	22	25	106	1
Philadelphia	24	41.3	28.2	85.4	69.0	55.7	24	98	-22	1277	5175	5.34	2.52	46.65	19.81	.72	7.83	9.8	44.8	16.0	86	74	78	82	63	77	---	---	---	---	---	85	104	178	138	15	25	104	2	145	5
Philadelphia (U) (1954)	26	41.3	28.2	85.4	69.0	55.7	84	106	-11	935	4523	4.62	2.61	41.44	12.10	.09	5.89	5.7	21.2	21.0	74	65	68	75	56	66	10.9	8.7	88	45	64	109	122	131	123	6	27	10	14	76	*
Pittsburgh	5	40.9	25.4	86.5	66.0	54.3	2	93	-4	986	4866	4.58	2.60	41.13	9.70	.11	5.45	5.4	19.6	14.0	76	60	69	81	57	64	10.4	8.2	73	48	63	89	117	159	119	5	28	30	10	114	1
Pittsburgh (U) (1952)	719	40.2	25.8	85.1	65.6	53.9	79	103	-20	992	5048	3.83	2.35	36.23	9.81	.06	4.08	8.6	34.7	17.5	77	67	63	77	53	60	11.7	8.7	73	32	64	85	128	152	151	11	41	25	16	102	2
Pittsburgh (Greater Ap)	1151	40.6	21.3	82.8	61.8	50.6	2	95	-10	1116	5905	4.07	2.37	36.92	8.20	.40	3.56	9.6	41.5	12.5	76	66	68	87	58	66	10.9	7.7	---	39	65	60	107	198	152	12	37	16	2	131	5
Pittsburgh Allegheny (1962)	1252	38.0	22.7	83.1	63.3	51.9	17	102	16	1073	5555	3.84	2.35	36.49	10.25	.53	3.23	9.0	41.7	17.5	81	67	74	81	55	61	11.7	8.4	64	31	61	67	120	178	156	12	42	31	13	114	2
Reading (U)	266	39.1	25.3	85.2	66.1	53.7	21	102	-1	1017	5060	4.43	2.75	40.02	14.85	.17	6.08	8.5	29.5	18.7	71	--		75	--		11.5	8.5	80	45	63	93	108	164	124	8	33	7	24	91	*
Scranton	746	35.4	21.0	82.2	61.9	50.1	1	1	1	1111	6017	4.43	2.02	36.61	1	1	1	1	1	1	1	1		1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Scranton	916	34.3	19.8	83.0	61.4	49.3	6	96	11	1181	6284	5.33	2.02	40.49	7.78	.35	3.09	9.4	51.1	15.5	76	64	69	82	56	64	9.2	7.5	60	38	56	69	115	181	143	11	36	28	6	141	4
Shippingport (1957)	736	43.8	20.7	86.5	60.6	51.0	2	92	5	1165	5647	5.17	1.40	38.96	7.01	.71	3.30	3.6	17.4	9.0	g76	g64	--	g80	g55	--	3.3	2.0	63	--	---	-	---	-	144	5	40	21	10	126	1
Williamsport	527	36.0	20.9	85.2	61.4	50.7	17	102	13	1132	5898	4.31	2.34	39.49	9.45	.67	4.38	8.6	40.8	14.7	76	62	69	86	52	65					---	68	118	179	144	11	---	-	18	130	4
RHODE ISLAND																																										
Block Island	110	38.0	25.7	75.3	62.3	49.9	74	102	25							.00	12.13																									
Providence (U) (1952)	12	37.6	23.0	82.6	64.1	51.4	1	1	1	1026	5843	3.67	2.55	38.63	11.51	T	8.52	4.6	22.6	16.9	74	67	--	88	73		---	---	--	-		99	110	156	113	7	17	80	*	84	*
Providence	55	38.8	20.6	80.0	61.9	49.4	8	97	-9	1125	6125	3.75	2.83	39.63	11.12	.39	5.47	10.0	38.4	18.3	70	58	65	80	57	71	11.9	10.2	---	55	61	107	104	154	130	10	23	29	6	120	2
SOUTH CAROLINA																																										
Charleston (U)	9	61.4	39.2	89.4	70.8	66.2	18	103	14	472	1973	8.04	1.92	46.11	17.31	.08	8.84	T	.1	2.1	87	56	75	90	65	82	9.9	8.3	---	63	80	96	116	153	121	*	60	31	48	31	0
Charleston	11	61.4	39.2	89.4	70.8	66.2	19	103	14	472	1973	8.04	2.05	48.14	17.31	.08	8.84	T	.1	2.1	86	56	75	90	65	82	9.7	8.2	--	69	70	99	117	149	115	*	58	30	48	33	0
Columbia (U)	332	57.0	38.7	90.2	71.3	64.4	1	1	1	538	2284	5.74	2.00	41.58	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Columbia	217	58.1	35.9	91.9	70.8	64.0	14	107	4	506	2435	6.56	2.25	46.15	16.72	.29	7.66	.2	1.4	8.8	85	54	69	86	52	66	7.1	6.7	-	63	69	124	104	137	111	1	57	26	87	53	0
Florence	116	56.3	36.4	91.1	70.6	63.6	14	108	11	588	2507	6.45	2.27	45.33	13.68	.00	6.36	.1	1.0	4.8	82	52	67	88	57	73	7.9	7.1	---	---	---	120	109	136	110	*	55	27	72	45	0
Greenville	1018	51.6	33.0	87.9	68.8	61.0	2	98	8	673	3060	4.81	3.00	47.65	10.10	.52	5.79	.5	4.1	6.4	70	41	50	85	56	70	9.4	7.7	70	58	63	107	104	154	116	1	50	23	48	54	0
Spartanburg	801	52.1	34.7	88.7	69.1	61.2	18	104	3	670	3044	4.70	2.97	46.66	10.33	.13	6.85	.8	3.6	7.1	73	44	51	89	56	70	8.6	6.8	-	---	---	127	87	151	114	1	47	23	48	52	0
SOUTH DAKOTA																																										
Huron	1282	24.8	2.1	89.5	61.3	45.7	72	120	58							.00	8.00																									
Rapid City	3163	38.1	9.1	85.8	58.8	46.1	18	109	34	1597	7902	3.06	.45	17.54	7.12	T	4.20	6.1	36.0	10.7	79	72	75	86	51	49	11.7	11.0	77	54	78	105	113	147	94	13	42	14	30	172	35
Sioux Falls	1420	24.4	4.0	87.9	61.6	45.8	12	109	25	1361	7555	3.36	.32	17.10	7.05	T	2.46	3.0	38.2	11.7	71	60	66	69	41	38	9.9	10.0	66	55	71	109	116	140	92	11	41	12	37	169	18
	1420	24.4	4.0	87.9	61.6	45.8	16	108	27	1375	7848	4.25	.67	25.24	7.94	T	4.32	5.8	41.1	18.9	71	63	68	83	51	50	10.9	9.2	---	---	---	106	105	154	93	12	44	21	27	169	31
TENNESSEE																																										
Bristol	1519	48.3	28.6	85.3	64.0	56.4	16	102	5	818	4148	5.14	2.39	41.24	9.73	.41	3.10	3.4	12.8	16.2	85	64	71	88	56	66	7.1	4.4	-	-	--	90	114	161	134	4	47	40	22	94	*
Chattanooga	676	51.6	31.9	89.8	67.0	60.0	22	106	1	723	3384	6.05	2.69	53.60	13.68	.20	5.25	1.1	3.4	8.7	82	62	68	87	56	64	7.3	5.1	82	41	63	108	113	144	120	2	57	33	59	73	0
Knoxville	930	49.8	31.1	89.1	67.6	59.4	20	103	-2	760	3590	4.83	2.53	45.51	11.74	.20	3.08	2.3	10.1	18.2	82	64	69	85	55	63	8.6	6.5	73	36	59	100	111	154	127	3	49	28	45	70	*
Memphis (U)	271	49.3	34.3	89.4	73.2	62.4	1	1	1	710	3006	5.38	2.50	46.81	1	1	1	1	1	1	--	--	--	--	--	--	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Memphis	264	49.3	32.9	91.1	71.3	61.8	20	106	-11	725	3137	5.59	2.55	49.42	12.29	.04	4.94	1.9	4.3	6.5	81	65	71	85	56	59	11.4	7.7	54	44	73	116	103	146	105	1	51	10	71	57	*
Nashville	577	48.9	30.9	90.6	69.3	60.1	22	107	-15	778	3513	5.28	2.52	45.03	13.92	.28	4.91	3.4	9.9	9.2	84	67	72	86	55	61	9.0	6.0	73	37	64	103	111	151	120	4	56	14	59	74	1
Oak Ridge (R)	905	48.8	29.2	88.3	65.1	57.8	14	105	0	806	3885	6.08	2.42	53.72	13.27	.41	7.48	1.9	7.4	12.0	--	--	--	--	--	--	4.8	3.7	-	-	-	111	96	158	127	3	59	36	40	80	*
Oak Ridge Area	886	48.7	30.4	87.8	65.6	58.1	17	103	0	787	3823	5.64	2.77	52.38	12.84	.21	7.75	---	---	---	-	--		--		-	5.8	3.8	-	--	---	--	--		119	---	---	- -	37	77	*
TEXAS																																										
Abilene	1759	55.1	31.4	94.6	71.5	64.1	9	107	5	673	2657	3.68	.88	22.55	13.19	.00	6.70	1.6	3.8	5.0	76	55	54	75	47	39	12.7	11.1	109	60	76	152	97	116	67	2	42	6	111	50	0
Amarillo	3607	48.9	21.6	91.8	63.8	56.6	20	108	14	921	4345	3.25	.62	21.12	9.85	.00	6.75	4.2	13.8	12.2	72	52	53	77	44	42	12.7	12.2	84	68	77	159	105	101	68	4	50	24	71	111	1
Austin	597	59.8	40.6	94.4	73.7	68.2	19	109	-2	484	1713	4.37	1.67	35.18	12.31	.00	7.22	.7	.9	7.0	82	63	63	89	51	47	9.8	8.7	57	47	77	117	118	130	83	*	40	27	114	19	*
Big Spring (1952)	2369	55.8	33.6	94.6	70.7	64.6	51	117	-7	639	2480	2.78	.60	17.39	12.89	.00	6.77	.8	2.7	3.5	--	--	--	--	--	--	--	--	--			175	109	81	54	1	40	11	110	65	*
Brownsville	16	69.6	51.4	92.5	75.1	73.6	24	104	22	219	617	5.13	1.11	27.62	17.12	T	8.18	T	.0	T	89	66	75	93	55	65	12.0	11.7	57	46	81	97	138	130	72	0	23	23	115	1	0
Corpus Christi	43	66.3	47.4	92.5	75.0	71.7	21	104	18	299	924	4.70	1.39	28.00	14.54	.00	7.68	.1	.1	1.1	88	67	75	93	58	67	11.5	11.6	70	48	85	112	117	136	75	*	34	25	100	5	0
Dallas	481	55.3	36.0	95.4	75.8	66.3	19	111	2	607	2272	4.97	1.83	34.42	13.85	T	9.18	1.1	1.9	3.3	81	62	63	79	49	46	10.2	10.0	65	48	78	143	93	129	81	1	43	7	105	31	0
Del Rio (1956)	1091	62.2	41.6	93.3	76.1	69.8	51	111	11	419	1407	2.51	.80	18.62	13.71	.00	8.88	.4	.7	4.7	81	58	53	80	50	41	7.8	9.7	62	53	75	153	118	94	61	*	24	6	118	14	0

See reference notes at end of table.

Station and Years	Elevation above ground (feet)	Temperature °F Normal (Yrs. 1950) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Lowest yr.	Highest	Lowest	Normal degree days (1921-1950) January	July	Precipitation (inches) (1921-1950) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Maximum in 24 hours	Snow, sleet Mean total January	Snowfall	Maximum in 24 hours	Relative humidity, percent January 7:00 am EST	1:00 pm EST	7:00 pm EST	July 7:00 am EST	1:00 pm EST	7:00 pm EST	Wind Speed (miles per hour) Mean hourly January	July	Extreme	Average cloudiness, tenths January	July	Average number of days Clear	Partly cloudy	Cloudy	Precipitation .01 inch or more	Snow, sleet 1.0 inch or more	Thunderstorms	Heavy fog	Temperature Max. 32° and below	Max. 90° and above
TEXAS (Cont'd.)																																									
El Paso	3918	55.8	30.9	93.5	69.0	63.3	17	109	-6	670	2641	1.32	0.27	7.83	6.29	0.00	2.89	1.5	4.6	7.8	63	14	38	59	36	29	10.3	9.9	70	75	78	193	99	73	43	1	36	1	102	51	*
Fort Worth Meacham Fld. (1952)	688	54.9	35.5	95.0	74.2	65.9	15	110	-2	622	2361	4.84	1.75	32.29	16.97	T	6.03	1.5	2.9	4.5	679	660	661	686	649	647	12.4	10.6	61	54	76	139	104	122	81	1	45	10	98	34	*
Fort Worth Amon Carter	544	54.9	35.6	95.2	74.9	66.0	9	109	7	619	2338	4.92	1.88	33.69	12.64	.62	5.91	1.2	2.3	3.8	81	63	64	78	47	43	12.5	11.6	---	---	---	150	95	120	75	1	45	11	108	41	0
Galveston (U)(1957)	7	59.8	49.2	87.4	78.6	70.1	86	101	8	306	1211	5.44	2.98	45.29	26.01	.00	14.35	T	.2	15.4	87	77	83	82	69	74	11.4	9.6	91	90	72	143	124	98	98	*	48	20	13	4	0
Galveston	7	60.4	48.2	88.7	77.9	70.1	11	97	18	362	1235	5.82	3.14	47.98	25.06	T	11.84	T	.2	2.0	84	73	78	82	69	71	13.0	11.3	---	---	---	111	118	136	90	*	52	32	32	2	0
Houston (U)	41	61.9	45.7	92.3	75.2	70.0	24	105	10	378	1276	4.84	2.81	45.37	17.64	.01	10.83	.2	.3	3.0	86	65	72	92	58	65	10.7	8.3	73	46	69	95	123	147	106	*	57	16	89	7	0
Houston	50	62.6	44.0	92.2	72.9	68.9	17	---	---	394	1388	4.91	2.70	46.93	22.31	T	---	---	---	---	85	68	73	90	58	68	---		---	---	---	---	---	---	---	---	---	---	---	---	---
Laredo	500	68.8	46.4	99.7	75.7	71.3	18	110	18	270	781	3.18	.85	19.49	8.62	.00	5.55	.1	.2	2.0	82	59	54	83	45	40	9.5	15.1		---	---	126	119	120	61	*	31	15	173	4	0
Lubbock	3243	51.8	25.7	92.0	66.6	59.5	16	107	-9	812	3587	3.36	.53	18.89	7.80	.00	5.14	2.2	9.6	12.1	74	50	50	78	47	40	12.9	12.4	---	---	---	173	103	89	59	3	41	15	87	102	*
Midland	2854	56.6	31.8	94.2	69.7	64.2	12	109	-1	645	2565	2.14	.62	16.20	6.73	.00	5.99	1.6	3.0	5.9	69	44	45	69	41	36	8.7	9.4	---	---	---	171	93	101	50	2	37	15	112	56	*
Palestine (U) (1952)	491	57.2	39.6	92.0	73.0	66.5	71	108	-6	531	1980	4.69	1.76	40.54	17.25	T	12.06	.8	1.8	9.0	82	64	65	87	54	58	8.0	6.2	45	46	79	132	123	110	94	1	46	12	73	22	*
Port Arthur (U)(1952)	5	60.9	46.5	90.0	76.1	69.5	36	102	11	381	1340	6.48	3.25	53.24	24.25	.00	17.76	.2	.3	2.7	--	--	--	--	--	--	11.0	9.0	91	47	68	125	124	116	108	*	72	20	56	6	0
Port Arthur	16	61.7	44.0	90.7	72.6	68.1	8	100	23	406	1517	6.80	2.93	55.21	18.71	.06	10.20	T	.9	4.4	87	69	76	93	64	70	12.3	8.7	72	42	62	90	126	149	108	*	67	41	83	10	0
San Angelo	1903	57.2	37.3	94.4	71.0	66.2	14	107	1	556	2107	2.96	.95	19.83	9.20	.00	6.03	1.1	2.4	5.1	72	50	46	74	43	37	10.7	10.1	---	---	---	166	97	102	54	*	36	5	112	42	0
San Antonio	792	60.9	40.3	95.1	73.2	68.8	20	106	0	462	1579	3.52	1.40	27.93	15.78	.00	6.97	.4	.5	4.7	81	61	60	88	49	44	9.1	8.9	74	46	76	109	119	137	79	*	36	23	118	18	*
Victoria	104	64.1	46.2	92.8	76.8	71.2	16	107	12	352	1126	4.13	1.97	35.66	17.25	.01	8.67	.1	.6	4.0	85	63	69	93	53	60	11.2	9.2	72	---	---	98	124	143	91	*	46	28	115	10	0
Waco	500	57.1	37.5	95.4	74.6	67.3	18	108	-5	557	2025	4.15	1.38	33.05	13.37	.00	7.18	.9	1.2	7.0	83	64	64	83	50	46	12.4	11.3	64	---	---	131	104	130	78	*	48	13	109	27	*
Wichita Falls	994	51.7	29.4	94.8	72.7	63.1	13	110	-1	756	3025	3.86	1.31	26.64	12.03	.00	5.61	2.0	5.6	5.2	77	57	59	75	47	43	11.1	10.5	---	---	---	163	95	107	70	2	49	12	107	60	*
UTAH							71	116	-50							.00	4.50																								
Blanding (1952)	6036	38.1	15.0	87.3	57.3	49.6	46	110	-23	1190	6138	1.47	.58	12.77	7.01	.00	-----	----	----	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Milford	5028	36.0	11.5	92.5	55.5	49.0	13	104	-28	1277	6445	1.06	.40	8.44	1.98	.00	1.20	10.6	37.1	16.3	--	67	63	--	25	21	---	---	---	---	---	154	105	106	56	13	33	6	60	179	13
Salt Lake City (U) (1953)	4260	36.6	21.1	91.7	64.7	53.0	80	105	-20	1119	5463	1.91	.59	15.81	5.81	.00	2.72	12.5	55.3	15.3	--	--	--	--	--	--	---	---	---	---	---	---	---	---	---	---	---	---	31	106	1
Salt Lake City (Municipal AP)	4220	35.9	17.0	92.3	60.8	51.3	2	107	-10	1194	5866	1.76	.61	14.74	4.90	.00	2.41	13.2	51.6	15.4	80	69	67	46	22	16	7.4	9.4	71	48	82	134	106	125	86	17	35	10	76	137	3
Wendover	4237	----	----	----	----	----	24	112	-19	----	----	----	----	----	2.59	.00	.56	2.6	7.0	5.5	67	60	56	26	17	12	--	--	---	---	---	152	101	112	43	3	30	3	56	129	1
VERMONT							74	105	-50							.00	8.77																								
Burlington	331	27.6	8.2	82.4	58.4	44.5	18	101	-30	1460	7865	3.75	1.53	32.22	11.54	.56	3.59	18.3	69.1	14.5	79	68	76	77	54	66	9.9	8.0	72	37	62	61	106	198	149	20	23	15	9	156	22
VIRGINIA							71	110	-29							.00	11.20																								
Cape Henry (U)(1952)	16	49.4	35.5	84.8	70.6	59.7	79	104	5	698	3307	5.31	2.48	41.64	16.82	.00	7.18	2.0	7.1	12.0	80	69	76	82	68	80	13.1	9.6	134	50	67	131	117	117	119	3	39	23	19	37	0
Lynchburg	947	46.6	28.7	86.1	65.9	56.6	17	103	2	846	4153	4.35	2.37	39.57	11.36	.61	4.98	4.2	14.9	14.5	75	57	65	84	56	70	8.9	7.0	56	49	63	107	110	148	125	5	44	42	28	81	0
Norfolk (U)	11	50.7	35.4	86.7	70.7	60.7	f	f	f	679	3119	6.05	2.45	43.26	t	f	f	f	f	f	f	f	f	f	f	f	f	t	f	f	f	f	f	f	f	f	f	f	f	f	f
Norfolk	26	50.0	33.0	86.0	68.9	59.2	13	103	11	729	3454	6.05	2.45	43.26	12.83	.36	6.79	2.1	5.2	11.4	77	60	71	82	58	72	11.4	8.3	78	60	66	110	107	148	118	2	41	25	36	50	0
Richmond (U)	162	48.4	30.7	87.3	68.4	56.6	f	f	f	787	3720	5.38	2.41	42.17	f	f	f	f	f	t	f	f	f	f	f	f	t	t	f	f	f	f	f	f	f	f	f	f	f	f	f
Richmond	162	48.1	28.4	87.8	67.2	57.7	32	104	-12	828	3955	5.64	2.49	42.89	18.87	.35	8.79	4.4	12.1	21.6	81	58	71	84	55	72	8.1	7.0	68	50	70	102	106	157	116	3	40	29	44	83	1
Roanoke	1174	46.6	29.2	86.8	65.0	56.6	14	104	3	840	4152	4.91	2.56	41.58	9.12	.42	4.95	5.4	19.5	17.4	71	54	61	82	52	64	10.1	6.4	---	---	---	98	117	150	124	7	43	26	42	86	0
WASHINGTON							95	118	-42							.00	12.00																								
Ellensburg (1952)	1727	32.6	15.6	84.7	54.3	47.9	12	103	-28	1268	6542	1.47	.14	8.53	3.13	T	1.14	13.2	38.5	11.2	--	--	--	--	--	--	5.8	17.2	---	---	---	110	99	156	81	14	10	36	20	160	9
Kelso (1952)	17	43.6	31.1	75.8	50.2	50.7	6	96	-1	856	5239	6.74	.67	41.06	10.75	.05	3.06	10.3	16.9	7.7	89	84	80	93	65	56	---	---	---	---	---	57	83	225	161	5	---	---	3	75	*
North Head (1952)	194	46.5	38.0	61.2	53.4	50.7	65	97	11	704	5211	9.03	.85	54.34	22.28	.00	4.29	2.7	5.2	8.0	87	80	84	92	87	84	16.4	14.0	113	28	49	67	90	208	194	---	3	44	*	11	0
Olympia	190	43.3	30.6	76.3	49.2	50.0	2	100	14	868	5501	8.86	.66	45.74	19.84	.00	4.93	7.6	16.0	13.7	93	91	81	91	61	43	7.1	5.8	---	---	---	53	91	221	162	5	4	93	10	90	0
Omak (1952)	1228	27.8	14.9	87.9	54.2	47.4	43	114	-26	1352	6806	1.52	.34	11.27	5.31	.00	2.21	8.6	29.3	----	--	--	--	--	--	--	---	---	---	---	---	---	---	---	59	---	---	---	---	---	---
Port Angeles (1952)	11	43.7	36.5	63.9	51.0	49.0	6	80	11	772	5850	4.34	.44	23.03	7.15	.09	3.34	6.3	9.4	5.6	82	78	77	89	79	76	9.7	13.8	---	---	---	62	84	219	141	5	4	40	0	16	0
Seattle (U)	14	45.2	36.2	75.1	56.1	53.2	28	100	11	753	4438	5.34	.52	31.92	10.93	T	3.31	4.7	8.4	11.5	85	80	73	84	62	46	7.8	7.2	65	28	63	71	93	201	151	3	6	---	2	15	0
Seattle (Boeing Fld.)	14	45.0	33.0	76.2	54.1	52.2	17	---	---	806	4785	5.72	.58	34.28	15.43	T	----	----	----	----	86	80	74	86	63	47	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Seattle-Tacoma AP	400	43.0	31.4	75.0	52.8	50.7	2	99	23	862	5275	5.68	.58	33.80	12.92	T	3.41	7.0	15.0	21.4	80	80	76	83	63	43	11.0	9.5	---	---	---	55	84	226	164	5	8	53	5	36	0
Spokane	2357	30.2	19.6	82.4	56.8	47.1	2	108	-6	1243	6852	2.21	.36	14.92	5.71	T	1.67	20.2	58.0	13.0	88	87	80	54	34	20	7.9	7.7	56	26	82	89	89	187	118	19	11	46	30	145	5
Stampede Pass (R)	3958	27.5	19.8	67.2	46.5	39.9	18	90	-11	1280	9149	14.66	1.29	93.60	29.06	.19	7.01	84.6	467.3	36.2	94	92	92	86	66	59	---	---	---	---	---	71	56	238	205	85	8	251	*	191	3
Tacoma (U) (1952)	127	44.2	34.4	73.7	54.9	51.8	56	98	7	797	4866	5.90	.61	35.20	18.87	.00	3.79	5.7	12.1	16.0	92	82	81	87	61	50	7.9	7.6	61	21	61	73	107	185	150	4	5	30	*	32	0
Tatoosh Island (R)	101	44.9	39.0	59.2	51.7	49.3	59	88	14	713	5724	12.04	1.99	75.75	22.57	.02	5.91	3.6	7.3	12.0	85	82	83	95	89	87	20.1	10.0	94	26	48	58	77	230	197	3	5	59	0	7	0
Walla Walla (U)	949	37.7	26.3	89.3	63.0	54.2	47	113	-16	1023	4848	1.86	.28	15.07	4.52	.00	2.02	8.1	20.5	14.0	--	76	--	--	34	--	5.1	5.4	67	25	86	121	90	154	106	7	11	14	37	66	2
Yakima	1061	35.9	17.8	89.9	52.9	50.2	15	108	-25	1181	5845	1.10	.18	7.21	3.25	.00	1.27	10.1	24.3	8.5	85	77	74	69	34	25	5.3	7.6	---	---	---	111	88	166	71	9	9	19	35	155	5
WEST INDIES							61	103	40							.00																									
St. Croix (1953)	53	82.5	69.1	88.2	75.5	79.1	6	95	62	0	0	5.84	2.05	42.35	15.23	.17	7.76	.0	.0	.0	76	66	80	77	70	84	12.7	13.0	---	---	---	39	216	110	196	0	43	0	27	0	0
San Juan (U)	47	79.6	70.2	84.2	75.7	78.0	63	96	62	0	0	6.51	2.42	60.00	16.88	.05	10.55	.0	.0	.0	87	87	66	86	81	67	8.9	9.5	80	69	62	54	203	108	208	0	49	0	9	0	0
San Juan	9	80.1	69.5	86.0	75.0	78.1	--	---	---	----	----	7.49	2.78	67.80	-----	----	------	----	----	----	f	f	f	f	f	f	f	f	f	f	f	f	f	f	---	---	---	---	---	---
Santa Isabel (1953)	28	83.0	64.9	86.9	72.0	76.7	8	96	57	----	----	4.54	.48	32.66	12.37	.05	6.62	.0	.0	.0	78	59	76	61	58	67	6.7	7.4	---	---	---	105	175	85	99	0	70	0	35	0	0
Swan Island (1954)	28	82.5	73.3	87.4	77.4	80.7	12	92	64	0	0	9.25	1.00	53.82	27.61	.02	10.77	----	----	----	80	72	80	85	75	81	10.5	9.4	40	---	---	95	159	111	157	0	45	0	19	0	0
WEST VIRGINIA							71	112	-37							.00	19.00																								
Charleston	939	46.3	26.5	87.3	63.5	55.8	14	102	-6	887	4417	5.45	2.81	45.00	13.54	.39	5.60	7.3	24.0	15.1	77	63	67	89	63	67	7.9	5.3	---	---	---	57	117	191	152	8	44	109	25	97	1
Elkins (1958)	1970	42.8	21.5	82.5	57.4	50.4	60	99	-28	1017	5773	5.26	2.86	44.04	11.10	.26	5.45	10.9	47.1	18.8	82	65	77	94	61	76	6.3	3.7	72	33	56	69	116	180	170	19	45	67	3	132	5
Huntington (U)	565	48.0	28.0	88.6	65.2	57.4	21	105	-2	837	4073	4.82	2.43	41.79	9.90	.22	4.23	4.5	16.7	12.0	--	---	---	--	--	--	---	---	---	---	---	---	---	---	133	6	---	---	44	91	*
Parkersburg (U)	621	42.7	26.1	86.2	65.1	54.9	73	106	-27	949	4750	4.18	2.12	39.11	12.05	.07	4.81	6.7	24.3	18.3	82	66	74	80	52	67	7.2	5.1	66	30	63	109	103	153	143	7	44	11	23	97	2
Petersburg (U) (1953)	1013	44.6	23.0	88.0	60.6	53.8	13	102	-14	967	4966	3.48	1.64	30.77	17.15	.36	7.41	5.9	20.7	11.6	76	51	60	90	53	68	---	---	---	---	---	83	105	177	125	6	40	36	34	116	1

See reference notes at end of table.

NORMALS, MEANS AND EXTREMES

State and Station	Elevation of ground (feet)	Temperature (°F) Normal (1921-1950) January Daily maximum	January Daily minimum	July Daily maximum	July Daily minimum	Annual	Extremes Lowest yr.	Highest yr.	Record lowest	Record highest	Normal degree days (1921-1950) January	Season
WISCONSIN												
Green Bay	682	24.5	7.7	81.1	58.7	43.6	13	99	-31		1516	8259
La Crosse	652	25.0	6.3	85.1	62.8	46.2	11	105	-37		1528	7650
Madison (U)	938	26.7	11.8	82.2	64.0	46.9	88	107	-29		1417	7300
Madison	858	27.9	10.3	85.7	60.2	46.6	21	102	-37		1423	7417
Milwaukee (U)	620	30.0	16.0	80.1	64.4	47.7					1302	6944
Milwaukee	670	29.2	14.5	81.2	61.4	46.8	5	96	-17		1336	7205
WYOMING												
Casper	5319	41.8	12.8	86.3	55.8	45.1	22	104	-40		1324	7638
Cheyenne	6126	37.1	13.8	82.6	53.6	44.9	2	96	-20		1225	7562
Lander	5563	28.0	5.6	81.1	56.3	43.2	15	101	-51		1494	8303
Rock Springs (1953)	6741	27.8	8.2	83.7	53.8	42.5	22	98	-43		1457	8473
Sheridan	3942	32.8	7.4	86.1	55.0	44.5	21	106	-31		1392	7903

State and Station	Precipitation (inches) (1921-1950) Wettest month	Driest month	Annual	Extremes Wettest month	Driest month	Wettest in 24 hours	Snow, sleet Mean total January	Season	Maximum in 24 hours	Relative humidity (percent) January 1:00 a.m. EST	7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	July 1:00 a.m. EST	7:00 a.m. EST	1:00 p.m. EST	7:00 p.m. EST	Wind Speed (mph) Mean hourly January	July	Fastest mile	Sunshine (percent of possible) January	July
WISCONSIN																						
Green Bay	3.57	1.26	26.51	7.75	0.00 T	11.72 3.68	7.7	39.6	9.3	77	71	75	86	58	63	11.1	8.5	109	45	64		
La Crosse	3.87	1.11	28.92	9.16	.02	3.84	7.3	42.2	15.7	77	66	71	86	58	58	9.0	7.8	-	---	---		
Madison (U)	4.11	1.27	30.71	10.69	T	3.31	9.6	37.9	12.9	-	-	-			-	---	---	---	---	---		
Madison	4.02	1.13	30.00	10.93	.06	5.25	8.6	38.8	10.8	76	67	73	83	52	58	10.6	8.4	77	49	72		
Milwaukee (U)	3.36	1.42	28.87	---	---	--	---	---	---	--	--	-	-	--	--	-		--		-		
Milwaukee	3.33	1.27	27.57	9.87	.15	5.28	12.5	42.1	16.7	79	70	75	86	59	62	13.1	9.7	73	42	70		
WYOMING																						
Casper	2.32	.65	14.09	5.75	.00 T	5.50 3.09	9.3	69.5	20.6	67	56	59	65	30	25	17.6	10.5		--			
Cheyenne	2.46	.52	16.25	5.35	T	2.68	6.2	57.0	16.5	56	43	48	66	31	36	14.4	9.8	69	62	69		
Lander	2.57	.49	14.18	6.88	T	3.56	7.2	94.1	23.1	66	58	58	56	33	28	6.2	7.6	77	68	78		
Rock Springs (1953)	1.10	.41	8.82	3.71	T	2.80	6.4	44.6	8.9	73	65	66	58	27	28	13.6	10.1	---	---	--		
Sheridan	2.64	.61	16.75	9.54	.07	3.84	8.6	66.4	26.7	71	63	66	71	36	34	7.6	7.5	84	58	76		

State and Station	Annual mean number of days: Snow, sleet, rain	Partly cloudy	Clear	Precipitation of .01 or more	Snow, sleet 1 in. or more	Thunderstorms	Heavy fog	Temperature Max 90° and above	Min 32° and below	Min Zero and below
WISCONSIN										
Green Bay	97	102	166	119	14	38	28	6	167	25
La Crosse	94	98	173	109	10	44	22	14	153	22
Madison (U)	---	---	---	115	11	---		8	143	18
Madison	99	97	169	114	12	38	21	20	156	20
Milwaukee (U)	--	---	---	---	---	---	---	---	---	---
Milwaukee	97	101	167	120	12	37	26	11	151	20
WYOMING										
Casper	105	117	143	92	22	38	8	25	174	16
Cheyenne	103	134	128	102	18	53	25	21	178	10
Lander	124	128	113	70	23	33	2	21	188	20
Rock Springs (1953)	102	121	142	84	16	40	7	7	196	19
Sheridan	102	115	148	107	22	38	6	28	182	22

Data from airport or from airport and Urban site records combined. U indicates Urban, R indicates Rural sites.
Data in this table are based on records through 1960 except as indicated in notes.
Date in parenthesis after station name indicates last year included in summarization of data.
Normal values are based on the period 1921-1950 and are means adjusted to represent observations taken at the present standard location.
Degree days are based on a daily average of 65 F.

Fastest mile is the speed of the wind recorded in the shortest time on an automatic recording wind instrument.
Clear Day averages 0-3 tenths sky cover. Partly Cloudy 4-7 tenths and Cloudy 8-10 tenths.
Heavy Fog includes data formerly referred to as "Dense" or "Thick." The upper visibility limit for heavy fog is 1/4 mile.
* Less than one half.
No record.
Number of days Maximum 70 F or above (Alaskan Stations).
+ Airport data.
‡ Mt. Washington excluded.
ø Estimated amounts during typhoon.

a Relative Humidity readings NOON Local Time.
b Relative Humidity readings reported 30 minutes later.
† Combined Records City Office and airport.
g 8:00 a.m. and 5:00 p.m. EST.
h Estimated recorder peg against stop at 128 m.p.h.
T Trace, an amount too small to measure.
x Sun below horizon continuously Nov. 18 - Jan. 24.
z Sun below horizon continuously Nov. 26 - Jan. 16.
(x and z)-Yearly totals for period sun above horizon.

ELEVATIONS–STATION PRESSURE

State and station	Ft.	Mtrs.
ALABAMA		
Birmingham	700	213
Huntsville	644	196
Mobile	57	17
Montgomery	218	66
ALASKA		
Anchorage	132	40
Annette	110	34
Barrow	13	4
Barter Island	50	15
Bethel	38	12
Cold Bay	103	32
Cordova	40	12
Fairbanks	454	138
Juneau	24	7
King Salmon	49	15
Kotzebue	16	5
McGrath	338	103
Nome	22	7
Northway	1721	525
Shemya	102	31
St. Paul Island	28	9
Yakutat	31	9
ARIZONA		
Flagstaff	7018	2137
Phoenix	1107	336
Prescott	5022	1531
Tucson	2555	779
Winslow	4883	1488
Yuma	141	43
ARKANSAS		
Fort Smith	463	141
Little Rock	357	109
Texarkana	368	112
CALIFORNIA		
Bakersfield	492	150
Bishop	4145	1263
Blue Canyon	5283	1610
Burbank	725	221
Eureka (U)	60	18
Fresno	327	100
Long Beach	40	12
Los Angeles	104	32
Mt. Shasta (R)	3587	1094
Oakland	7	2
Point Arguello (R)	367	112
Red Bluff	353	108
Sacramento	25	8
Sandberg (R)	4523	1378
San Diego	87	27
San Francisco	18	5
Santa Maria	238	73
COLORADO		
Alamosa	7543	2299
Colorado Springs	6170	1881
Denver	5292	1613
Grand Junction	4602	1403
Pueblo	4690	1430
CONNECTICUT		
Bridgeport	17	5
Hartford	159	48
Middletown (Canel)	133	40
New Haven	13	4
DELAWARE		
Wilmington	80	24
DISTRICT OF COLUMBIA		
Wash. Nat'l AP	112	34
FLORIDA		
Apalachicola (U)	35	11
Daytona Beach	41	12
Fort Myers	12	4
Jacksonville	31	9
Key West	21	6
Miami	25	7
Orlando	119	36
Tallahassee	68	21
Tampa	35	11
West Palm Beach	21	6
GEORGIA		
Athens	811	247
Atlanta	1173	358
Augusta	182	55
Columbus	394	120
Macon	370	113
Rome	643	196
Savannah	65	20
HAWAII		
Hilo	36	11
Honolulu	15	5
Lihue	148	45
IDAHO		
Boise	2739	835
Idaho Falls 46W (R)	4939	1505
Lewiston	1436	438
Pocatello	4478	1365
ILLINOIS		
Cairo (U)	357	109
ILLINOIS (Cont'd.)		
Chicago (O'Hare)	674	205
Chicago (Midway)	623	190
Moline	606	185
Peoria	609	186
Rockford	743	226
Springfield	636	194
INDIANA		
Evansville	431	131
Fort Wayne	857	261
Indianapolis	823	251
South Bend	773	236
IOWA		
Burlington	702	214
Des Moines	860	262
Dubuque	699	213
Sioux City	1138	347
Waterloo	878	268
KANSAS		
Concordia (U)	1392	424
Dodge City	2509	765
Goodland	3688	1124
Topeka	987	301
Wichita	1358	414
KENTUCKY		
Lexington	989	301
Louisville	525	160
LOUISIANA		
Alexandria	118	36
Baton Rouge	76	23
Lake Charles	32	10
New Orleans (U)	53	16
New Orleans	30	9
Shreveport	249	76
MAINE		
Caribou	628	191
Portland	103	31
MARYLAND		
Baltimore	123	37
MASSACHUSETTS		
Blue Hill Obs. (R)	640	195
Boston	124	38
Nantucket	12	4
Worcester	1001	305
MICHIGAN		
Alpena	693	211
Detroit (City AP)	730	223
Detroit (M. Wayne Co.)	664	202
Detroit (Willow Run)	777	237
Escanaba (U)	612	187
Flint	766	233
Grand Rapids	707	215
Lansing	878	271
Marquette (U)	734	224
Muskegon	633	193
Sault Ste. Marie	614	187
MINNESOTA		
Duluth	1133	345
International Falls	1126	343
Minneapolis-St. Paul	919	280
Rochester	1320	402
St. Cloud	1043	318
MISSISSIPPI		
Jackson	331	101
Meridian	375	114
Vicksburg (U)	247	75
MISSOURI		
Columbia	784	239
Kansas City	963	294
St. Joseph	967	295
St. Louis (Lambert)	568	173
Springfield	1324	404
MONTANA		
Billings	3570	1088
Butte	5533	1686
Glasgow	2086	636
Great Falls	3657	1115
Havre (U)	2507	764
Helena	4123	1257
Kalispell	2973	906
Missoula	3263	995
NEBRASKA		
Grand Island	1856	566
Norfolk	1551	473
North Platte	2821	860
Omaha (Eppley AP)	1105	337
Omaha (N. Omaha AP)	1323	403
Scottsbluff	3958	1206
Valentine	2598	792
NEVADA		
Elko	5078	1526
Ely	6262	1909
Las Vegas	1869	570
Reno	4527	1380
Winnemucca	4399	1341
NEW HAMPSHIRE		
Concord	289	88
Mt. Washington Obs.	6267	2010
NEW JERSEY		
Atlantic City (Exp. Cntr.)	58	18
Newark	30	9
Trenton (U)	190	58
NEW MEXICO		
Albuquerque	4972	1515
Clayton	5052	1525
Raton	6382	1945
Roswell	3566	1087
Silver City	5453	1662
NEW YORK		
Albany	97	30
Binghamton	1638	499
Buffalo	768	234
New York Central Park	314	96
New York (U)	33	10
New York (Inter. AP)	22	7
New York (LaGuardia)	52	16
Rochester	523	159
Syracuse	596	182
NORTH CAROLINA		
Asheville (U)	2253	687
Cape Hatteras (R)	11	3
Charlotte	779	237
Greensboro	886	270
Raleigh	376	115
Wilmington	72	22
Winston-Salem	967	295
NORTH DAKOTA		
Bismarck	1677	511
Devils Lake (U)	1478	451
Fargo	940	287
Williston (U)	1878	571
OHIO		
Akron	1052	321
Cincinnati (U)	627	191
Cincinnati	877	263
Cleveland	762	232
Columbus	822	251
Dayton	1003	306
Sandusky (U)	629	192
Toledo	692	211
Youngstown	1186	361
OKLAHOMA		
Oklahoma City	1214	370
Tulsa	674	205
OREGON		
Astoria	22	7
Burns (U)	4170	1271
Eugene	373	114
Medford	1329	405
Pendleton	1495	456
Portland	154	47
Roseburg	510	155
Salem	201	61
Sexton Summit (R)	3841	1171
PACIFIC AREA		
Canton Island	11	3
Eniwetok	21	6
Johnston Island	17	5
Koror (R)	109	33
Kwajalein	26	8
Majuro	10	4
Ponape (R)	151	46
Truk (Moen Island)	8	2
Wake Island	12	4
Yap (R)	56	17
PENNSYLVANIA		
Allentown	385	117
Erie	714	218
Harrisburg	378	115
Philadelphia	114	15
Pittsburgh	842	257
Reading (U)	323	98
Scranton	948	289
Williamsport	525	160
RHODE ISLAND		
Block Island	118	36
Providence	159	48
SOUTH CAROLINA		
Charleston	48	15
Columbia	347	106
Florence	151	46
Greenville	1040	317
Spartanburg	824	251
SOUTH DAKOTA		
Huron	1301	397
Rapid City	3259	993
Sioux Falls	1427	435
TENNESSEE		
Bristol	1525	465
Chattanooga	762	232
Knoxville	980	299
TENNESSEE (Cont'd.)		
Memphis	399	122
Nashville	546	166
Oak Ridge	914	279
TEXAS		
Abilene	1738	530
Amarillo	3676	1120
Austin	605	184
Brownsville	57	17
Corpus Christi	20	6
Dallas	512	156
El Paso	3778	1152
Fort Worth	576	176
Galveston	54	16
Houston	62	19
Laredo	418	127
Lubbock	3241	988
Midland	2862	872
Port Arthur	34	10
San Angelo	1908	582
San Antonio	693	211
Victoria	117	36
Waco	578	176
Wichita Falls	1030	314
UTAH		
Milford	5097	1526
Salt Lake City	4357	1328
Wendover	4239	1292
VERMONT		
Burlington	403	123
VIRGINIA		
Lynchburg	686	209
Norfolk	30	9
Richmond	164	50
Roanoke	1176	358
WASHINGTON		
Olympia	200	61
Seattle-Tacoma	388	118
Spokane	1929	588
Stampede Pass (R)	3967	1209
Tatoosh Island (R)	86	26
Walla Walla (U)	991	302
Yakima	1076	307
WEST INDIES		
San Juan, P. R.	62	19
Swan Island	28	9
WEST VIRGINIA		
Charleston	989	301
WISCONSIN		
Green Bay	617	188
La Crosse	672	205
Madison	974	297
Milwaukee	681	208
WYOMING		
Casper	5290	1612
Cheyenne	6094	1830
Lander	5352	1631
Sheridan	3790	1155

Data from airport unless otherwise specified. U indicates Urban, R indicates Rural, sites.
These are the elevations of the barometer (in feet and meters above mean sea level) to which station pressure values pertain in the "Climatological Data" table in the monthly publication CLIMATOLOGICAL DATA NATIONAL SUMMARY. When an elevation differs from the present station elevation this level was selected to permit comparison of data for a longer period of homogeneous record.

GENERAL SUMMARY OF TORNADOES, 1961

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This summary of tornadoes for the year 1961, compiled from the monthly publication Storm Data, shows a total of 682 tornadoes occurring on 169 days, a loss of 51 lives, and 917 personal injuries. Seven storms included in the totals originated as waterspouts, but became tornadoes, causing 1 death, 5 injuries, and damage varying from several hundred dollars into the thousands of dollars, as they moved to land surfaces. Also reported, but not included in the totals for the year, were 77 other waterspouts remaining over water surfaces, 672 funnel clouds aloft, and 3 damaging dust devils. The 1961 total of 682 tornadoes was exceeded in only one previous year, 1957, during the 46 years of record. However, of this total, 93 moved over open country or touched ground very briefly with no damage resulting. Thus, a total of 589 tornadoes caused damage ranging from light to very heavy. The number of days, 169, on which tornadoes occurred in 1961 has been exceeded only by 172 in 1960 during the period of record. The death toll of 51 was low; in only 7 previous years have fewer deaths been recorded.

Nineteen tornadoes in Texas, Louisiana, and Arkansas were associated with the passage of hurricane Carla on September 10 to 13. Property losses were very heavy, particularly in the Houston and Galveston areas of Texas and at Kaplan, Watson, and Hodge, La. Eight persons were killed at Galveston, Tex., 5 at Hodge, La., and 1 at Kaplan, La. A total of 192 personal injuries was reported in Texas and Louisiana as a result of these tornadoes. It is possible that another tornado, near Traverse City, Mich., on September 13, may have been associated with this hurricane as Carla moved northward, causing excessive rains and high winds in the Lower Peninsula of Michigan.

Of the year's tornadoes 11 crossed state boundaries, 3 in May, 2 each in March, April, and June, and 1 each in July and September, with losses resulting in 2 or more states. On March 6, a storm began at Perryville, Mo., and crossed into Illinois, traveling a total of 115 miles. A tornado on March 31 moved over a short path from Phenix City, Ala., to Columbus, Ga. A 56-mile long path was reported in northeastern Illinois and northwestern Indiana on April 23, and on April 25 another tornado was first noted at Shelbyville, Ind., then moved to Eaton, Ohio, a distance of about 100 miles. On May 6, a tornado originated at Wolcottville, Ind., and passed over a 36-mile path to Edon, Ohio. On the following day, a storm formed over Bull Shoals Lake in Arkansas and crossed into Ozark and Howell Counties, Missouri, for a distance of 42 miles. The other May boundary-crossing tornado was first sighted in Wyandotte County, Kansas, on the 7th, traveling for over 85 miles through four counties in Missouri. Three states were affected by the storm of June 5, which was first observed northeast of Des Moines, N. Mex., crossed Cimmaron County, Oklahoma, and into the Texas Panhandle, traversing a 56-mile long path. The June 7 tornado moved from Bennett, Iowa, to Savanna, Ill., just across the Mississippi River. On July 28, a storm that apparently began in eastern Randolph County, Indiana, crossed the state line into Ohio at Union City, caused damage at the northern edge of Ansonia, lifted and again touched ground near Versailles. During the passage of hurricane Carla, a tornado on September 12 began just south of the Arkansas-Louisiana border and traveled northwestward for about 4 miles in Union County, Arkansas. Property damages between $500,000 and $5 million resulted from each of six of these boundary-crossing tornadoes, between $50,000 and $500,000 from one, and less than $50,000 each from the remaining four.

Tornadoes were reported during each month of 1961, although only one occurred in January. May exceeded all other months with 135 occurrences on 25 days, followed by March with 121 on 17 days, then June with 101 on 23 days. The 77 tornadoes reported in July occurred on 27 days, the 6th, 10th, 19th, and 30th being the only days free of these storms during the month. During the remaining months, tornadoes totaled 73 in April, 53 in September, 36 in November, 31 in February, 25 in August, 16 in December, and 13 in October. These storms were particularly active on March 26, when 27, the greatest number on a single day during the year, were observed.

Forty-three states experienced tornadic storms during 1961. A total of 122 was recorded in Texas for the greatest total in any state, followed by 80 in Oklahoma, 46 in Georgia, and 45 in Kansas. Nearly 36 percent of the Nation's tornadoes occurred in the 3 States of Texas, Oklahoma, and Kansas. About 52 percent were reported in the Great Plains area, with 45 percent in the southern section and about 7 percent in the northern portion. In the eastern half of the country, 25 percent occurred in the South Atlantic and Middle and Eastern Gulf States, 14 percent in Michigan, Wisconsin, Illinois, Indiana, and Ohio, and about 4 percent in the Northeast. The remainder, slightly over 5 percent, was reported in 8 Western States. Alaska, Hawaii, Nevada, New Jersey, Oregon, Rhode Island, Washington, the District of Columbia, and Puerto Rico had no tornadic storms during the year.

The death toll of 51 lives for 1961 resulted from tornadoes on 17 days during 6 months and in 12 states. The highest monthly total was 23 deaths in May, occurring on the 4th, 5th, 6th, and 7th. Seventeen of these deaths were reported on the 5th, 16 in Oklahoma for the greatest number in a single tornado during the year. During September, 15 fatalities were recorded, 14 occurring during the passage of hurricane Carla, 8 in Texas and 6 in Louisiana. Seven persons lost their lives in March, 3 in April, 2 in June, and 1 in November. Oklahoma suffered the greatest loss of life, 17; followed by Texas, 11; Arkansas, 7; Louisiana, 6; Illinois and Ohio 2 each; and Georgia, Indiana, Kentucky, Missouri, South Carolina, and South Dakota 1 each. No deaths occurred during January, February, July, August, October, and December.

On March 4, the most disastrous tornado of the year from a monetary standpoint struck the Chicago, Ill., area, with property losses estimated at about $7 million, 1 death and 115 injuries. The tornado in Le Flore County, Oklahoma, on May 5, however, caused the greatest death toll of the year, as it moved from Talihina to Reichert and Howe, resulting in 16 deaths, about 400 personal injuries, and damage between $50,000 and $500,000. At Fort Lauderdale, Fla., property damages were reported at about $2 million from the tornado on May 26, but no one was injured. Two tornadoes in Iowa incurred damages of $1 million each, one on April 23 at Marshalltown and the

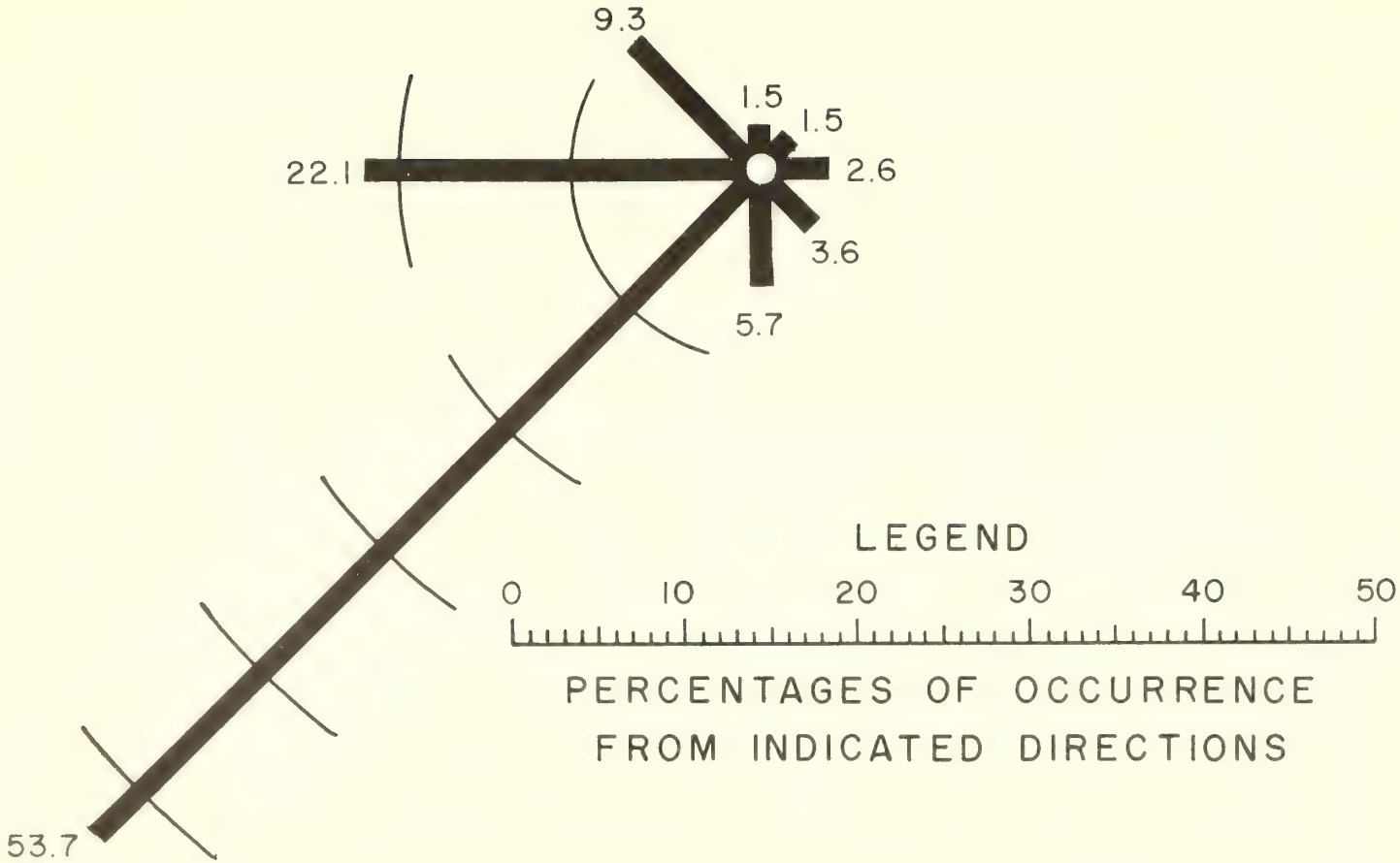
other on September 1 at Moulton. Six of the boundary-crossing tornadoes caused property losses of between $500,000 and $5 million each, but no loss of life. Damages between $500,000 and $5 million also resulted from each of 12 other tornadoes in the 10 states of Arkansas, Georgia, Illinois, Iowa, Kentucky, Louisiana, New York, Oklahoma, Pennsylvania, and Texas, with a total loss of 5 lives and 163 injuries.

Nearly 82 percent of the 1961 tornadoes occurred between noon and midnight. Over 52 percent of the year's tornadoes struck during the 5-hour period of 3 to 8 p.m., and greatest hourly activity was reported between 5 and 6 p.m., closely followed by 3 to 4 p.m., and 4 to 5 p.m. Only 5 tornadoes, or 7/10 of 1 percent were observed between 10 and 11 a.m., for the hour of least frequency.

Data concerning lengths of paths were given on 75 percent of the tornadoes which occurred during 1961. About 28 percent of these were reported as short or touched ground briefly and about 7-1/2 percent moved for distances of less than 1/2 mile. Thus, over 35 percent probably traveled over paths not exceeding 1/2 mile in length. About 47 percent moved for distances of 1/2 to 10 miles, and the remaining 17-1/2 percent traversed paths of over 10 miles. Seven of the year's tornadoes traveled for 100 miles or over, the longest moving northeastward for 160 miles from Adams to Whiteside Counties, Illinois, on July 21. Another Illinois tornado traveled on a northeastward track from Payson, Adams County to Castleton, Stark County, a distance of 140 miles on May 14. A twister in South Dakota, first observed near Aberdeen, Brown County, on June 21 moved over a 135-mile path to the southeastern edge of Sioux Falls, Minnehaha County. Two 120-mile tracks were noted, one in Illinois on March 6 and the other in Iowa on April 23. A boundary-crossing tornado on March 6 began at Perryville, Mo., and moved across practically all of southern Illinois for a total distance of about 115 miles. On April 25, a tornado originating near Shelbyville, Ind., traveled for approximately 100 miles to Eaton, Ohio. A very small area, 30 feet long and 10 feet wide at Lorena, Tex., was struck by a tornado on June 5, making the shortest and narrowest reported paths of the year. Tornado paths during 1961 averaged 10.8 miles long and 197.4 yards wide. The median length was 3 miles and the median width was 100 yards. Data were available on the width of paths for about 65 percent of the year's tornadoes, of which 37 percent were designated as short or touching ground briefly.

About 54 percent of the year's tornadoes traveled from the southwest to the northeast, the prevailing direction of movement of these storms. Slightly over 22 percent came from the west and over 9 percent from the northwest, making a little over 85 percent moving from a general westerly direction. Approximately 6 percent traveled from the south, 1-1/2 percent from the north, and the remaining 7-1/2 percent from easterly directions.

See the following data accompanying this article: Tornado Rose, Tracks of Tornadoes, and tabulations entitled "Tornado Summary", "Number of Funnel Clouds Aloft", and "Number of Tornadoes, Tornado Days, and Resulting Losses by Years 1916-61".



TORNADO ROSE FOR THE UNITED STATES, GIVING THE PERCENTAGE OF TORNADOES MOVING FROM THE INDICATED DIRECTIONS DURING 1961.

TORNADO SUMMARY

Year 1961

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept	Oct.	Nov.	Dec.	Total
ALA.													
Number		3	5	2		2			1			9	22
Days		3	4	2		2			1			4	16
Deaths		0	0	0		0			0			0	0
Injuries		6	16	2		0			0			15	39
ALASKA													
(None)													
ARIZ.													
Number							3		1				4
Days							2		1				3
Deaths							0		0				0
Injuries							1		2				3
ARK.													
Number			19		14				1		3		37
Days			3		5				1		2		11
Deaths			1		6				0		0		7
Injuries			68		31				0		0		99
CALIF.													
Number										1			1
Days										1			1
Deaths										0			0
Injuries										3			3
COLO.													
Number					5	6	1						12
Days					5	3	1						9
Deaths					0	0	0						0
Injuries					2	0	0						2
CONN.													
Number				1									1
Days				1									1
Deaths				0									0
Injuries				0									0
DEL.													
Number				1									1
Days				1									1
Deaths				0									0
Injuries				0									0
D. C.													
(None)													
FLA.													
Number		2	3	3	3	4	2	2		1	4		24
Days		1	2	2	3	2	2	2		1	2		17
Deaths		0	0	0	0	0	0	0		0	0		0
Injuries		0	0	3	0	0	0	0		1	2		6
GA.													
Number	1	7	14	11	2	1	1	1	1		3	4	46
Days	1	2	2	4	2	1	1	1	1		1	3	19
Deaths	0	0	1	0	0	0	0	0	0		0	0	1
Injuries	0	0	15	7	0	0	0	1	0		0	0	23
HAWAII													
(None)													
IDAHO													
Number						1	2						3
Days						1	1						2
Deaths						0	0						0
Injuries						0	0						0
ILL.													
Number			9	2	3	3	6	2	9				34
Days			2	2	1	3	2	2	4				16
Deaths			1	0	0	0	0	0	1				2
Injuries			126	7	8	0	0	0	1				142
IND.													
Number			10	2	3	4	9	3	1		1		33
Days			1	2	2	3	3	2	1		1		15
Deaths			1	0	0	0	0	0	0		0		1
Injuries			8	7	5	1	5	0	1		0		27
IOWA													
Number				3	2	1		2	3	2			13
Days				2	1	1		2	2	1			9
Deaths				0	0	0		0	0	0			0
Injuries				8	2	1		0	7	0			18
KANS.													
Number		2	11	3	7	6	7	1		7	1		45
Days		1	3	3	4	4	4	1		1	1		22
Deaths		0	0	0	0	0	0	0		0	0		0
Injuries		0	3	0	11	0	0	0		0	2		16
KY.													
Number					2	2							4
Days					1	1							2
Deaths					0	1							1
Injuries					3	50							53

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
LA.													
Number		1	4	1	1				11		6	1	25
Days		1	4	1	1				4		3	1	15
Deaths		0	0	0	0				6		0	0	6
Injuries		9	1	0	0				110		5	3	128
MAINE													
Number					1	2	1		2				6
Days					1	2	1		2				6
Deaths					0	0	0		0				0
Injuries					0	0	0		1				1
MD.													
Number				1		1	1						3
Days				1		1	1						3
Deaths				0		0	0						0
Injuries				0		0	0						0
MASS.													
Number							3						3
Days							3						3
Deaths							0						0
Injuries							0						0
MICH.													
Number			1					1	2				4
Days			1					1	2				4
Deaths			0					0	0				0
Injuries			0					0	1				1
MINN.													
Number					1	4	1	1	1				8
Days					1	2	1	1	1				6
Deaths					0	0	0	0	0				0
Injuries					1	0	0	1	1				3
MISS.													
Number		5	3			2	1				5	2	18
Days		2	2			2	1				2	2	11
Deaths		0	0			0	0				0	0	0
Injuries		12	10			0	0				2	0	24
MO.													
Number			10	7	5	3	4						29
Days			3	5	3	1	1						13
Deaths			1	0	0	0	0						1
Injuries			31	1	12	0	0						44
MONT.													
Number						2							2
Days						1							1
Deaths						0							0
Injuries						1							1
NEBR.													
Number					6	3	2			1			12
Days					2	2	2			1			7
Deaths					0	0	0			0			0
Injuries					0	0	0			0			0
NEV.													
(None)													
N. H.													
Number							3	1					4
Days							2	1					3
Deaths							0	0					0
Injuries							1	0					1
N. J.													
(None)													
N. MEX.													
Number					2	7	1	1					11
Days					2	6	1	1					10
Deaths					0	0	0	0					0
Injuries					0	3	0	0					3
N. Y.													
Number					2		1	2					5
Days					2		1	2					5
Deaths					0		0	0					0
Injuries					3		0	0					3
N. C.													
Number		1		1	1	2	1	2					8
Days		1		1	1	1	1	2					7
Deaths		0		0	0	0	0	0					0
Injuries		0		0	0	1	0	2					3
N. DAK.													
Number							2						2
Days							2						2
Deaths							0						0
Injuries							0						0

TORNADO SUMMARY

(CONTINUED)

Year 1961

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
OHIO													
Number		1	1	4	4	2	4	1					17
Days		1	1	3	2	2	1	1					11
Deaths		0	0	2	0	0	0	0					2
Injuries		0	0	Few	0	0	24	0					24
OKLA.													
Number		4	10	13	42	7	3		1				80
Days		1	3	7	10	4	3		1				29
Deaths		0	0	0	17	0	0		0				17
Injuries		19	4	2	59	1	0		0				85
OREG.													
(None)													
PA.													
Number				1	1	1	2		1				6
Days				1	1	1	2		1				6
Deaths				0	0	0	0		0				0
Injuries				0	3	0	2		0				5
R. I.													
(None)													
S. C.													
Number		3		3		1	2	1			3		13
Days		1		1		1	2	1			1		7
Deaths		0		1		0	0	0			0		1
Injuries		5		0		1	0	0			1		7
S. DAK.													
Number			1		2	6	1		1				11
Days			1		2	4	1		1				9
Deaths			0		0	1	0		0				1
Injuries			0		0	7	0		0				7
TENN.													
Number			1	1	1								3
Days			1	1	1								3
Deaths			0	0	0								0
Injuries			0	2	0								2
TEX.													
Number		1	21	15	24	28	9	2	12		10		122
Days		1	5	7	10	10	6	2	6		3		50
Deaths		0	2	0	0	0	0	0	8		1		11
Injuries		0	29	7	1	7	0	3	82		10		139

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
UTAH													
Number					1								1
Days					1								1
Deaths					0								0
Injuries					0								0
VT.													
Number						1	2						3
Days						1	2						3
Deaths						0	0						0
Injuries						0	0						0
VA.													
Number						1	2			1			4
Days						1	2			1			4
Deaths						0	0			0			0
Injuries						0	3			0			3
WASH.													
(None)													
W. VA.													
Number		1											1
Days		1											1
Deaths		0											0
Injuries		0											0
WIS.													
Number					1			2	6				9
Days					1			2	3				6
Deaths					0			0	0				0
Injuries					0			0	1				1
WYO.													
Number					2	1	1						4
Days					2	1	1						4
Deaths					0	0	0						0
Injuries					0	0	0						0
PUERTO RICO													
(None)													
TOTALS													
Number	1	31	123	75	138	104	78	25	54	13	36	16	694
			*121	*73	*135	*101	*77		*53				*682
Days	*1	*8	*17	*19	*25	*23	*27	*16	*16	*5	*7	*5	*169
Deaths	0	0	7	3	23	2	0	0	15	0	1	0	51
Injuries	0	51	311	48	141	73	36	7	207	4	21	18	917

* Corrected for boundary-crossing tornadoes.
† Tornado days for country as a whole.

NUMBER OF TORNADOES, TORNADO DAYS, AND RESULTING LOSSES BY YEARS 1916-61

Year	Number tornadoes	Number tornado days	Total deaths	Most deaths in a single tornado	Total property losses †	Number of tornadoes causing losses † in		
						category 5	category 6	category 7 & over
1916	90	36	150	30	6	7	1	0
1917	121	38	509	101	7	21	9	0
1918	81	45	135	36	7	20	5	0
1919	64	35	206	59	7	10	2	0
1920	87	50	498	87	7	14	10	0
1921	105	55	202	61	7	22	3	0
1922	108	64	135	16	7	27	5	0
1923	102	59	109	23	6	21	1	0
1924	130	57	376	85	7	26	11	1
1925	119	65	794	689	7	34	2	1
1926	111	57	144	23	6	28	0	0
1927	163	62	540	92	7	42	9	1
1928	203	79	92	14	7	40	7	0
1929	197	74	274	40	7	48	4	0
1930	192	72	179	41	7	38	6	0
1931	94	57	36	6	6	14	1	0
1932	151	67	394	37	7	23	1	1
1933	258	96	362	34	7	46	9	0
1934	147	77	47	6	6	10	3	0
1935	180	77	70	11	6	29	0	0
1936	151	71	552	216	7	17	5	1
1937	147	75	29	5	6	24	0	0
1938	213	76	183	32	7	29	6	0
1939	152	75	87	27	7	21	3	0
1940	124	62	65	18	7	13	2	0
1941	118	57	53	25	6	24	1	0
1942	167	66	384	65	7	42	10	0
1943	152	61	58	5	7	28	8	0
1944	169	68	275	100	7	50	9	0
1945	121	66	210	69	7	21	10	1
1946	106	65	78	15	7	29	7	0
1947	165	78	313	169	7	46	7	1
1948	183	68	140	33	7	62	11	2
1949	249	80	212	58	7	54	13	0
1950	199	88	70	18	7	47	9	0
1951	272	113	34	6	7	35	11	2
1952	236	98	230	57	7	53	19	0
1953	437	136	516	116	8	63	18	7
1954	549	159	35	6	7	63	8	1
1955	593	153	125	80	7	74	13	1
1956	532	155	83	25	7	83	24	1
1957	864	154	191	44	8	129	26	3
1958	565	166	66	19	7	70	8	1
1959	589	156	58	21	7	70	4	1
1960	618	172	47	16	7	65	11	1
1961	682	169	51	16	7	103	21	1
Total	11,056	3,909	9,397	---	-	---	--	-
Avg.	240.3	85.0	204.3	---	-	---	--	-
Median	165	72	144	---	-	---	--	-

NOTE.--The above estimated losses are based on values at time of occurrence.

† Storm damages in categories:

5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 and over.

This tabulation does not include funnel clouds that remained aloft or funnels on water surfaces only.

NUMBER OF FUNNEL CLOUDS ALOFT

Year 1961

State	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Ala.						1	2					2	5
Alaska													0
Ariz.							3						3
Ark.			3		3	2	1						9
Calif.													0
Colo.					3	7		4	1				15
Conn.													0
Del.													0
D. C.													0
Fla.		3	1		4	8	16	14	4	2			52
Ga.			2	1		1	1	2	1				8
Hawaii													0
Idaho													0
Ill.				2	3	13	6	6	2				32
Ind.			1	3	4	20	14	1	4				47
Iowa					1	19	1		1				22
Kans.		1	2	7	29	10	6	2		5			62
Ky.					1		1						2
La.			4		1	2	16	3	6	3			35
Maine						1			2				3
Md.													0
Mass.							8						8
Mich.				2		2		1	1				6
Minn.					2	10	8						20
Miss.		4	4			3	1	1	1				14
Mo.				8	10	9	3	3	3	1			37
Mont.					1		1		1				3
Nebr.					14	11	4	3					32
Nev.						1			1				2
N. H.													0
N. J.					1								1
N. Mex.													0
N. Y.													0
N. C.													0
N. Dak.					1	3	14						18
Ohio			1		2	1		1					5
Okla.		1	3	13	26	3	8						54
Oreg.													0
Pa.													0
R. I.				1									1
S. C.	1					1	9						11
S. Dak.						6	4	1					11
Tenn.													0
Tex.		1	7	11	28	40	13	17	6	2	6		131
Utah									2				2
Vt.													0
Va.						1	2	1					4
Wash.					1								1
W. Va.													0
Wis.					3	3		2	1				9
Wyo.					2	3	2						7
W. Indies													0
Total	1	10	28	48	140	181	144	62	37	13	6	2	672

HAILSTORM LOSSES FOR PAST YEARS

Year	Property (exclusive † of crops)	Crops †	Total †
1933	-	-	7
1934	-	-	7
1935	-	-	7
1936	6	7	7
1937	6	7	7
1938	6	7	7
1939	5	6	6
1940	6	7	7
1941	6	7	7
1942	6	7	7
1943	6	7	7
1944	7	7	8
1945	6	7	7
1946	7	7	7

Year	Property (exclusive † of crops)	Crops †	Total †
1947	6	8	8
1948	7	8	8
1949	7	7	7
1950	7	7	7
1951	7	7	8
1952	7	7	7
1953	7	7	7
1954	7	8	8
1955	7	7	8
1956	7	8	8
1957	7	8	8
1958	7	8	8
1959	6	7	7
1960	7	8	8
1961	8	8	8

† Storm damages are placed in categories varying from 1 to 9 as follows:

1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000.

NOTE.--The above estimated losses are based on values at time of occurrence.

WINDSTORM LOSSES PAST YEARS

(Windstorms other than tornadoes)

Year	Total loss of life	Total property loss †
1916	65	7
1917	25	6
1918	79	7
1919	344	7
1920	42	6
1921	65	7
1922	133	7
1923	68	7
1924	78	7
1925	88	7
1926	357	8
1927	64	7
1928	1,947	8
1929	46	7
1930	49	7
1931	17	7
1932	306	7
1933	156	8
1934	109	7
1935	461	7
1936	121	7
1937	43	7

Year	Total loss of life	Total property loss †
1938	630	8
1939	60	6
1940	251	7
1941	43	7
1942	68	7
1943	61	7
1944	448	8
1945	85	7
1946	70	7
1947	117	8
1948	52	8
1949	102	8
1950	210	8
1951	289	8
1952	137	8
1953	118	8
1954	292	9
1955	301	8
1956	196	8
1957	553	8
1958	129	8
1959	145	7
1960	85	8
1961	64	8
	Total 9,169	

† Storm damages are placed in categories varying from 1 to 9 as follows:

1 Less than $50
2 $50 to $500
3 $500 to $5,000
4 $5,000 to $50,000
5 $50,000 to $500,000
6 $500,000 to $5,000,000
7 $5,000,000 to $50,000,000
8 $50,000,000 to $500,000,000
9 $500,000,000 to $5,000,000,000.

NOTE.--The above estimated losses are based on values at time of occurrence.

NORTH ATLANTIC TROPICAL CYCLONES, 1961

George W. Cry
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The 1961 tropical cyclone season in the North Atlantic was unusual in several respects. While the number of storms, 10, was exactly the average for the past 30 years, the lack of activity from June through August and the very high frequency of September into the first 2 weeks of November were outstanding. After hurricane Anna dissipated over southern Mexico on July 24 following a 4-day journey across the Caribbean, tropical cyclones were absent until Betsy formed in the eastern Atlantic during the first week of September, making this August the first since 1941 completely free of activity.

Between September 2 and 11, four hurricanes developed and for a brief period on September 11 all contained hurricane force winds. This was the first day of record with four hurricanes and the first day since September 1, 1950, with four tropical cyclones on the North Atlantic weather charts. There were only three storm-free days in September and eight in October. Eight of the 10 tropical cyclones during 1961 attained hurricane force, and indeed the other two were virtually hurricanes for brief periods. Eight or more hurricanes in 1 year have been recorded only 12 times previously since 1886.

Only two tropical cyclones, Carla and Esther, crossed the coastline of the United States - one-half the usual number. Carla has been described, however, as one of the largest, most intense, and destructive hurricanes ever to strike the Gulf coast. It was responsible for 46 deaths and damage of over $425 million. Fringe winds of hurricane Esther brushed the Northeastern States from North Carolina to New England causing some $6 million in property losses but no casualties.

Damage outside the United States totaled over $60 million. Debbie left "heavy" damage in Ireland, Scotland, and Wales and 11 dead in Ireland; Hattie devastated sections of British Honduras and Honduras, with some $60 million in property damage and 262 fatalities in British Honduras; Anna, Carla, and Gerda caused moderate damage in various areas of the western Caribbean.

Some noteworthy features of the 1961 season were the unprecedented evacuation of several hundred thousand persons from coastal sections of Louisiana and Texas ahead of Carla; tracking and detection of tropical cyclones by meteorological satellites; and experiments in hurricane Esther which gathered information on the possibilities of future modification and control of tropical cyclones.

The recent developments of new observational equipment were exemplified in Carla. Tiros III photographed the storm from over 400 miles in space, research and reconnaissance aircraft criss-crossed the storm at many levels, and to supplement the usual surface and upper-air observations from ships and land stations, the automatic weather station (NOMAD), anchored in the central Gulf of Mexico, sent valuable data, and powerful new WSR-57 radar sets at Galveston, Brownsville, and Lake Charles pin-pointed the center at distances of over 200 miles from the coast.

Summaries of each tropical cyclone are given in table 2; tracks are indicated on figure 3; brief descriptions of each storm follow.

HURRICANE ANNA, JULY 20-24

The first hurricane of the 1961 season developed from an easterly wave in the southeastern Caribbean during the early morning of July 20. This wave had been previously investigated as early as the 17th by a Navy reconnaissance plane east of the Lesser Antilles. On that date an extensive area of radar precipitation echoes was explored in the region 14° to 16°N., 50° to 55°W., but no organized circulation was indicated. Ship and island reports during the early morning of the 20th did show some evidence of a developing circulation between Grenada and Trinidad and a reconnaissance aircraft was dispatched before daybreak. The 1230 G. m. t. report from the aircraft and earlier reports from the French vessel Ft. St. Pierre confirmed a closed circulation.

By mid-afternoon of the 20th estimated winds of 80 m. p. h. were reported by the aircraft, and one day later, at 2200 G. m. t. on the 21st Anna was an intense hurricane, located near 14°N., 74.5°W., with maximum winds 115 to 120 m. p. h. although it was small in size.

The hurricane continued through the southern Caribbean sea on a course slightly north of west during the next 36 hours and passed close off the coast of Honduras on the 23d. Some diminution of maximum winds had occurred. Sustained winds were near 90 m. p. h. on the 23d and wind speeds of near hurricane force were reported as the still-small storm moved over the coast of British Honduras about 60 miles south of Belize around 1300 G. m. t. on the 24th. After moving inland the circulation rapidly broke up in the mountainous terrain of southern British Honduras and Mexico.

The effects of this hurricane were not felt appreciably in the southeastern Caribbean except on the islands off the Venezuelan coast and at Curacao, Bonaire, and Aruba, Dutch West Indies. Highest winds at Aruba, in gusts, were 48 knots as the storm passed to the north. In the southwestern Caribbean, gale winds were recorded as far north as Swan Island. Principal destruction from wind, rain, and tide occurred along the northern coast of Honduras, on the small islands in the Gulf of Honduras, and in British Honduras.

Reports from Honduras showed some damage at Trujillo, 9 houses destroyed at Limon, and 215 houses destroyed at a nearby village. On Islas de la Bahia 9 houses and all plantations and fruit trees were destroyed. On Utila, a small island off the Honduran coast directly in Anna's path, 5,000 coconut trees were uprooted. One death and 12 injuries were reported in Honduras. In British Honduras considerable damage occurred at Punta Gorda in the south where the storm center passed inland, while damage at Belize was confined to the seawall. No casualties were recorded.

HURRICANE BETSY, SEPTEMBER 2-11

Hurricane Betsy developed in a slow-moving pertubation along the intertropical convergence zone in the southern portion of the central Atlantic. On September 2 the Nor-

wegian tanker GRANHEIM at 0300 e. s. t. and the Danish tanker CHARLOTTE MAERSK at 1000 e. s. t. transmitted reports indicative of a disturbance, already of tropical storm intensity, in the area near 14°N., 42°W. Reconnaissance aircraft on the forenoon of September 3 reported an increase to hurricane intensity; maximum winds were estimated to be 90 knots and the central pressure was 973 mb. at that time. The forward movement of the storm was initially toward the west-northwest, but late on the 3d Betsy came under the influence of a changing upper air pattern, filled, with the central pressure rising to near 990 mb. on the 4th, and moved north-northwesterly during the next 5 days. Following the brief decrease in intensity a rapid deepening occurred. The central pressure reached its lowest value, 945 mb., on the 6th, and maximum winds were estimated at near 120 knots on September 6 and 7 as the hurricane slowed its forward progress in the region northeast of Bermuda. It recurved sharply near 36°N., 60°W. on the 8th and the maximum winds again decreased as the circulation moved east-northeastward with increasing forward speed. Winds of hurricane force were still being reported from ships south of the center on the 11th as the storm was becoming extratropical. The circulation occluded rapidly and became quasi-stationary south of Iceland, affecting the weather over the extreme northern Atlantic for several more days. Betsy approached no land areas and no marine damage or casualties have been reported.

HURRICANE CARLA, SEPTEMBER 3-15

One of the most severe, destructive, and extensive Gulf hurricanes of this century developed in an area of squalls which was first noted in the intertropical convergence zone north of Panama and northwestern Colombia on September 3. The disturbed area moved northwestward; a depression formed on the 4th; and tropical storm force winds appeared by the morning of the 5th. Steady intensification resulted in hurricane force winds on the 6th as the storm, rapidly increasing in size, moved north-northwestward into the Yucatan Channel. By the next day the maximum winds had increased to 110 m. p. h. and gales extended outward from the center for several hundred miles, affecting the Yucatan Peninsula, western Cuba, and the southern Gulf of Mexico. During September 8 and 9 the center of the hurricane moved between west-northwest and northwest toward the Texas coast at a rate of about 9 m. p. h. On the 9th the circulation extended over the entire Gulf of Mexico with fringe effects being felt in all the Gulf Coast States, and the maximum winds near the center estimated by reconnaissance at 135 m. p. h.

A number of vessels in the Gulf of Mexico reported full gale to hurricane force winds during Carla's passage. Among the highest were 70 knots from the E. W. SINCLAIR (24. 9°N., 93. 5°W.) and the TEXACO MONTANA (26. 0°N., 95. 2°W.) during the night of the 9th.

As the center of the hurricane closed on the middle Texas coast on the 10th, reconnaissance estimates of maximum winds near the center were 150 m. p. h. Late on the 10th when the "eye" was about 80 miles southeast of Matagorda Island the average forward speed decreased to about 6 m. p. h. and the center, approximately 30 miles in diammeter, remained almost stationary at times, finally moving over the northeastern tip of Matagorda Island and inland over the Port Lavaca-Port O'Connor section. The leading edge of the center reached Port O'Connor about 1400 c. s. t. on September 11 and Port Lavaca at 1545. The highest wind on the coast, an estimated peak gust of 175 m. p. h., and the lowest pressure, 935 mb., were reported at the Bauer Dredging Company Office in Port Lavaca. A wind gust of 153 m. p. h. was observed at this place at 1414 c. s. t. before the anemometer failed, and the maximum sustained wind was estimated at 145 m. p. h. Figure 2. shows the path of Carla's center in Texas, and the accompanying Table contains detailed Meteorological data.

Radar observations by stations at Brownsville, Galveston, and Lake Charles showed strongly cycloidal pertubations in the track of the storm center during the 48 hours prior to landfall.

The center of the storm followed a northwesterly course from the coastal area, passing over the towns of Inez, Yoakum, and Waelder. No "eye" was apparent after the center left the Waelder area about 0100 c. s. t. on the 12th. The gradually weakening storm center moved to just east of Austin by 0600 c. s. t., then curved slightly east of north, passed just west of Waco at noon and between Dallas and Ft. Worth about 1800. After moving into east-central Oklahoma during the night the circulation acquired the features of an extratropical low. It moved with increasing forward speed northeastward through the Mississippi Valley, and reached the Lake Huron area on the 14th.

Reconnaissance aircraft indicated a minimum pressure of 931 mb. just prior to the time the storm crossed the coast. A low pressure of 935 mb. was reported at Port Lavaca from a recently calibrated aneroid barometer. The indicator needle was below scale from 1545 to 1735 c. s. t. on the 11th, and remained at 935 mb. during this period. Other low pressures included 945. 1 mb. at Victoria and 968. 5 mb. at Matagorda. Lowest pressures of record were noted at Austin (973. 9 mb.); Waco (979. 0 mb.); and Ft. Worth (980. 0 mb.). In Oklahoma record low readings for September were established at Ardmore (988. 5 mb.), McAlester (986. 8 mb.) and Oklahoma City (994. 9 mb.).

Carla's great size is indicated by the broad coastal area covered by strong winds. Hurricane force gusts were reported all along the Texas coast from a short distance north of Brownsville to the Port Arthur area - a distance of over 300 miles. Hurricane gusts also reached far inland near the center of the storm, extending almost to Austin - about 130 miles from the coast. Sustained hurricane force winds were reported along the immediate coast from east of Galveston to the Corpus Christi area.

Sustained winds (fastest mile) were reported as 145 m. p. h. at Matagorda and Port Lavaca; 135 m. p. h., estimated, at Aransas Pass and 110 m. p. h. at Victoria. Gust speeds, all estimated, near the center reached 160 m. p. h. at Matagorda, 150 m. p. h. at Aransas Pass, Austwell, Edna, Port Aransas, and Victoria. In the Galveston area sustained winds reached 80 m. p. h., with gusts to 112; at Corpus Christi highest gusts were near 90 m. p. h.

The duration of high winds along the coast was exceptionally long due to the large size and the unusually slow forward movement of 6 to 9 m. p. h. Winds were above gale force on most of the Texas coast for periods ranging from 30 to 50 hours. At Galveston, the measured peak gust,

112 m.p.h., was recorded on four occasions at 0315, 0558, 0612, and 1028 c.s.t. on the 11th before the gust recorder became inoperative.

In Louisiana sustained winds along the coast were generally less than 50 m.p.h., with gusts of 60, 58, and 47 m.p.h. at Cameron, Lake Charles, and Burrwood, respectively.

Torrential rains accompanied Carla in Texas. More than 16 inches of precipitation fell in the coastal area from Galveston to Bay City, east of the storm center. Bay City had a storm total of 17.10 inches. Amounts up to 13 inches fell as far as 130 miles inland over a very irregular pattern. One unusual feature was an area of relatively light totals - 4 to 6 inches - from downtown Houston westward for about 40 miles, with 12 inches or more to the west, north and east. Rainfall decreased northward away from the coast with most of northeastern Texas, east of the storm center, receiving 4 inches or more. Most Gulf drainage streams east of the storm track reached or exceeded flood stage, and flooding and ponding was extensive in the flat coastal plain. The river stage at Wharton, on the lower Colorado, read 30.8 feet at 0700 c.s.t. on the 15th, exceeding the previous record of 30 feet at the peak of the 1957 flood. West of the center, storm totals were generally lighter, exceeding 4 inches only from the eastern Edwards Plateau southward to the coast between Corpus Christi and Brownsville.

Some of the heaviest storm rainfalls were 17.10 inches, Bay City; 16.23 inches, Galveston Airport; 15.66 inches, Freeport; 15.58 inches, Deer Park; 15.26 inches, Galveston City Office; 14.97 inches, Danevang; 13.25 inches, Liberty; 13.23 inches, Giddings.

Rainfall in Louisiana associated with Carla ranged up to 6 inches at several coastal stations.

Storm totals in Oklahoma reached almost 7 inches in the southeastern portion. In addition rainfall along the cold front which entered the storm on the 13th totaled 4 to 8 inches over a 70-mile-wide area extending from Ponca City to Fort Sill. Minor to moderate flooding occurred along the major rivers in the northeastern section of the State, and small stream flooding was reported in other sections.

In Kansas excessive rains of 4 to 8 inches occurred in 24 hours, with up to 4 inches from midnight to 0600 c.s.t. on the 13th over a 60-mile-wide area from Cowley and Chautaugua Counties northeastward to Lynn and Johnson Counties. These rains resulted in extensive and severe flooding, with record high stages on Pottawatomie Creek.

Some locally heavy rains fell in western Arkansas; the heaviest amount was 5.25 inches at Daisy. Heavy rains of 3 to over 8 inches occurred over a large area of Missouri, with heaviest amounts around Lees Summit, Pleasant Hill, and Brookfield. Flooding occurred on the Missouri River and most tributaries in western and central Missouri. Heavy damage occurred in suburban areas east of Kansas City.

Rainfall in Illinois, Wisconsin, and Iowa generally ranged between 2 and 5 inches over an area approximately 120 miles wide north of the storm track. Heavy amounts were general in northwestern Illinois, southern Wisconsin, and eastern Iowa, areas which had had considerable rain during the previous day. The rain was steady and in general not excessive in most places. Moline, with the greatest storm total in Illinois, received a record 24-hour amount of 6.29 inches on the 13th, surpassing the previous mark of 4.89 inches in October 1954. In the Chicago area precipitation totals ranged from 2.5 to 3.5 inches, resulting in flooding of about 60 viaducts and about 1000 basements. The Chicago River rose 5 feet to near the danger point and the lock gates to Lake Michigan were opened. Resultant rushing waters caused about $75,000 damage to boats in Wilmette Harbor.

In Michigan 3-day precipitation totals for September 13-15 were from 3 to 6 inches in the area from Eau Claire northward and northeastward to Cadillac, Traverse City and Cheyboygan. Twenty-four hour amounts ranged from about 2.50 to over 4.00 inches on the 14th at many points. Two power dams were washed out on the Broodman River.

Eight tornadoes accompanied Carla in Texas. The most severe of these occurred at Galveston at 0315 c.s.t. on the 12th, cutting a path across the island between 19th and 25th Streets, leaving 8 dead, 55 injured, and heavily damaging about 200 buildings, of which about 60 to 75 were totally destroyed. A second tornado moved across Galveston at 0600 c.s.t., destroyed 6 houses, but caused no additional injuries.

At Channelview, near Houston, a tornado at 1750 c.s.t. on the 11th injured 22 persons and caused $200,000 property damage. Two persons were injured in the tornado at Latex, Panola County, and 3 were injured near Jacksonville, Cherokee County. Other tornadoes occurred at Fulbright, Red River County; Hardin, Liberty County; and near Bay City, Matagorda County, with no casualties and relatively minor property damage.

Ten tornadoes were reported in Louisiana, with 6 deaths and 50 injuries. These storms were reported in the vicinity of Gueydam, Intercoastal City, Kaplan, Morgan City, Patterson, Watson, Slidell, Hammond, Hodge, and Junction City.

A small tornado also struck in the Traverse City, Mich., area at 1506 e.s.t. on September 13, prior to the passage of the storm center. Damage to farm buildings and trees was reported.

The Galveston District of the U. S. Army Corps of Engineers has prepared a very comprehensive report of the damages, flooding and the available information about the maximum water levels and the changes in water level with time at many points. (1) Figure 1. presents a summary of the high water marks contained in this report. The hydrographs in the original report, when interpreted in the light of the available land elevation data, show that large areas of the barrier islands were completely covered with water. The higher high water marks on the inland side of the bays show that the surfaces of these bays were tilted upward toward the inland regions by the effects of the wind over the bays. The local variability of 2 to 3 feet within a mile or two shown at several places in this chart is characteristic of the coastal flooding produced by severe storms. This local variability is believed to be due to the transport of water by breaking waves. This phenomenon is very local in nature and any attempt to draw lines of equal water elevation to these values would be misleading. The high water marks shown in the insert for Laguna Madre north of Brownsville are the result of wind pile-up within the lagoon, not the effects of the hurricane on the open Gulf.

Graphs of the storm surge, that is the difference between

(1) Hurricane Carla, September 9-12, 1961
U.S. Engineer District, Galveston Corps of Engineers, P. O. Box 1229
Galveston, Texas, January 1962, price $5.00

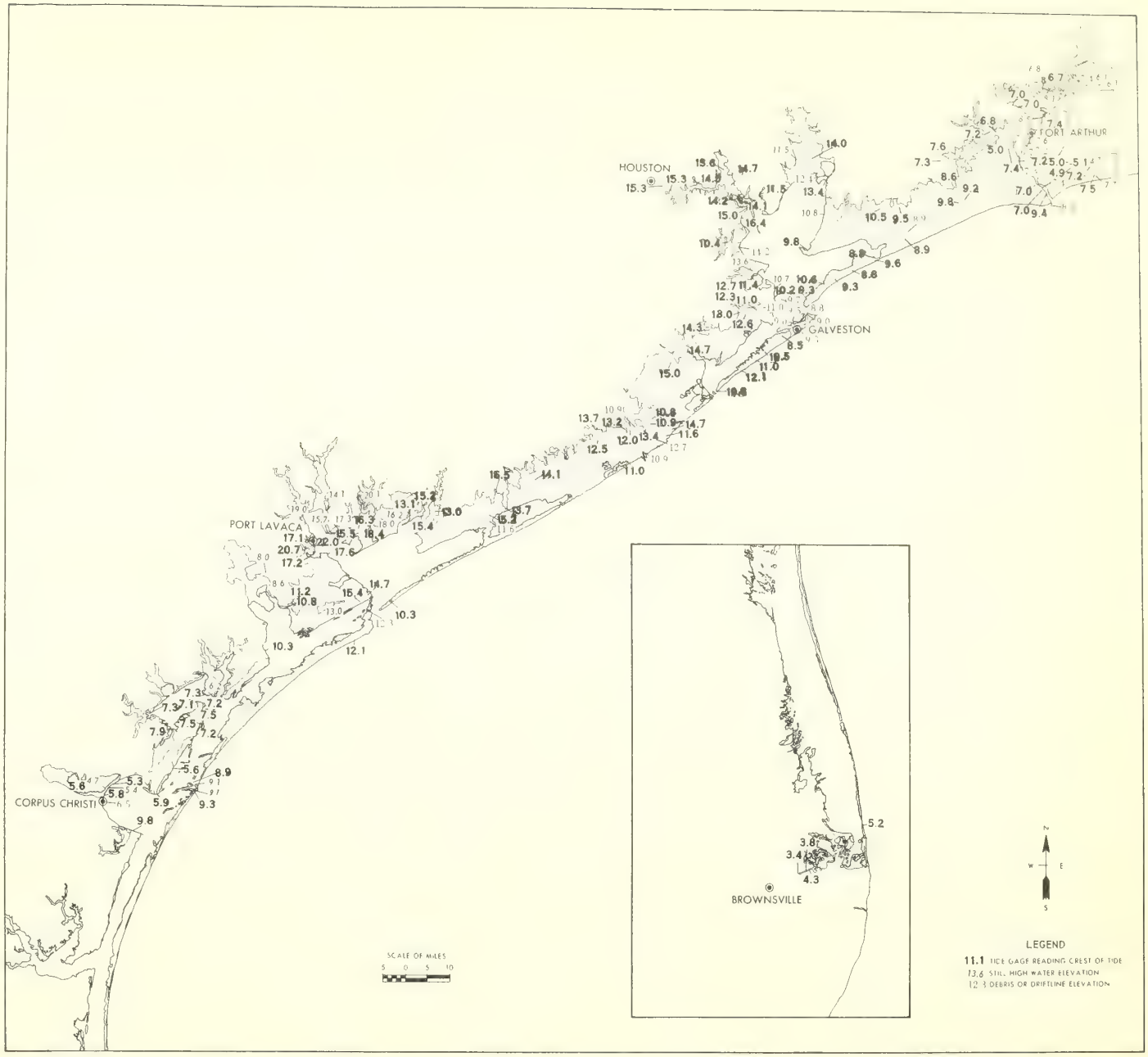


Figure 1. High water marks for hurricane Carla, September 10-12, 1961, as obtained from the Galveston District of the Corps of Engineers, U.S. Army. Shaded area indicates the extent of flooding.

the observed water levels and the astronomical tide, for Coast and Geodetic Survey tide stations are given in the CDNS for September 1961 page 471.

The tide range within the bays and lagoons was generally less than 1 foot during this period and should be neglected in studying this data.

The effects of winds and water in the coastal area near the storm center were devastating. Port O'Connor was virtually destroyed; Palacios, Edna, and Port Lavaca suffered severe damage. Most significant and widespread damage was inflicted along the coastal area between Corpus Christi and Port Arthur, plus the inland counties of Jackson, Wharton, and Harris. Damage was characterized as severe in Calhoun, Matagorda, Brazoria, and Galveston Counties; as heavy in Nueces, Refugio, Chambers, Jefferson, Victoria, Jackson, Wharton, and Harris Counties. Moderate damage occurred in Aransas, San Patricio, Orange, Goliad, Fort Bend, DeWitt, Lavaca, and Colorado Counties. Much of the damage in most places was caused by high water, both from tidal flooding and rainfall, rather than by the high winds. Storm damage gradually decreased inland and was relatively minor 100 miles from the coast.

Overall property and agricultural damage has been estimated by the U. S. Army Corps of Engineers at over $400 million following an extensive survey of the Texas coastal area by teams of experienced storm and flood damage survey personnel. The largest monetary losses occurred at Galveston, Texas City, and Freeport, due to the size and complexity of these cities. The following table, adapted from the Corps of Engineers report on Carla, shows the total estimated damage from tidal overflow and from wind and rain to various categories of property:

Type of Property	Damage		
	Tidal Overflow		Wind and Rain
Commercial	$ 39,148,000		$ 25,658,000
Residential	105,779,000		66,441,000
Industrial	11,683,000		3,349,000
Agricultural	19,544,000		41,314,000
Transportation	9,207,000		3,141,000
Utilities	1,198,000		8,787,000
Miscellaneous	13,636,000		6,801,000
Other		$47,898,000	
Total	$200,195,000		$155,491,000

In addition, damage sustained by governmental and relief agencies totaled $4,706,000, making an estimated grand loss of $408,290,000.

In the 16 counties most heavily affected, the Red Cross reported 1,915 homes, 568 farm buildings, and 415 other buildings destroyed; 7,398 homes, 1,382 farm buildings, and 1,219 other buildings with major damage; and 43,325 homes, 4,238 farm buildings, and 9,268 other buildings with minor damage.

Severe damage occurred to the extensive acreages of cotton and rice in the Coastal Bend counties. These crops, nearing harvest, were blown down and waterlogged; losses ranged to complete in some areas. Lesser damage was done to corn, pecans, citrus, and pastures. Livestock losses were heavy in some places where cattle could not be moved to higher ground.

Reports indicate 46 deaths associated with Carla's passage through the Nation: 34 in Texas, 6 in Louisiana in tornadoes, 5 in Kansas, and 1 in Missouri in flash floods. Timely and accurate hurricane warnings produced the largest mass evacuation ever recorded in the United States. An estimated 350,000 persons fled inland from the coastal sections of Texas and Louisiana. This evacuation from areas of danger was near 100 percent in small coastal towns unprotected by sea walls or levees; of the order of 75 to 90 percent in larger towns; and between 20 and 25 percent in the cities such as Corpus Christi and Galveston. Evacuation was a major factor in the comparatively very low death toll, about one-half of which was due to tornadoes and inland flooding.

HURRICANE DEBBIE, SEPTEMBER 7-16

The first indications of the depression from which Debbie formed were observed during the period September 5-7 in reports from Cape Verde Island stations and from the Danish tanker CHARLOTTE MAERSK. On the 7th indications were that tropical storm intensity had been reached, with winds up to 50 knots. During the next 3 days very little information was received, the storm moving into an area of little ocean traffic and out of range of reconnaissance aircraft. Observations were received from a Royal Dutch Airlines (KLM) plane on September 10, indicating that the forward speed had slowed and that the storm was on a track between northwest and north-northwest. On the 11th reports from vessels and weather satellite TIROS III relocated the hurricane near 25°N., 45°W. with maximum winds estimated at 75 knots. The storm moved northward between two cells of the subtropical HIGH, and during the 12th maximum sustained winds were estimated at 100 knots. Recurvature toward the east-northeast occurred on the 13th near 35°N., 45°W. The storm, now moving quite rapidly, passed across the Azores on the night of the 14th-15th. By this time interaction with polar air had resulted in the loss of tropical characteristics, but winds were still above hurricane intensity. Curving northward on the 15th, the large and severe storm passed just off the west coast of Ireland early on the 16th. Gusts reached 106 m. p. h. at Ballykelly and 104 m. p. h. at Tiree and Snaefill. At

least 11 deaths and many injuries were attributed to Debbie in Ireland and extensive damage also occurred in Wales and Scotland. Deaths were caused by flying debris and falling trees. Fishing craft and other vessels were severely affected by this unusually fast-moving storm in the eastern Atlantic. The remnants of the circulation continued northward along the Norwegian coast and crossed the northern sections of Scandinavia into Arctic European Russia where it dissipated on the 19th.

HURRICANE ESTHER, SEPTEMBER 11-26

A suspicious cloud area, located by TIROS III on the afternoon of September 10 near 11°N., 30°W., was the first indication of a possible tropical cyclone in the southeastern Atlantic. Confirmation was provided on the 11th by additional TIROS pictures and reports from ships operating in the area. A reconnaissance aircraft was sent into the storm early on the 12th and reported that hurricane force winds were present with a central pressure of 967 mb. From the 12th to the 17th the storm moved generally west-northwestward at a progressive movement of about 12 miles per hour, while the winds increased to an estimated 150 m. p. h. on the morning of the 17th and the central pressure had dropped to 927 mb. On that day the hurricane passed about 375 miles north of Puerto Rico, gradually took a northwesterly course and for the following 3 days moved directly toward Cape Hatteras. Late on the 19th Esther's course shifted to northward and later to north-northeastward. This path kept the center of the storm some 120 miles east of Cape Hatteras and about 150 miles off the Delmarva Peninsula and New Jersey coast. As the hurricane approached Nantucket-Cape Cod on the 21st, it slowed considerably in forward speed, curved sharply to the east, and lost considerable force. By the afternoon of the 21st sustained winds had dropped to near 70 m. p. h. from 115 m. p. h. during the morning.

On September 22 Esther began a southeastward and southward movement, with the center eventually describing a large clockwise loop in the track. The center of the storm moved as far south as 36°N. at 67.5°W. on the morning of the 24th before heading northward again to pass north-northeast just off Cape Cod and into eastern Maine by the 26th. The storm dissipated over Labrador on the following day.

During the southward movement the storm continued to lose intensity with ships near the center reporting winds of only 35 to 40 knots.

Sustained winds in the Middle Atlantic States were not high in Esther's first pass offshore, since only the western fringes of the storm were felt on shore. Along the North Carolina-Virginia coastline sustained winds ranged from 24 m. p. h. at Wilmington to 38 m. p. h. at Cape Henry. Norfolk recorded a fastest mile of 32 and Hatteras a one-minute wind of 36 m. p. h. Gusts of 58 m. p. h. and 43 m. p. h. were reported at Nags Head and Hatteras, respectively.

Rainfall associated with the storm was very light in this region with Wilmington, N. C., recording only 0.03 inch, and Norfolk, Va., 0.05 inch.

Some heavy rains were reported in eastern sections of Maryland and Delaware from 1700 to 1800 e. s. t. on September 20, with rough seas and northeast winds along the coast. Sustained winds (fastest miles) of 53 m. p. h. and 40 m. p. h. were recorded at the Lewes and Ocean City Life Boat Stations. Indian River Inlet reported a fastest mile of 48 and peak gust of 52 m. p. h. Damage was negligible.

The coastal areas of New Jersey were swept by gale force winds which, along with the storm surge and rough seas, caused some damage to boats, docks, and other waterfront property. Rainfall amounts ranged from 2 to 3 inches along the immediate coast. Peak wind gust at Atlantic City WBAS was 69 m. p. h.; the fastest mile, NW 46 m. p. h. The lowest pressure there was 998 mb.

In New York moderate rain fell from the Albany area southward through the Hudson Valley and the adjacent mountains. Amounts ranged upward to more than 7 inches in extreme eastern Long Island. Gale force winds affected only the lower Hudson Valley and Long Island, and hurricane force winds only sections of Long Island. Some peak gusts: Brookhaven, L. I., NNE 62 m. p. h. (37-ft. level); Montauk Point, 108 m. p. h. (estimated); La Guardia Field, NNW 72 m. p. h.; Fire Island Coast Guard Station, 100 m. p. h.

In Connecticut and Rhode Island sustained winds averaged 35 to 50 m. p. h., with gusts of 45 to 65 m. p. h., while offshore at Block Island, the peak gust was 83 m. p. h.; the fastest mile 74; the lowest pressure 988.2 mb. Rainfall totals were generally between 1.50 and 3 inches in Connecticut, except for 4 inches in the north and almost 8 inches in the southeast, while in Rhode Island totals ranged from 5 to 8 inches, with the heaviest amounts in the southwest.

In Massachusetts, the strongest winds were concentrated on Cape Cod, with gusts exceeding hurricane force in some areas. Chatham reported gusts to 70 m. p. h. and Blue Hill Observatory had NE 62 m. p. h. gusts. Rainfall ranged from 4 to 9 inches in southeastern Massachusetts, decreasing westward and northward to about 1 inch in central New Hampshire and western Massachusetts. Blue Hill recorded 6.03 inches (5.86 in 24 hours) during the first pass of the storm; an additional 2.74 inches were received during Esther's return trip offshore. After completing the large clockwise loop over the Atlantic, Esther moved into Maine without damaging winds, but rains of 2 to 4 inches fell along the storm track.

Storm tides along the outer banks of North Carolina ranged up to 5 feet. Minor flooding occurred on some beaches and highways, but damage was negligible. In the Hampton Roads area tides were about 2.4 feet above normal. An unusually high storm surge hit the Maryland-Delaware coast, and flooded many streets in seashore locations. Storm surges on the high tide occurred at 1-to 2-minute intervals, reaching peaks of 6 to 7 feet above mean low water from 1630 to 1645 e. s. t. on September 20. Damage was negligible.

The storm surge caused some flooding on the south shore of Long Island and in shore areas of Queens and Brooklyn. The storm surge in New England was less than expected, due to the decrease in the intensity of the storm and its path away from the coast. Tides ranged up to 3.8 feet above normal at New London, Conn.; 4.6 feet above normal at Stratford, Conn.; and about 6 feet above normal on Block Island, R. I. The storm surge reached about 3 to 5 feet along the south side of Cape Cod.

Damage connected with Esther was negligible south of

New Jersey; less than $1 million in that State; in excess of $3 million on Long Island, N. Y.; and about $3 million in New England.

The principal damage in New Jersey was to boats and docks along the immediate coast. Only minor effects were felt in other sections of the State. There was some minor loss of fruit.

Damage was experienced in Metropolitan New York and considerable damage occurred in Suffolk County, Long Island. Flooding from the storm tides and blown-down trees and utility lines were the chief damage producers. Some apples were lost.

Comparatively minor flooding from the storm surge was reported in New England. Many small boats were torn from moorings along the coast. Property damage in the interior was light and consisted mainly of broken tree limbs and windows, and some downed utility lines. Minor flooding occurred in the Pawtuxet River Valley and some damage was reported to fruit and grape crops in Connecticut, Rhode Island, and Massachusetts and to tobacco in Connecticut. About one-third of the damage was to small craft and shore installations; one-third to the apple crop; and the remainder was due to road washouts, minor flash flooding, and minor structural damage.

HURRICANE FRANCES, SEPTEMBER 30-OCTOBER 10

Some indications of the development of Frances appeared on TIROS III photographs as early as 1200 G. m. t. on September 28, when cloud bands, orientated west-southwest to east-northeast were noted near 15°N., 52°W. The evidence was not conclusive, however, and for the next 2 days vessel reports were extremely scarce in the area. Reports from Lesser Antilles stations and reconnaissance aircraft on the 30th confirmed the existence of a poorly organized tropical storm, located near 16.3°N., 60.1°W. at 1710 G. m. t.

The tropical storm passed between the islands of Marie Galante and Guadeloupe, French West Indies, about 0500 to 0600 G. m. t., October 1. At 0600 G. m. t. the Netherlands steamship VIAJERO, off La Desirade, reported 60-knot winds during a squall. An amateur radio operator on Guadeloupe reported southerly gusts of 50 to 60 m. p. h. at 0730. The movement between the mountainous islands apparently broke down the organization of Frances. The storm remained diffuse and ill-defined during its path through the northeastern Caribbean to the eastern Dominican Republic by October 3. Maximum winds reported in Puerto Rico and the Virgin Islands were around 35 m. p. h. in thunderstorms and squalls. Moderate to heavy rains caused a number of rivers in southern Puerto Rico to leave banks; there was considerable damage to roads and bridges. No loss of life was recorded anywhere in the affected areas.

After crossing the eastern Dominican Republic, Frances moved northward into the Atlantic. The storm became better organized and reconnaissance aircraft reports indicated it reached hurricane intensity on the 4th near 24°N., 71°W. as it moved east of the Bahamas. Intensification continued and a gradual turn toward northeast brought the center about 70 miles northwest of Bermuda on the night of October 6-7, when the lowest pressure, 948 mb., and the highest winds, 110 knots, were estimated. Gales were reported throughout the Bermudas at this time.

Frances gradually curved back toward the northwest after passing Bermuda. As the storm approached the coastline of New England it began to dissipate rapidly over the cool waters, dropping to storm intensity late on the 8th. The UNITED STATES and the STRINDA both encountered 60-knot winds near 41°N. between 62° and 67°W. during the afternoon of the 8th.

Frances took on extratropical features on the 9th and the direction of motion changed sharply to northeast before it dissipated over Nova Scotia. Highest winds in the United States were 35 m. p. h., with gusts to 55 in squalls at Eastport, Maine.

TROPICAL STORM GERDA, OCTOBER 16-22

A tropical depression which formed slowly in the northwestern Caribbean near Jamaica was first definitely identified on October 16 although an easterly wave had been tracked for several days previously. The poorly-organized disturbance drifted northward over east-central Cuba on the 17th and turned north-northeastward through the Bahamas, showing some signs of intensification, although the center and circulation remained poorly defined.

Gerda reached tropical storm intensity on the 19th near 30°N., 72.5°W. By the morning of the 20th was located about 130 miles southeast of Nantucket after moving rapidly north-northeastward with the winds reaching near-hurricane force. The MARGARET ONSTAD, near 40°N., 61°W. reported 63-knot winds during the evening of the 20th. After passing east of Cape Cod the storm acquired more extratropical features, curved to the east, passed about 100 miles south of Nova Scotia, and dissipated near 44°N., 45°W. on the 22d.

There was never a clearly defined and characteristic tropical cyclone center in Gerda. Maximum winds were reported on the 20th. The Texas Tower radar installation, located about 35 miles southeast of Nantucket, recorded sustained winds of 64 m. p. h., with gusts to 72 m. p. h. On the coast winds reached only 30 to 50 m. p. h. Damage in New England was about the same as from a typical wintertime northeaster.

Heavy rains fell in Jamaica and Cuba during the depression stage of the storm, causing extensive flooding. Orographic effects probably caused excessive amounts and flash flooding in the more mountainous sections. Five persons perished in Jamaica and seven in Cuba in these floods.

HURRICANE HATTIE, OCTOBER 27-31

Hurricane Hattie, the most intense and destructive tropical cyclone in the central American region since Janet in 1955, formed along the intertropical convergence zone in the southwestern Caribbean near San Andres Island north of Panama. On the basis of ship and island reports, it was established as a tropical storm during the afternoon of October 27 with winds of near 70 m. p. h. Hattie passed over or just to the west of San Andres Island during the late afternoon. Later that night reconnaissance indicated winds had increased to hurricane force. The hurricane posed a serious threat to Jamaica, Grand Cayman, and western Cuba on the 28th and 29th, as it moved northward

and intensified further with the central pressure reaching 952 mb. and maximum winds estimated at 125 m. p. h. or higher. However, on the 29th when near 17°N., 81°W., Hattie began a turn to the left, moving toward the northwest and later toward the west in response to a major shift in the upper air patterns. The hurricane then took a west-southwest course and intensified sharply as it was passing between Grand Cayman and Swan Island on the morning of October 30. The lowest reported reconnaissance central pressure, 924 mb., was observed at 0800 e. s. t. Sustained winds were estimated at 150 m. p. h., with gusts to 200 m. p. h., by reconnaissance late that day and the minimum central pressure was computed from the 700-mb. height as 920 mb. The ASSEBURG and the HANNE SKOU encountered winds of 60 and 64 knots, respectively, on the 30th between Swan Island and the Honduran coast.

The center of Hattie crossed the coastline just south of Belize about 0730 e. s. t. on October 31. The center of the 25-mile-diameter eye (radar) passed 20 miles southeast of Belize. The effects of wind and water were devastating. All meteorological instruments and records in British Honduras were destroyed, so all data had to be estimated. Barometric readings in the central area of the hurricane were from 920 to 930 mb. and the highest winds at Belize were estimated by trained observers at 150 to 160 m. p. h., with unofficial estimates to 200 m. p. h. or more. These speeds - 150 m. p. h. sustained winds and 200 m. p. h. gusts - are reasonable estimates from the empirical minimum pressure-maximum wind formulas in use.

About 40 percent of all buildings were completely destroyed in the capital city of Belize (population over 31, 000) and another 25 to 35 percent severely damaged. Storm tides of 10 to 11 feet were measured along the Belize waterfront, and superimposed waves left mud in the third floors of some buildings. Storm tides of 12 to 14 feet were reported at several other points. Damage at Stann Creek was characterized as even more severe than at Belize. Citrus, ready for harvest and export was destroyed completely, together with unknown amounts of timber, cocoa, and bananas. The total damage in British Honduras was estimated at about $60 million.

The latest fatality figures include 262 in British Honduras; 11 in flash floods in Guatemala; 1 reported death in Honduras; and 1 on San Andres Island off Honduras.

San Andres, which was affected during the early stages of the hurricane, had wind gusts of slightly over 100 m. p. h., with the lowest pressure 991 mb.; property damage totaled about $300, 000 and 15 persons were injured. Minor damage from torrential rains (about 11 1/2 inches in 24 hours) occurred at Grand Cayman, but winds there did not reach hurricane force. At Swan Island the highest gusts were also slightly below hurricane force. Damage was slight and there was one injury.

TROPICAL STORM INGA, NOVEMBER 4-8

Inga was the first tropical cyclone of record to form in November in the Gulf of Mexico. It moved and behaved very erratically, and was of tropical character only part of its life. Early on November 4 the NAVIGATOR reported estimated winds of 70 to 80 knots from the northwest, and a rapid pressure fall about 100 miles northeast of Vera Cruz, Mexico. A reconnaissance plane was sent to the region and located a storm center during the afternoon near 20. 6°N., 94. 6°W., with highest winds 50 knots and central pressure 998 mb.

The storm moved north-northwestward and by the evening of the 5th was located about 100 miles east-northeast of Tampico. About this time, however, a strong outbreak of cool polar air and rising pressure moved southward out of Texas into the northwestern Gulf. The strong pressure rises to the west of the storm caused it to turn back southward, and at 1300 G. m. t. on the 6th a center was located about 100 miles east-northeast of Tuxpan. The aircraft then flew southward and located a second "eye" at 1400 G. m. t. about 80 miles southeast of the first center. Cold air moved around the first center and it dissipated rapidly, leaving the southern eye as the main center. This moved slowly southeastward and became stationary in the Gulf of Campeche about 160 miles east-northeast of Vera Cruz on the afternoon of November 6. The storm remained stationary in this area until the 8th, becoming gradually extratropical as cold air continued to move into it. On the 8th a reconnaissance flight encountered no circulation, although ships a short distance northeast of Vera Cruz continued to report winds of gale force until late in the day.

The lowest pressure, from reconnaissance dropsonde, was 997 mb. and the highest wind 65 knots in cold air to the west and south of the center on the afternoon of the 7th. Highest winds were about 50 knots during the early tropical stage.

HURRICANE JENNY, NOVEMBER 1-9

The last tropical cyclone of the 1961 season developed from a weak disturbance which was first identified in the Windward Islands on November 1. The depression drifted northeastward until the 3d, and then eastward until the 5th. On that day it curved sharply to the west near 27°N., 43°W. and began to intensify in response to changes in the upper air flow. The winds increased steadily and reached hurricane force in squalls on the 6th, and the lowest central pressure, 974 mb. was recorded by reconnaissance aircraft during the afternoon. Early on the 7th the storm became stationary for a while, then changed direction to north-northeast and thereafter weakened gradually, becoming extratropical on the 8th and dissipating completely on the 9th near 35°N., 45°W.

Jenny never contained all the features of a true tropical cyclone. It was in many ways similar to the sub-tropical "Kona low" of the Hawaiian Islands region. These storms develop in connection with cold-core cyclones and are most frequent outside the usual hurricane season.

No injuries or fatalities have been reported, although the ore carrier VENORE required assistance after being disabled in the storm on the afternoon of November 6.

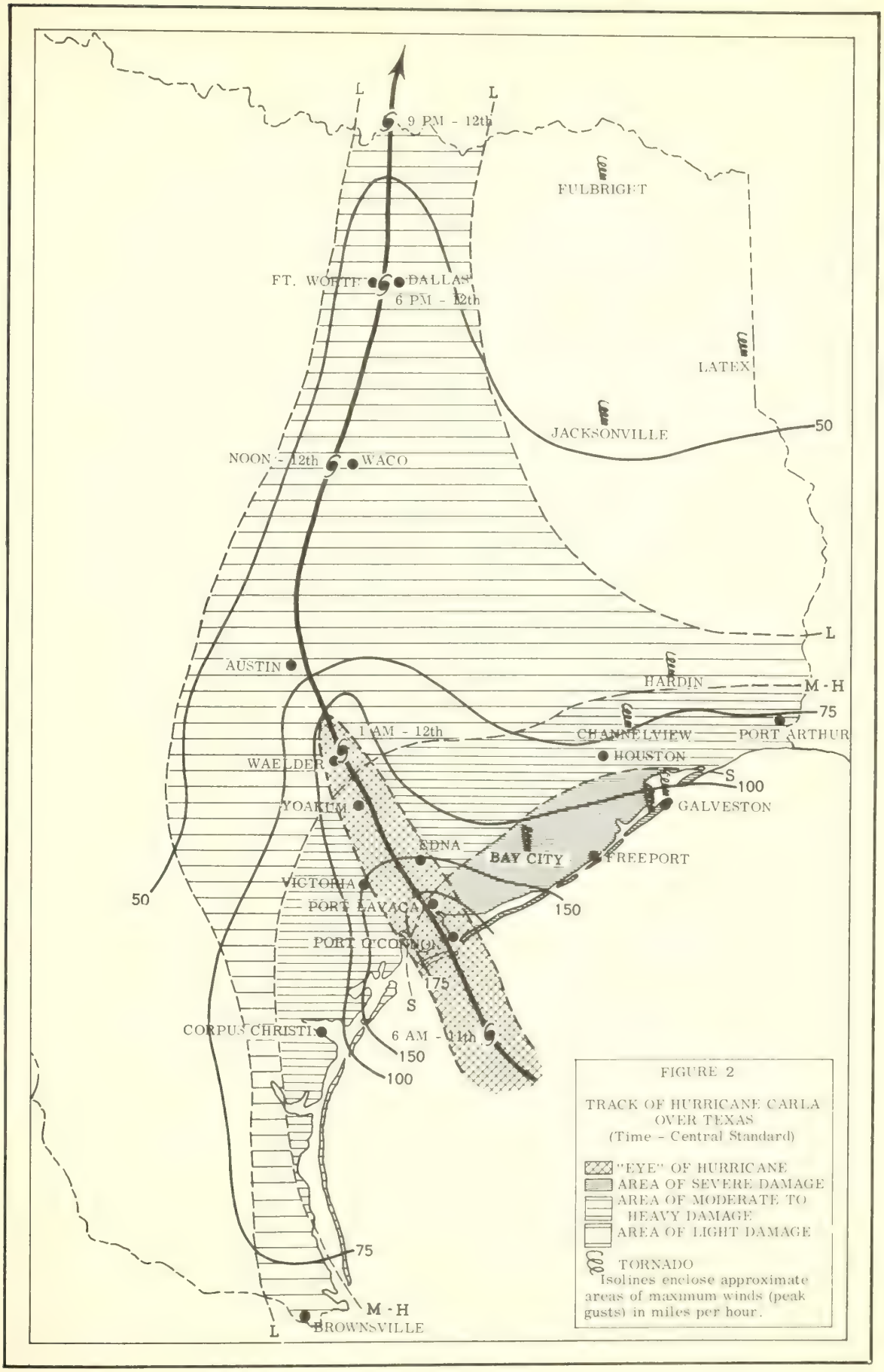


FIGURE 2

TRACK OF HURRICANE CARLA OVER TEXAS
(Time - Central Standard)

"EYE" OF HURRICANE
AREA OF SEVERE DAMAGE
AREA OF MODERATE TO HEAVY DAMAGE
AREA OF LIGHT DAMAGE
TORNADO

Isolines enclose approximate areas of maximum winds (peak gusts) in miles per hour.

TROPICAL CYCLONE DATA

HURRICANE CARLA
September 3-15, 1961

Table 1.

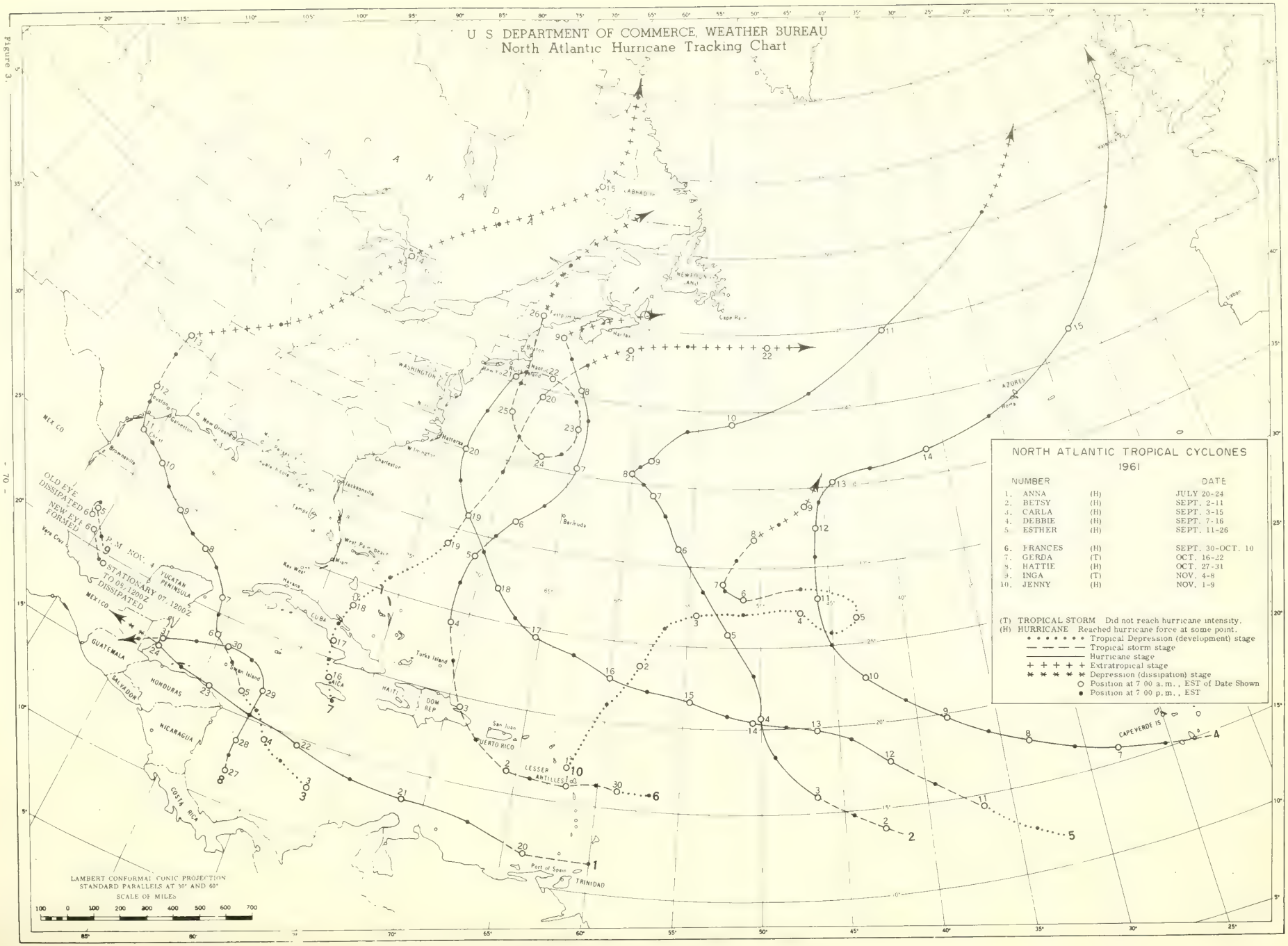
Station	Date Sept.	Pressure (inches) Low	Pressure (inches) Time +	Wind (miles per hour) Fastest Mile	Wind (miles per hour) Time +	Wind (miles per hour) Gusts	Wind (miles per hour) Time +	Highest Tide (feet) #	Time +	Storm Rainfall (inches)	Remarks
TEXAS											
Alice	11			60*		80*				.72	
Anahuac	11			80		93				11.50	
Angleton	11					115*				5.66	
Aransas Pass	11			135*	0100	150*	0100				
Aransas Pass (United Carbon)	11	28.78		73 N	0400						
Austin	11			45 NE	2333	68 NNE	2034			3.68	
Austin	12	28.76	0520	45 NE	0053						Lowest pressure ever recorded.
Austwell	11	28.00	1530			150*				7.28	
Bay City	11					100				17.10	Anemometer only calibrated to 100 miles per hour.
Bellville	12					75*	0330			11.56	
Brownsville	11	29.20	0235			64 WNW	0031			1.93	Lowest pressure since 28.02, September, 1933.
Corpus Christi	11	28.88	0730			86* NW	0658			1.22	Ship Channel entry.
Corpus Christi	11	28.80				90	0200			5.15	State National Bank.
Corpus Christi	11										Corpus Christi Bay.
Corpus Christi	11	28.73									Naval Base.
Dallas	12	29.01		42 SE		50 SE				4.63	Lowest September pressure.
Dryer	12					100*				5.63	
Dublin	12	28.54								3.24	
Edna	11					150*NE	1732			10.37	
El Campo	11	28.50				100*				10.95	
Elgin	11					70*				6.54	
Fisher's Store	12					55*				3.33	
Fort Worth (ACF)	12	28.94	1725	53 ESE	1558	65	0817			2.30	Record lowest pressure.
Freeport	10			65 ENE	2200	90 ENE	2200				From 2200 and 0000 teletype transmission.
	11				0000		0000		0600		
Galveston City	11	29.24	1715	80 SE		112 SE	0315		0430	15.26	Gust recorder inoperative after 1308.
							0558				
Galveston City	11					112 SE	0612				
							1028				
Galveston A. P.	11	29.20	1645	51 ENE	2254	86 E	1415			16.23	
Georgetown	12					67	0045			4.80	
Giddings	12					80*	0100			13.23	
							0300				
Halletsville	12					95*	0015			9.73	Eye over Halletsville-Yoakum about 1/2 to 1 hour.
Lufkin	12					100 SE					Observed KTRE-TV.
High Island	11					75-80*					
Houston A. P.	11	29.20	1858	52 ESE	2058	77 ESE	1533			7.17	
Houston City										3.87	
Jacksonville	11	28.68								4.42	
Kaufman	12					45-50*				3.59	
Kenedy	11					82	2000			4.11	
Killeen	12	28.44								5.34	
La Grange	11					98*				10.04	
Matagorda	11	28.60	1500	145 SE		160 SE				12.40	
Navasota	12	29.19				70					
New Caney	12					40-50 SE				11.10	
New Gulf	11	28.84	1700								
Olney	12					45				2.40	
Palestine	12					50				5.15	
Port Aransas	11	28.73	1350			150* NW	0620		0810*		
Port Arthur	11	29.46	0300	75*	0830	85*	0830		1730		
Port Arthur	11								1730		
Port Arthur	11	29.50	0300			110* SE			0800		Sabine; USCG
			1700								
Port Arthur A. P.	11	29.47	0530	49 SE	0712	69 SE	0815			4.77	
Port Isabel	11			53 NW	0200	64 NW	0200			2.56	USCG South Padre Island.
Port Lavaca	11	27.62	1545	145 NE		175*	1600			6.55	Anemometer broke at 153 miles per hour at 1414.
Port O'Connor	11										
Port Mansfield	11	29.11	0800	46 WNW	0000					4.04	
Raymondville	11					80*					
Refugio	11					85-90*				5.51	
Robstown	11					70-75*				1.73	
Rockport	11	28.68	1400			90 WNW	0200		0900	5.00	
San Antonio	11			47 N						1.88	
	12	29.01									Lowest since August 20, 1886.
Schulenburg	12					80*	0200			9.05	
Sequin	11	29.50								4.50	
Smithville	11					100*				8.90	
Sugarland	11					90*				7.33	
Taylor	12					62				5.91	
Texas City	11										
Victoria	11	27.91	1847	110* NNE	1715	150* NNE	1755			6.25	Edge of eye over station 1848-1945.
					1840						
Waco	12	28.91		46 NNE		64 NNE	1215			2.27	Lowest pressure on record.
Warren	12	29.33				60*				5.98	
Wharton	11					80-85*				13.05	
Woodsboro	11					75-85*				4.31	
Yoakum	11					110*				5.06	
LOUISIANA											
Burrwood	9			30 SE	2349	47	2349				
	10	29.75	0248							2.13	
Cameron	10	29.50	0400			60	0400			2.00	
Lake Charles	11	29.60	0310			58	0646		0400	2.81	
New Orleans A. P.	9			27 SE	2000						
	10	29.79	0345			35	1245			3.65	

* Estimated
† Above Mean Low Water
‡ Above Mean Sea Level
\+ Central Standard Time
\# Tide data are shown on figure 1, page 62.

NORTH ATLANTIC TROPICAL CYCLONES, 1961

Table 2.

Storm name	Date	Area where first reported	Coast lines crossed	Highest wind speed reported	Lowest pressure reported	Place of dissipation reported	Intensity	Remarks
1 ANNA	July 20-24	East of Windward Islands	British Honduras	Est. 120 mph, recon., July 20, eastern Caribbean	976 mb.(28.82 in.), recon., southeast of Jamaica	Southern Mexico	Hurricane	One death in Honduras, considerable damage in northern Honduras, southern British Honduras, and on islands off these coasts.
2 BETSY	September 2-11	South-central North Atlantic	None	Est. 135 mph, recon., Sept. 6-7, northeast of Bermuda	945 mb. (27.91 in.), recon., east-southeast of Bermuda	Atlantic south of Iceland	Hurricane	Remained over ocean.
3 CARLA	September 3-15	South-central Caribbean north of Colombia	Texas	Est. 175 mph, meas. 153, gusts.Port Lavaca, Tex., 145 mph, Matagorda, Tex. Sept. 11	931 mb.(27.50 in.), recon., just off Texas coast	Davis Strait	Hurricane	Largest and most intense Gulf of Mexico hurricane in many years. Severe damage in coastal sections of Texas from wind, tide and flooding. Fatalities 46; Texas 34, Louisiana 6, Kansas 5, Missouri 1. Record low pressures at several Texas and Oklahoma stations.
4 DEBBIE	September 7-16	Southeastern Atlantic near Cape Verde Islands	Ireland	Est. 120 mph, recon., Sept. 11-12, central Atlantic	970 mb.(28.64 in.), ship near Ireland	Arctic Russia	Hurricane	Eleven deaths in Ireland. Surf, wind and flooding caused heavy damage in Ireland, Scotland and Wales.
5 ESTHER	September 11-26	Southeastern Atlantic southwest of Cape Verde Islands	New England	Est. 150 mph, recon., morning of Sept. 17 near 24°N., 65°W. Est. 108 mph, gust.Montauk Point, L.I., N.Y., Sept. 21	927 mb.(27.37 in.), recon., near 25°N., 66°W.	Labrador	Hurricane	Threatened northeastern U.S., but course and diminution of intensity produced only minor to moderate damage in most sections. No deaths. Very unusual large loop in storm track off the coast.
6 FRANCES	Sept. 30-Oct. 10	East of Leeward Islands	Dominican Republic, Nova Scotia	Est. 125 mph, recon., night of Oct. 6, northwest of Bermuda	948 mb.(27.99 in.), recon., just west of Bermuda	Nova Scotia	Hurricane	Principal effects on land were heavy rains in southern Puerto Rico.
7 GERDA	October 16-22	South of Jamaica	None (while storm)	63 kt., evening of 20th, MARGARET ONSTAD near 40°N., 61°W.	987 mb.(29.15 in.), recon., southeast of Nantucket	Atlantic southeast of Newfoundland	Tropical storm	Five deaths in Jamaica, 7 deaths in Cuba as a result of flash floods during depression stage.
8 HATTIE	October 27-31	Southwestern Caribbean east of Nicaragua	British Honduras	Est. 150 mph, gusts 200 mph, Belize, British Honduras on morning of Oct. 31	924 mb.(27.29 in.), recon., off coast of British Honduras	Guatemala	Hurricane	Most severe central American hurricane since Janet, 1955. Deaths: 262 in British Honduras, 11 in Guatamala, 1 each in Honduras and on San Andres. Stann Creek and Belize, British Honduras severely damaged. Widespread agricultural losses.
9 INGA	November 4-8	Southwestern Gulf of Mexico	None	Est. 65 kt., recon., afternoon of Nov. 7, Bay of Campeche	997 mb.(29.44 in.), recon., east of Tampico	Bay of Campeche	Tropical Storm	Remained over Gulf of Mexico.
10 JENNY	November 1-9	Leeward Islands	None	Est. 75 mph, recon., Nov. 6, near 28°N., 51°W.	974 mb.(28.76 in.), recon., near 28.5°N., 52°W.	Central Atlantic	Hurricane	Remained over ocean.


U S DEPARTMENT OF COMMERCE, WEATHER BUREAU
North Atlantic Hurricane Tracking Chart
NORTH ATLANTIC TROPICAL CYCLONES
1961
NUMBER DATE
1. ANNA (H) JULY 20-24
2. BETSY (H) SEPT. 2-11
3. CARLA (H) SEPT. 3-15
4. DEBBIE (H) SEPT. 7-16
5. ESTHER (H) SEPT. 11-26
6. FRANCES (H) SEPT. 30-OCT. 10
7. GERDA (T) OCT. 16-22
8. HATTIE (H) OCT. 27-31
9. INGA (T) NOV. 4-8
10. JENNY (H) NOV. 1-9
(T) TROPICAL STORM Did not reach hurricane intensity.
(H) HURRICANE Reached hurricane force at some point.
Tropical Depression (development) stage
Tropical storm stage
Hurricane stage
Extratropical stage
Depression (dissipation) stage
Position at 7 00 a.m., EST of Date Shown
Position at 7 00 p.m., EST
OLD EYE DISSIPATED 6 P.M. NOV. 4
NEW EYE FORMED
STATIONARY TO 04, 1200Z
07, 1200Z DISSIPATED
LAMBERT CONFORMAL CONIC PROJECTION
STANDARD PARALLELS AT 30° AND 60°
SCALE OF MILES
100 0 100 200 300 400 500 600 700
CANADA
MEXICO
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
CUBA
HAITI
DOM REP
PUERTO RICO
LESSER ANTILLES
TRINIDAD
CAPE VERDE IS
AZORES
Bermuda
Turks Island
Port of Spain
Brownsville
Galveston
Houston
New Orleans
Tampico
Vera Cruz
Yucatan Peninsula
Jacksonville
Charleston
Wilmington
Hatteras
Miami
West Palm Beach
Key West
Havana
Nassau
San Juan
Halifax
Boston
New York
Washington
Lisbon

NORTH ATLANTIC TROPICAL CYCLONES FOR PAST YEARS

Frequency of Tropical Cyclones (Including Hurricanes) by Months and Years

		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1886			3	1	2	2	2			10
1887		1		2	2	3	6	1	2	17
1888			1	1	2	2	1	3		10
1889		1	1		1	5	1			9
1890					1					1
1891				1	2	3	4	1		11
1892			1		1	4	3			9
1893			1	1	5	3	1	1		12
1894					2	1	3			6
1895					2	1	3			6
1896				1	1	2	2			6
1897					1	2	2			5
1898					2	5	2			9
1899				1	2	1	2			6
1900					1	3	3			7
1901			1	2	2	3	2			10
1902			2			1	1	1		5
1903				1	1	4	2	1		9
1904			1			1	3			5
1905						3	2			5
1906			2		1	3	4	1		11
1907			1			2	1			4
1908	Mar. 1			1	1	3	2			8
1909			2	2	2	2	1	1		10
1910					1	2	1			4
1911					2	1	1			4
1912			1	1		1	2	1		6
1913			1		1	1	1			4
1914						1				1
1915				1	2	2				5
1916			1	2	3	4	3	1		14
1917					2	1				3
1918					3	2				5
1919				1		1		1		3
1920						4				4
1921			1			3	2			6
1922			1			1	2			4
1923					1	1	5			7
1924			1		2	2	2	1		8
1925						1		1		2
1926				1	2	5	2	1		11
1927					1	3	3			7
1928					2	3	1			6
1929			1			1	1			3
1930					2					2
1931			1	1	2	3	1	1		9
1932		1			3	3	3	1		11
1933		1	1	3	7	5	3	1		21
1934		1	1	1	2	2	3	1		11
1935					3	1	2			6
1936			3	2	6	4	1			16
1937				1	2	6				[illegible]
1938					3	1	3	1		8
1939			1		1	1	2			5
1940		1			3	2	2			8
1941						4	2			6
1942					3	3	3	1		10
1943				1	2	4	3			10
1944				3	2	4	2			11
1945			1	1	4	3	1			10
1946			1	1	1	1	2			6
1947				1	2	3	3			9
1948		1		1	2	3	1	1		9
1949					3	7	2	1		13
1950					4	3	6			13
1951		1			3	4	2			10
1952	Feb. 1				2	2	2			7
1953		1			3	4	4	1	1	14
1954			1	1	2	4	1	1	1	11
1955				1	4	5	2			12
1956			1	1	1	4	1			8
1957			2		1	4	1			8
1958			1		4	4	1			10
1959		1	2	2	1	3	2			11
1960			1	2	1	3				7
1961				1		5	2	2		10
Totals	Feb. 1, Mar. 1	10	40	44	135	204	142	28	4	609

Frequency of Tropical Cyclones Reaching Hurricane Intensity by Months and Years

		May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
1886			2	1	2	2	1			8
1887				1	2	3	2	1	1	10
1888			1		2		1	1		5
1889		1			1	3				5
1890					1					1
1891				1	2	3	2			8
1892					1	2	1			4
1893			1	1	5	3				10
1894					1	1	3			5
1895					1		1			2
1896				1	1	2	2			6
1897					1	1				2
1898					2	2				4
1899				1	2	1	1			5
1900					1	2				3
1901				1	2					3
1902			1			1	1			3
1903				1	1	3	2	1		8
1904						1	1			2
1905							1			1
1906			1		1	2	2			6
1907										0
1908	Mar. 1			1		2	1			5
1909				1	1	1	1			4
1910						2	1			3
1911					2	1				3
1912						1	2	1		4
1913			1		1	1				3
1914										0
1915					2	2				4
1916			1	2	3	2	2	1		11
1917					1	1				2
1918					2	1				3
1919						1				1
1920						4				4
1921			1			2	1			4
1922						1	1			2
1923					1	1	1			3
1924					2	1	1	1		5
1925								1		1
1926				1	2	4	1			8
1927					1	3				4
1928					2	1	1			4
1929			1			1	1			3
1930					2					2
1931						2				2
1932					3	1	1	1		6
1933			1	1	3	3	1			9
1934			1	1	1	1	1	1		6
1935					2	1	2			5
1936			1	1	3	2				7
1937						3				3
1938					2	1				3
1939					1		2			3
1940					3	1				4
1941						3	1			4
1942					3			1		4
1943				1	1	2	1			5
1944				2	1	3	1			7
1945			1		1	1	1			4
1946				1		1	1			3
1947					2	1	2			5
1948					1	3	1	1		6
1949					2	4	1			7
1950					4	3	4			11
1951		1			2	3	2			8
1952					2	2	2			6
1953					2	3	1			6
1954			1		2	3	1		1	8
1955					3	5	1			9
1956				1	1	1	1			4
1957			1			2				3
1958					3	3	1			7
1959			1	2		3	1			7
1960				1	1	2				4
1961				1		5	1	1		8
Totals	Mar. 1	2	17	25	100	133	66	12	2	358

TOTAL NUMBER OF TROPICAL CYCLONES, LOSS OF LIFE AND DAMAGE

	Total Number Tropical Cyclones*		Total Number Hurricanes		Loss of Life		Damage by Categories**	
Year	All Areas	Reaching U.S. Coast	All Areas	Reaching U.S. Coast	Total All Areas	United States	Total All Areas	United States
1886	10	7	8	6				
1887	17	4	10	3				
1888	10	6	5	3				
1889	9	4	5	2				
1890	1	0	1	0				
	47	21	29	14				
1891	11	4	8	2				
1892	9	3	4	0				
1893	12	7	10	6				
1894	6	3	5	2				
1895	6	4	2	1				
	44	21	29	11				
1896	6	4	6	4				
1897	5	4	2	1				
1898	9	6	4	3				
1899	6	4	5	3				
1900	7	3	3	1		6000		7
	33	21	20	12				
1901	10	6	3	2		10		6
1902	5	3	3	1		#		#
1903	9	2	8	2		9		6
1904	5	3	2	2		#		6
1905	5	2	1	0		#		#
	34	16	17	7				
1906	11	6	6	4		285		7
1907	4	3	0	0		#		#
1908	8	2	5	1		#		#
1909	10	7	4	3		404		7
1910	4	2	3	2		13		6
	37	20	18	10				
1911	4	2	3	2		17		6
1912	6	4	4	2		12		6
1913	4	3	3	2		#		#
1914	1	1	0	0		#		#
1915	5	4	4	3		600		8
	20	14	14	9				
1916	14	8	11	6		107		7
1917	3	1	2	1		5		5
1918	5	2	3	1		34		6
1919	3	2	1	1		287		7
1920	4	3	4	2		2		6
	29	16	21	11				
1921	6	2	4	2		5		6
1922	4	1	2	0		0		#
1923	7	4	3	2		0		4
1924	8	3	5	2		2		3
1925	2	2	1	1		6		3
	27	12	15	7				
1926	11	4	8	4		269		8
1927	7	1	4	0		0		#
1928	6	3	4	2		1836		7
1929	3	2	3	2		3		6
1930	2	1	2	0		0		2
	29	11	21	8				
1931	9	2	2	0		0		#
1932	11	5	6	2		0		#
1933	21	7	9	5		63		7
1934	11	5	6	3		17		6
1935	6	2	5	2		414		7
	58	21	28	12				
1936	16	7	7	3		9		6
1937	9	4	3	0		0		4
1938	8	4	3	2		600		8
1939	5	3	3	1		3		3
1940	8	3	4	2		51		6
	46	21	20	8				
1941	6	4	4	2		10		7
1942	10	3	4	2	17	8	7	7
1943	10	4	5	1	19	16	7	7
1944	11	4	7	3	1076	64	8	8
1945	10	5	4	3	29	7	8	8
	47	20	24	11				
1946	6	4	3	1	5	0	7	7
1947	9	7	5	3	72	53	8	8
1948	9	4	6	3	24	3	7	7
1949	13	3	7	2	4	4	8	8
1950	13	4	11	3	27	19	7	7
	50	22	32	12				
1951	10	1	8	0	244	0	7	6
1952	7	2	6	1	16	3	6	6
1953	14	6	6	2	3	2	7	7
1954	11	4	8	3	720+	193	9	9
1955	12	5	9	3	1518+	218	9	9
	54	18	37	9				
1956	8	2	4	1	76	21	8	7
1957	8	5	3	1	475	395	8	8
1958	10	1	7	0	49	2	7	7
1959	11	7	7	3	57	24	7	7
1960	7	5	4	2	185	65	8	8
	44	20	25	7				
1961	10	2	8	2	299	46	8	8
Total	609	276	358	150				
Median	8	4	4	2				

** The Weather Bureau has for some time recognized the fact that without detailed expert appraisal of damage all figures published are merely approximations to fact. Since errors in dollar estimates vary in proportion to the total damage, storms are placed in categories varying from 1 to 9 as follows:

1 Less than $50	4 $5000 to $50,000	7 $5,000,000 to $50,000,000
2 $50 to $500	5 $50,000 to $500,000	8 $50,000,000 to $500,000,000
3 $500 to $5000	6 $500,000 to $5,000,000	9 $500,000,000 to $5,000,000,000

Blank spaces indicate no figures available.

* Including hurricanes.
\# Not reported in literature, believed minor.
\+ Additional deaths for which figures are not available.

TROPICAL CYCLONES IN THE EASTERN NORTH PACIFIC, 1961

Max W. Mull
U. S. Weather Bureau, San Francisco, Calif.

Eleven tropical cyclones were charted in the eastern North Pacific during the 1961 season from the middle of June to the middle of November. Of these probably only two could be classified as hurricanes; Iva, the first of the season, and Tara, the last. The tracks of the two hurricanes were similar, hitting the Mexican coast within a few miles of each other between Manzanillo and Acapulco.

Iva was responsible for considerable damage to shipping near the coast. By far the greater tragedy, however, was Tara, which according to press accounts, left in its wake a toll of 436 dead and 300 missing from flooding and landslides in the area northwest of Acapulco.

A notable first for the 1961 season was the use of a weather satellite to pinpoint tropical cyclones. Pictures from TIROS III on July 19 placed Liza, and on the 20th were used as the basis for a storm advisory on Madeline. In neither instance were there any surface reports in the storm area.

Ship reports are sparse or completely lacking in much of the eastern North Pacific. This fact is at least a partial explanation of the relative short lives of many of the charted storms. The weather satellite pictures in the future will aid materially in locating the storms earlier and following them longer, and more accurately helping to ensure the safety of ships at sea and give earlier warning to land areas in the path of the storms.

The season, as in past seasons, Det. 8, 9th Weather Reconnaissance Group, Air Force, worked closely with the Weather Bureau, making reconnaissance flights over all known storms that were a potential threat to the mainland.

HURRICANE IVA, JUNE 9-10

The first tropical cyclone of the season, Iva, was found in a pre-existing large area of cyclonic circulation on June 9 about 200 mi. south of Acapulco. Identification of Iva was aided by a series of reports from the HAWAIIAN TOURIST. She reported increasing southwest winds during the 9th, which reached 50 kt. accompanied by seas to 14 ft. Iva moved at an average speed of about 8 kt., first toward the northwest, then curved to the north as it moved inland about 36 hr. later. During most of its duration Iva was placed using only peripheral reports. An accurate fix of the center of the storm was made as it approached the coast by the KLAUS SCHOKE, at 17.5°N., 102.6°W. This ship reported a 60-kt. west wind with seas to 24 ft. and also reported "recording a good radar picture. Center of Iva appears now 10 mi. off port beam." An hour later the GLENMOOR at 17.5° N., 102.5° W. reported a west wind of 95 kt., a pressure of 983.7 mb. and a sea estimated at 30 ft. Iva moved northward over the coastline of Mexico on the evening of the 10th.

TROPICAL STORM JOANNE, JULY 10-12

Tropical storm Joanne was located at 15.8°N., 112.4°W. on the 10th using reports received from the ALCOA PIONEER. While heading eastward she reported a north-northwest wind of 45 kt. which shifted to southwest 45 kt., 3 hr. later. For the next several hours the wind remained southwesterly 45 to 50 kt. with seas to 13 ft. A pressure of 994 mb. was recorded about the time of the wind shift. Joanne was next located on the 12th by an Air Force reconnaissance flight after the storm had moved westward at about 7 kt. An ill-defined elliptically-shaped eye was found, averaging 50 mi. in diameter with estimated maximum surface wind of 40 kt. No further contact was made with Joanne as the storm moved westward and continued to weaken.

TROPICAL STORM KATHLEEN, JULY 14-16

Kathleen was first located near 16.5°N., 106.5°W. early on the 14th using information furnished by the SUNBEAM. The ship reported a 60-kt. west wind with heavy rain, high seas, and heavy swell. As the storm moved slowly westward it was located on the 15th by an Air Force reconnaissance flight, which found a poorly defined eye 10 mi. in diameter with wall clouds to 12,000 ft. On the 16th the MEZADA reported a northwest 45-kt. wind as it moved ahead of the storm. Kathleen is assumed to have dissipated or become a part of the circulation of Liza, as Liza moved rapidly west-northwestward a short distance to the north.

TROPICAL STORM LIZA, JULY 14-19

Liza developed along the intertropical convergence zone extending east and southeast from Kathleen. On the 14th the ESPERANZA reported 45-kt. winds from the east-southeast with heavy rain squalls. Liza moved rapidly at 15 kt. or better toward the west-northwest. There were no reports within several degrees of the center until at 0000 GMT on the 17th when a single report of a south 40-kt. wind from Isla Socorro indicated that Liza had passed near the island. That was the last surface report received during the course of the storm. On the 17th and 18th Liza was located by Air Force reconnaissance flights. A maximum estimated surface wind of 45 kt. was reported on the 17th, and 15 kt. on the 18th. A flight on the 19th failed to locate any depression near the extrapolated position of the center. However, at 1835 GMT on the 19th pictures taken by TIROS III showed a storm vortex well to the north of the extrapolated position, centered at about 25° N., 121° W. This fix has been used to track Liza during its last day.

TROPICAL STORM MADELINE, JULY 19-20

Tropical storm Madeline became organized during the 19th near 14°N., 107°W. Early on the 20th the LA SIERRA reported a 45-kt. northeast wind. No additional surface reports were received. The storm was moved westward by extrapolation until at 1800 GMT on the 20th TIROS III pictures of a thick cloud area 180 mi. in diameter centered the storm at 14.1° N., 111.5° W. This fix was used in the next tropical storm advisory.

TROPICAL STORM NAOMI, AUGUST 3-5

Naomi was tracked westward at 7 kt. after discovery by the MANKATO VICTORY near 17° N., 115° W. on the 3d. After moving westward into an area of sparse reports it apparently weakened and could no longer be located.

TROPICAL STORM ORLA, SEPTEMBER 6-11

Tropical storm Orla was positioned early on the 6th by reports from the HAWAIIAN RETAILER and from a weather report from Isla Socorro. Orla started westward, then curved abruptly to the north during the day. The storm was next pinpointed by the CARD on the 10th when it reported a 52-kt. southeast wind. An Air Force reconnaissance flight on the 11th found that the storm had ceased to be a threat. There was no definite eye, no wall cloud, and no turbulence.

TROPICAL STORM PAULINE, OCTOBER 2-4

The first indication of Pauline was given by a report

from the SARONIS. No other reports near the center were received during the course of the storm. On the basis of a few peripheral reports Pauline was tracked northwestward and westward for about a day and advisories were then discontinued. A weak cyclonic circulation resulting from Pauline was followed westward past Honolulu.

TROPICAL STORM REBECCA, OCTOBER 3-4

Rebecca was found southeast of Pauline on the 3d by the NAESS FAVORITA. The ship reported a very rough sea, heavy swell, and heavy rain. The storm was tracked toward the west-northwest during most of the 4th, then was dropped as it apparently weakened.

TROPICAL STORM SIMONE, NOVEMBER 1-2

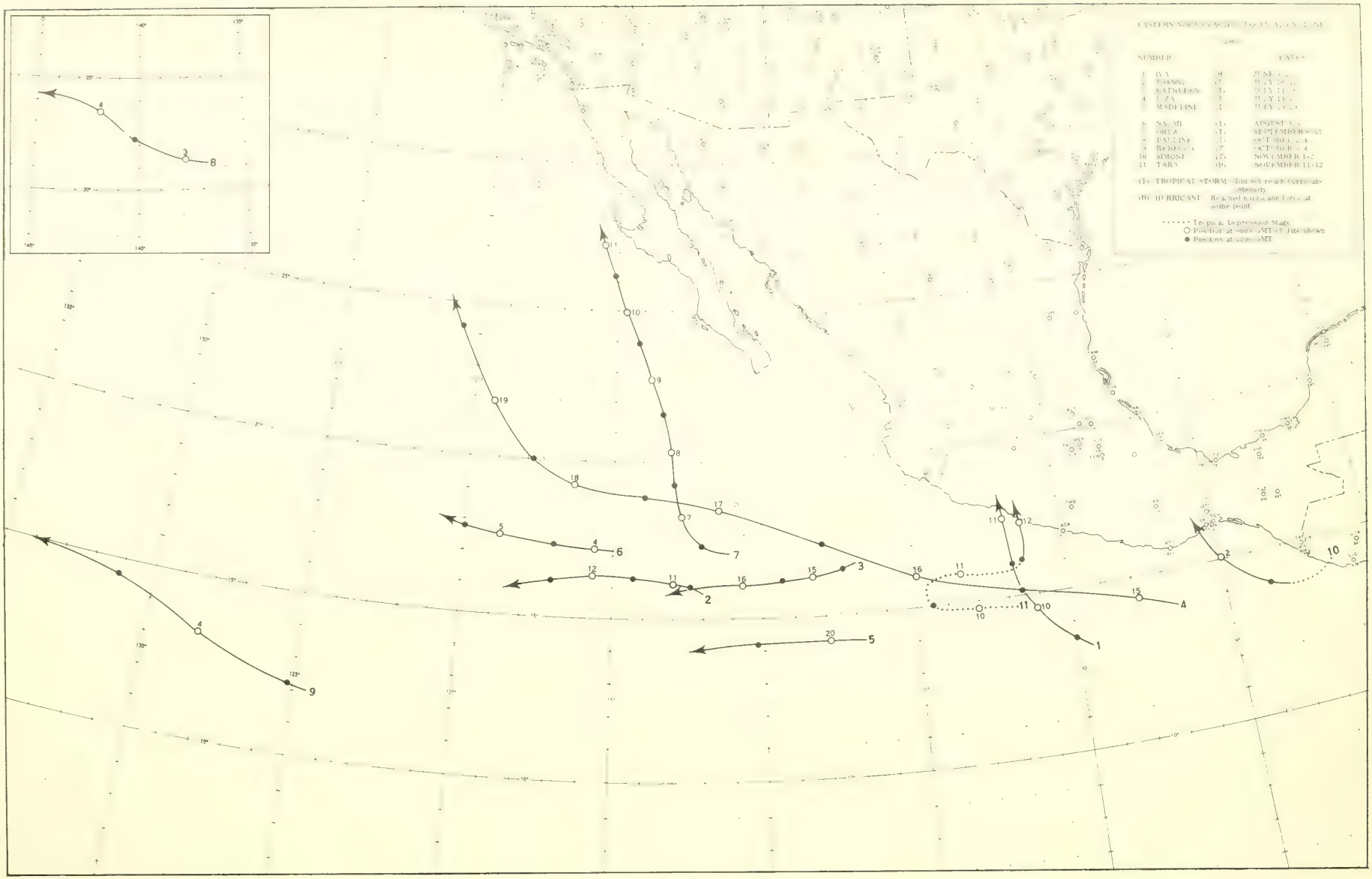
As hurricane Hattie moved from the Caribbean Sea over Belize and across Central America, ships off Guatemala and the lower west coast of Mexico reported increasing westerly winds reaching 40 kt. on the 1st, at which time advisories were begun on Simone. The storm circulation was probably of small extent, but low pressure extended over a wide area. Simone moved first toward the northwest, then northward across the Mexican Coast near Salina Cruz on the 2d.

HURRICANE TARA, NOVEMBER 11-12

A weak quasi-stationary cyclonic circulation was observed as early as the 9th off Acapulco, Mexico. There was no significant activity in connection with the circulation until the 11th, when the MPARMPA CHRISTOS reported winds to 60 kt. accompanied by a heavy sea, confused high swell, and heavy rain. In addition to becoming sufficiently intense to warrant advisories Tara began a slow northward movement which carried it inland during the early hours of the 12th (GMT) between Acapulco and Zihuantanejo to the northwest. According to press reports the storm lingered over the coastal area three days, causing extensive flood damage and landslides. Although no official weather reports are available, it is probable that winds were of hurricane intensity at times in the coastal area. The known death toll, according to the news accounts, was 436 with over 300 still missing a week after the storm.

EASTERN NORTH PACIFIC TROPICAL CYCLONES, 1961

Storm name	Date	Area where first reported	Coast lines crossed	Highest wind speed reported	Lowest pressure reported	Place of dissipation reported	Intensity
1 IVA	JUNE 9-11	13°N., 100°W.	Mexican coast southeast of Manzanillo	GLENMOOR, 95 kt., 110200Z	GLENMOOR, 983.7 mb., 110200Z	Mexico, east of Manzanillo	Hurricane
2 JOANNE	JULY 10-12	16°N., 112°W.	None	ALCOA PIONEER, 50 kt., 110300Z	ALCOA PIONEER, 994.9 mb., 110000Z	16°N., 118°W.	Tropical Storm
3 KATHLEEN	JULY 14-16	16.5°N., 106.5°W.	None	SUNBEAM, 60 kt., 140430Z	MEZADA, 1001.5 mb., 160600Z	16°N., 113°W.	Tropical Storm
4 LIZA	JULY 14-19	14°N., 97°W.	None	ESPERANZA, 45 kt., 142100Z	Isla Socorro, 1004.9 mb., 170000Z	25°N., 121°W.	Tropical Storm
5 MADELINE	JULY 19-20	14°N., 107°W.	None	LA SIERRA, 40 kt., 200445Z	LA SIERRA, 999 mb., 200445Z	14°N., 112°W.	Tropical Storm
6 NAOMI	AUGUST 3-5	17°N., 115°W.	None	MANKATO VICTORY, 35 kt., 031800Z	MANKATO VICTORY, 1002.7 mb., 032200Z	18°N., 120°W.	Tropical Storm
7 ORLA	SEPT. 6-11	17°N., 111°W.	None	CARD, 52 kt., 101200Z	BROMALM 999.0 mb., 110000Z	27°N., 11[illegible]°W.	Tropical Storm
8 PAULINE	OCTOBER 2-4	21.5°N., 135.5°W.	None	SARONIS, 50 kt., 022200Z	SARONIS, 1010 mb., 022200Z	24°N., 143°W.	Tropical Storm
9 REBECCA	OCTOBER 3-4	13°N., 126°W.	None	NAESS FAVORITA, 45 kt., 031800Z	NAESS FAVORITA, 1008 mb., 040000Z	15°N., 133°W.	Tropical Storm
10 SIMONE	NOV. 1-2		Mexican coast near Salina Cruz	FERNBANK, 47 kt., 012100Z	Iztepec, Mexico, 1008 mb., 020900Z	16°N., 95.5°W.	Tropical Storm
11 TARA	NOV. 11-12	16°N., 102°W.	Mexican coast northwest of Acapulco	MPARMPA CHRISTOS, 60 kt., 111800Z	MPARMPA CHRISTOS, 996 mb., 111800Z	Mexico, inland from Acapulco	Hurricane


NUMBER
DATES
(TD) TROPICAL STORM
(H) HURRICANE
Tropical Depression Stage
Position at 0000 GMT
Position at 1200 GMT

TYPHOONS OF THE WESTERN NORTH PACIFIC, 1961

Based on the Annual Typhoon Report, 1961, now being prepared by the Joint Typhoon Warning Center, Guam, Mariana Islands

During 1961, twenty typhoons (tropical cyclones with maximum sustained wind speeds of 64 kt. and greater) formed in the western North Pacific from 180° longitude to the Asiatic mainland, north of the equator.

The tracks of these typhoons are shown in figure 1 and are described in the text below. Figure 2 shows the tracks and lists the named tropical storms and the numbered tropical depressions which occurred in the western North Pacific in 1961. These are not described in the article. Eleven tropical storms and 11 tropical depressions were reported which together with the 20 typhoons give a total of 42 tropical cyclones.

In the following text, tropical storm intensity indicates wind speeds from 34 to 63 kt. and tropical depression intensity, wind speed less than 34 kt. All dates and times in the text are given for the Greenwich meridian and apply to the warning period. All distances are given in nautical miles.

TYPHOON TESS, MARCH 24-31

On the 21st and 22d the winds aloft and surface observations at Truk indicated that a weak tropical cyclone, which originated about 160 mi. southeast of Ponape on the 18th, had passed just south of Truk at about 1200 on the 21st and was intensifying. A reconnaissance aircraft investigated the cyclone on the 23d and reported that a weak circulation existed. On the 24th a reconnaissance aircraft indicated that the system was intensifying, for the maximum observed surface winds had increased to 45 kt. Based on this report, the first warning was issued at 0000 on the 24th on tropical storm Tess. At that time Tess was about 300 mi. south of Guam, moving towards Yap and intensifying.

Tess was upgraded to typhoon intensity at 0000 on the 25th and by 1200 was just south of Yap with maximum surface winds of 75 kt. Tess passed within 30 mi. of this island, and reports indicated a peak surface gust of 50 kt. After passing Yap, Tess began to recurve, and by 1200 on the 27th was moving just east of north at 4 kt. By this time Tess had maximum surface winds of 125 kt. and no further intensification was anticipated as Tess appeared to be in a trough that was moving through the westerlies; however, the trough passed quickly to the east and at 0600 on the 28th Tess began to intensify again and turn towards the north-northwest. Surface winds reached 135 kt. by 1800 and thereafter Tess began to weaken slowly. After 0600 on the 30th Tess began to recurve and rapidly weaken. By 0600 on the 31st Tess was moving east-northeastward at 23 kt. with maximum surface winds of less than 30 kt. Tess was one of the three typhoons to occur during March in the past 14 years.

TYPHOON ALICE, MAY 17-21

A very weak easterly wave appeared to have passed Guam at 1200 on the 8th. It was one of many to travel this route and had little apparent significance. By the time it was 110 mi. south of Manila at 0600 on the 15th a closed circulation existed, and although somewhat confused in form, it still aroused no suspicion. By 0000 on the 17th, however, the associated wind pattern was sufficient to warrant issue of a depression warning. Reconnaissance at 0345 on the 17th indicated winds of 35 kt. at the surface. Intensification to typhoon strength thereafter was rapid.

Alice moved northward toward Hong Kong, and intensified to a circulation with 75-kt. surface winds by 0600 on the 18th. The typhoon passed within 10 or 15 mi. to the west of the Royal Observatory at Hong Kong at 0500 on the 19th.

Alice departed the Asiatic mainland at 0800 on the 20th and was 105 mi. south of Kagoshima, Japan, at 0600 on the 21st. The final warning was issued at 1200 when Alice was moving eastward at 28 kt. It was in its final stages as a tropical circulation, rapidly becoming extratropical. While in the South China Sea, Alice followed a smooth track of recurvature around the western side of the Pacific HIGH, then it moved into the westerlies while over the Asiatic mainland.

TYPHOON BETTY, MAY 22-28

The origin of typhoon Betty, unlike many other tropical cyclones, cannot be traced eastward in terms of station passage to its inception as a closed circulation. Available data indicates that Betty became a closed vortex before 1200 on the 20th south of Koror. Reconnaissance into the circulation provided data to issue a tropical storm warning at 0600 on the 22d, indicating 60-kt. surface winds near the center. The first typhoon warning was issued at 1200.

After the first warning Betty moved northwestward toward Taiwan at an average speed of 10 kt. while intensifying. Peak intensity of 130 kt. was reached at 1200 on the 25th. The typhoon passed less than 10 mi. west-southwest of Batan Island, about 120 mi. north of Luzon, just after 2200. At this time the surface wind speeds of the circulation were 125 kt. The highest observed winds at Batan were 100 kt. at 1900. The anemometer was carried away shortly thereafter. The minimum pressure was 957.5 mb. at 2100, just before the center of the eye passed Batan. Aircraft reconnaissance at 2320 indicated the minimum pressure to be 950 mb. in the center of Betty, which was less than 20 mi. from Batan at that time. The typhoon struck the middle of the east coast of Taiwan at 1600 on the 26th with wind speeds of 90 kt. It moved across the island in a north-northwestward direction at an average speed of 18 kt. The land mass effectively destroyed the eye of the typhoon as such, and reduced the maximum surface winds around Betty to 60 kt. Betty moved north-northeastward for the first time just after 0000 on the 27th. The storm skirted the Asiatic mainland until it reached 32°N., then veered sharply northeastward and moved into Korea just north of Cheju Do at 0800 on the 28th. The last warning was issued at 1200 as it was rapidly becoming extratropical. Shortly thereafter it became imbedded at the surface in a rapidly intensifying extratropical cyclone and lost its identity.

TYPHOON CORA, JUNE 22-25

Cora developed from the westernmost of a series of 1006-mb. LOWS that formed a trough from about 300 mi.

east of Saigon to the Island of Majuro on the 0600 surface chart of the 19th. At this time the surface pressures along this trough began to decrease and by 0600 on the 22d the first warning on tropical depression Cora was issued. The central pressure of Cora was approximately 995 mb. and the surface winds were 25 kt. at that time.

Cora reached typhoon intensity on the 23d. It was a weak typhoon with an eye varying from 40 to 80 mi. in diameter, and had poorly defined wall clouds. The final warning was issued when Cora was 45 mi. from the point at which it moved inland, 75 mi. south of Vinh along the coast of Vietnam.

TYPHOON ELSIE, JULY 12-15

Elsie became a closed circulation about 360 mi. northeast of Truk on the 1200 surface chart of the 3d with a central pressure not lower than 1009 mb., a rather high minimum pressure value in the Tropics. This weak cyclone meandered 2,300 mi. at an average speed of 10 kt. in the easterlies before a warning was issued.

The first warning was issued after reconnaissance had determined the position of the circulation, and the fact it had wall clouds. The surface wind speeds of the typhoon intensified to a maximum of 80 kt. and it continued to move toward the southern tip of Taiwan, striking land there at 2000 on the 13th with sustained surface winds of 70 kt.

Elsie gradually weakened after passing Taiwan, moved across the southern approach to Taiwan Strait and entered the Asiatic mainland 125 mi. east-northeast of Hong Kong. The 35-kt. surface winds that existed at time of land strike rapidly weakened to 15 kt. The last warning was issued at 0600 on the 15th when the cyclone was 90 mi. inland, and 105 mi. northeast of Hong Kong.

TYPHOON HELEN, JULY 27-AUGUST 3

A small LOW was noted at 8°N., 150°E. on the 0600 surface chart of the 21st. This circulation moved westward and passed 150 mi. south of Guam just after 1800 on the 22d, and then passed into the large trough that extended from the Asiatic mainland into the Pacific Ocean toward Guam. The trough then intensified and a closed circulation formed by 1200 on the 25th. This circulation deepened and finally became typhoon Helen. The first warning, based on weather reconnaissance, was issued at 0600 on the 27th classifying Helen as a tropical storm; Helen became a typhoon at 0000 on the 28th and continued moving north-northwestward to near 28°N., 130°E. where it looped and the surface wind speeds decreased from 80 to 45 kt. The loop occurred around Amami-O-Shima, and with reconnaissance and the land station sufficient data was available to record the direction and speed of movement. The cyclonic loop was 20 x 40 mi., oriented west-northwest, and required about 24 hr. to complete. Upon completion of the loop, Helen continued along a north-northwestward track passing 35 mi. west of Kyushu. The tropical storm passed into Korea at 1600 on the 2d about 60 mi. west-southwest of Pusan, moved up the peninsula and turned northeastward and departed the coast 45 mi. southeast of Wonsan at about the time of the last warning, 1800 on the 3d. Helen did not regain its intensity after looping, but continued to slowly weaken and became a tropical depression at 0000 on the 3d.

TYPHOON IDA, JULY 28-31

Typhoon Ida originated to the east of Helen in the trough that extended from the Asiatic mainland. The LOW first appeared on the surface chart near 21°N., 144°E. about 850 mi. east of Helen at 0600 on the 26th. The circulation slowly drifted toward Iwo Jima and gave little indication of significant intensity. The few winds available had a strength varying from 5 to 20 kt. At about 0500 on the 28th Fuchu Air Force Weather Central advised the Joint Typhoon Warning Center of a ship report and aircraft report that indicated surface winds in excess of 40 kt. The first warning was issued on Ida as a tropical storm based on these data. The life of the "twins" (Helen-Ida) commenced with this warning; Ida became a typhoon at 0000 on the 29th, about 125 mi. southeast of Iwo Jima and passed within 20 mi. of that island, to the northeast. The minimum pressure was recorded at Iwo Jima, 985.5 mb. at 1030. Surface winds reached 35 kt., with gusts to 57 kt., at 1112. These winds occurred after the center passed and were from the west-northwest. The surface winds were of least intensity around the typhoon in the left semicircle and strongest in the right front quadrant, indicated by surface and reconnaissance reports. Therefore, Iwo Jima had comparatively light winds with the typhoon passage.

Ida continued to intensify until 0000 on the 30th and then began to dissipate, probably due to its proximity to Helen. The typhoon moved on a track generally northwestward until after 1800, then turned westward then west-southwestward to the north of Helen. At 1800 on the 31st, the time of the last warning, Ida was imbedded in the circulation of Helen and appeared to be no longer a separate closed circulation.

TYPHOON JUNE, AUGUST 1-8

June appeared as a closed circulation near 10°N., 141°E. on the 1200 surface streamline chart of the 30th.

Reconnaissance aircraft reported 50 kt. surface winds at 0430 on the 1st and the first storm warning on June was issued at 0600. June moved northwestward at speeds of 6 to 9 kt. and intensified to typhoon strength at 0000 on the 2d. By 1800 it had surface winds of 75 kt. At 1200 on the 4th the surface wind speeds decreased to minimum typhoon strength, remained there for 12 hr., then the typhoon began a slow intensification of surface winds speeds to 100 kt. by 0600 on the 6th.

A weak secondary LOW appeared in the Taiwan Straits just west of the northern tip of Taiwan on the 0600 surface chart. This circulation was never concentric nor did it appear to have pressures below 1000 mb. or surface winds in excess of 30 kt. while a secondary LOW. The typhoon began weakening at 1200 while 40 mi. from land and about 65 mi. from point of passage over the Taiwan coast. The rugged terrain of the island effectively destroyed the wind circulation leaving only a weak skeleton of June by the time it passed over the coast at 0300 on the 7th with surface wind speeds of 50 kt. that quickly lessened to 25 kt. June moved into the secondary LOW on the western side of Taiwan between 1200 and 1800. The cyclone developed 35-kt. surface winds while over the Straits of Taiwan, passed over the coast of the Asiatic mainland at 0000 on the 8th, and had winds of only 10-15 kt. with a surface pressure of

slightly less than 1000 mb. when the last warning was issued at 1200.

TYPHOON KATHY, AUGUST 15-18

The first known observation of Kathy was made by a weather officer from Anderson Air Force Base who was flying as navigator on a C-54 enroute to Japan from Guam. The report which arrived at 0320 on the 15th indicated the existence of a tropical depression centered near 18.5°N., 139.5°E. The significance of the report was realized when Iwo Jima reported strong winds and a pressure of 998.6 mb. at 0600. This report was very late in arriving, allowing Kathy to pass Iwo Jima before the Joint Typhoon Warning Center became aware of the conditions there. Kathy was actually traveling around Tropical Depression #20.

The first warning was issued on Kathy at 1000. The circulation continued to intensify until winds of typhoon strength were reached after 1800. As it approached Kyushu, the land effect disrupted the associated wind field after 0600 on the 17th. The surface wind speeds then decreased in intensity from 80 to 60 kt. and were only 25 kt. near the center as Kathy passed over the Kyushu coastline shortly after 1800. The last warning was issued at 0600 on the 18th while Kathy was over the island of Kyushu.

Kathy remained very small in size throughout its life. The last closed isobar probably did not exceed 450 mi. in diameter at any time nor did the radius of 30-kt. winds extend beyond 150 mi. The small size created analysis difficulties, even as it approached land.

TYPHOON LORNA, AUGUST 20-26

The 0000 surface chart of the 20th depicted three sizable cyclones, one in the South China Sea, another just east of the Philippines near 15°N., 131°E. that became Lorna, and a third cyclone situated quite close to Guam. Weather reconnaissance aircraft that investigated the center did not indicate a well organized system on the 19th; however, the fix made on the 20th reported 30-kt. surface winds near the center with an organzied cloud and pressure system, thus the first warning was issued on Lorna as a tropical depression with 30-kt. surface winds. The cyclone intensified at the rate of 10 kt. per 6 hr.; became a typhoon at 0600 on the 21st; changed direction from northwest to west, then southwest; and looped within 48 hr. of the first warning. The loop was about 25 mi. in diameter, occurring between 2100 on the 21st and 1200 on the 22d at an average speed of 4 kt. The surface winds around the typhoon increased in speed from 75 to 90 kt. during the loop and continued to intensify to a maximum of 120 kt. as it moved northwestward toward Taiwan. Lorna passed 45 mi. northeast of Batan Island at 1030 on the 24th and caused the pressure to fall at that island to a minimum of 981.9 mb., creating winds of 40 kt., with gusts to 65 kt.

Lorna began weakening after 1200 and by the time it passed over the coastline of Taiwan at 2200 the surface winds were reduced to 90 kt. The terrain effect further reduced the surface winds to 40 kt. while over land. After the typhoon passed into the Straits of Taiwan at 0300 on the 25th, the surface winds increased to 50 kt. The typhoon moved inland over the Asiatic mainland at 2100 with surface winds of only 35 kt. The circulation quickly dissipated, producing surface winds of only 20 kt. by the time of the final warning at 1200 on the 26th.

TYPHOON NANCY, SEPTEMBER 7-17

At 0000 on the 7th a LOW appeared on the surface map west of Kwajalein Atoll, marking the beginning of what was to become the most prolonged typhoon of the season. The first tropical depression warning was issued at 1200 and the system was upgraded to a tropical storm at 0000 on the 8th when it became obvious that intensification was taking place. By the time a reconnaissance fix could be made, Nancy had surface winds of 125 kt., revealing that she was an "explosive deepener" and had probably reached typhoon intensity at 1800 on the 7th.

From the time of the first warning Nancy followed a smooth westerly track curving slightly northward. It continued to intensify, passing 85 mi. south-southwest of Guam at 1800 on the 10th with maximum surface winds of 180 kt. After reaching the peak intensity of 185 kt., Nancy started weakening and began a more pronounced recurvature, passing 40 mi. east of Okinawa at 1500 on the 14th and over Naze at 0000 on the 15th. At this time most forecasting rules indicated that Nancy would swing wide around Japan and recurve into the Sea of Japan. However, by 1200 a marked change had taken place in the upper air pattern around the typhoon. Nancy's diameter diminished significantly at the 500 mb. level and the subtropical HIGH which had been quasi-stationary near 30°N., 145°E. shifted 10 degrees to the east. Nancy then accelerated and recurved more sharply, but upon encountering the Japanese land mass it deflected back toward the north, passing directly over Muroto Zaki at approximately 0100 on the 16th. The Typhoon entered Honshu near Osaka at 0430 and by this time had weakened to 75 kt. It made a rapid transit across Honshu, emerged into the Sea of Japan near Nanao and continued north-northeastward to Hokkaido.

The final warning was issued at 0600 on the 17th when Nancy had crossed into the Sea of Okhotsk and had obviously lost its tropical characteristics. The maximum surface winds were 55 kt. at that time.

TYPHOON OLGA, SEPTEMBER 8-10

The formation of the LOW which ultimately became Olga occurred along the intertropical convergence zone east of the Philippine Islands. From its origin it drifted slowly westward with no noticeable intensification until it crossed into the South China Sea. On the 7th ship reports indicated that the pressure was beginning to drop and the peripheral winds were increasing. Thus at 0000 on the 8th the Joint Typhoon Warning Center issued the first warning on Tropical Depression #27.

The area of cyclonic circulation continued to increase and became better defined. At 0600 the system was upgraded to a tropical storm and assigned the name of Olga. The storm continued to intensify and was upgraded to a typhoon at 0000 on the 9th. Reaching the maximum strength of 70 kt. shortly after 0600, it started to weaken slightly because of its proximity to land. It entered the Asiatic mainland approximately 30 mi. northeast of Hong Kong at 1800. At the time of passage over the coastline Olga was still of typhoon strength, but weakened rapidly, and the

final warning was issued at 0600 on the 10th.

TYPHOON PAMELA, SEPTEMBER 8-12

A weak circulation that was later to become typhoon Pamela first appeared on the 4th approximately 400 mi. northeast of Guam. It moved slowly westward until the 8th when it turned northwestward and began to intensify. A tropical depression warning was issued at 1200 and a reconnaissance aircraft was dispatched to investigate. Based on the reconnaissance report, the depression was upgraded to a tropical storm in the 0600 warning of the 9th.

Starting a gradual turn back toward the west, Pamela continued to intensify. The first typhoon warning was issued at 0000 on the 10th; however, post analysis indicates that Pamela had actually reached typhoon intensity by 1200 on the 9th. Moving westward, Pamela passed 140 mi. south of Okinawa and continued straight toward central Taiwan. It reached maximum intensity of 160 kt. at approximately 0900 on the 11th while passing 65 mi. south of Miyako Jima, then weakened slightly and started a slight deflection to the north. As Pamela approached Taiwan a trough developed south of the storm and at about 1600 a LOW appeared in the trough east of the island's southern tip. This LOW remained quasi-stationary and persisted until approximately 1200 when the storm entered Taiwan near the city of Karenko. The transit across the island's 12,000-ft. mountains weakened Pamela to slightly less than 100 kt. intensity as it crossed into the Taiwan Straits. It entered the Asiatic mainland near T'ung-a and continued straight inland, weakening rapidly. The final warning was issued at 1800 on the 12th.

TYPHOON SALLY, SEPTEMBER 21-29

The 1800 surface chart of the 19th was the first to show the existence of an area of low pressure situated to the east of Eniwetok Atoll. As this LOW moved westward, its falling pressures and increasing radius of cyclonic winds gave indications of intensification. The first tropical depression warning was issued at 2200 on the 21st; however, subsequent reconnaissance investigations showed light winds and no organized center, and a final warning was issued at 1200 on the 22d.

Aerial surveillance continued, but no apparent change was noted. A photograph of this system showing a well-defined vortex was taken at 0047 on the 24th by TIROS III during its 1056 orbit. The reconnaissance fix of 0455 on the 25th confirmed this and reported 25-kt. winds and a 993-mb. surface pressure. The issuance of tropical depression warnings was resumed at 0600. At this time the center was moving west-northwestward at 11 kt. and intensifying slowly. The first tropical storm warning was issued at 0600 on the 26th, although post analysis showed that Sally actually became a tropical storm at 1800 on the 25th. It started a gradual turn westward and continued intensifying, reaching typhoon strength at 0600 on the 27th. Sally reached maximum intensity (70 kt.) at 1200 and at this time was headed westward toward southern Taiwan. It crossed the island at approximately 0600 on the 28th and after weakening slightly, again reached 70-kt. intensity upon entering the Taiwan Straits. Sally continued moving westward crossing into the Chinese mainland 15 mi. north of Hong Kong. The storm weakened to about 40 kt. at this time and continued to weaken as it turned west-southwestward. Sally remained approximately 30 mi. inland and moved parallel to the coastline until 1800 on the 29th when the final warning was issued.

TYPHOON TILDA, SEPT. 27 - OCT. 5

At 0600 on the 26th a ship 300 mi. east of Guam reported northwest surface winds and a 1003.5 mb. pressure, providing the first indication of the circulation that was to become typhoon Tilda. The center rapidly became better defined and moved west-northwestward. The first tropical depression warning was issued at 0600 on the 27th and the system was upgraded to a tropical storm at 1800. Post analysis showed that Tilda was already a tropical storm at 0600 and reached typhoon intensity at 1200.

Tilda started a sharp turn northward at 0000 on the 29th and headed directly toward central Japan and an area of high pressure which extended from the surface up through 100 mb. It was maneuvers such as this that caused the Pacific Stars and Stripes to headline Tilda as "fickle" and state that "she zig-zagged her way through the Pacific". As the HIGH over Japan started to weaken and a break developed in the ridge line, Tilda started a turn westward. The maximum attained intensity at this time reached 140 kt. between 0000 and 1200 on the 30th. A fast-moving trough in the westerlies passed north of Tilda at approximately 1200, but apparently had no effect on the track as the storm continued turning westward. Tilda completed the turn at about 0600 on the 1st and, moving slightly north of west, passed within 15 mi. of the southern tip of Okinawa at approximately 1400 on the 2d. Kadena was directly under the wall cloud at the time of typhoon passage and received the brunt of the effect. The winds were 70-kt., sustained, with peak gusts of 108 kt. The pressure reached a minimum of 947.0 mb. Naha, just inside the wall cloud, had sustained winds of 75 kt., peak gusts of 103 kt., and a minimum pressure of 942.7 mb. Tilda had weakened slightly, but still had 120-kt. surface winds at this time. After passing the island, Tilda started a gradual turn northward and continued to slowly decrease in intensity. The storm entered the Asiatic mainland approximately 100 mi. south of Shanghai and started to weaken rapidly. Tilda then recurved sharply and emerged from the mainland just north of Shanghai after having weakened to 25 kt. The final warning was issued at 0600 on the 5th.

TYPHOON VIOLET, OCTOBER 4-10

While typhoon Tilda was moving toward Okinawa, a small circulation began to appear southwest of Marcus Island. By 1800 on the 2d it was well enough defined to merit a request for an investigation. Based on a reported surface wind of 45 kt., the first tropical storm warning for Violet was issued at 0000 on the 4th.

At this time a ridge with a north-south orientation was located west of Violet about midway between this storm and typhoon Tilda. At first Violet was unable to transverse this ridge which extended from the surface through 500 mb. Instead it moved southwestward and intensified, reaching typhoon strength at approximately 1200. Violet decele-

rated slightly and started an abrupt turn northwestward as the subtropical ridge shifted to the east. Violet continued to intensify, reaching maximum strength of 180 kt. from 0000 to 1200 on the 7th. The storm then started to weaken slightly and continued north-northwestward, recurving through the ridge line at about 28°N. It followed a smooth parabolic track and crossed the Boso Peninsula 30 mi. east of Tokyo at about 2200 on the 9th, moving at a speed of 27 kt. at this time with maximum sustained surface winds of 70 kt. After her brush with land Violet rapidly started to assume extratropical characteristics. The final warning was issued at 1800 on the 10th when the storm weakened to 40 kt.

TYPHOON BILLIE, OCTOBER 23-28

For several days prior to the 23d an extensive area of low pressure had been present south of Guam. At times it contained as many as three well-defined vortices, but finally one center became predominant and the entire system started to intensify. When the first tropical depression warning was issued at 0000 on the 23d, the radius of cyclonic winds about the center exceeded 1,000 mi.

At 1200 the system was upgraded to a tropical storm and the name Billie was assigned. Intensification continued until 1200 on the 24th when the maximum wind speed of 70 kt. was reached. Billie's track up to this time showed that it had turned to the north from a heading of west, describing an arc about Guam with a radius of about 200 mi. For the next 3 days Billie moved northward while maintaining the same intensity. The radius of cyclonic winds had decreased to approximately 750 mi. and then remained nearly constant throughout the rest of its tropical life. The extensive area encompassed by Billie's circulation was matched by the size of the eye which was also of king size proportions. No other typhoon of 1961 was able to equal its eye diameter which at one time measured 120 x 180 mi. In this respect and many others, Billie was very similar to typhoon Carmen in August of 1960.

Billie passed 50 mi. east of Chichi Jima at approximately 0900 on the 27th, and shortly afterwards weakened to tropical storm intensity. It encountered the polar front near 32°N. at approximately 0000 on the 28th and merged with an associated low pressure system. The final tropical storm warning was issued at 0600 when the system was definitely extratropical although still having 50-kt. surface winds.

TYPHOON CLARA, OCT. 26-NOV. 1

The origin of typhoon Clara can be traced back to a closed circulation which originally formed along the intertropical convergence zone near Eniwetok Atoll and was driven northward by the vast circulation of typhoon Billie. The first warning was issued at 1200 on the 26th when surface reports indicated that the system had intensified to tropical storm strength and was approximately 100 mi. south of Wake Island moving east-northeastward at 10 kt. This movement was probably caused by the combined forces of an anticyclone lying to the southwest of Clara and an extratropical cyclone situated to the northeast.

The east-northeast movement of Clara continued for another 18 hr. during which time it intensified to typhoon strength. Between 0600 and 1200 on the 27th Clara executed a clockwise turn of 180°, and started back toward the west. The storm recrossed its track at 0000 on the 28th and passed 50 mi. south of Wake Island at 0600 while on a heading of 270°. It weakened to slightly less than typhoon strength at 1800 and started following a low amplitude sinusoidal track west-northwestward. Clara continued to gradually weaken and dropped below tropical storm intensity while passing south of Marcus Island at 1800 on the 30th. The storm continued westward for another 12 hr. then started a sweeping turn northward. It rapidly became extratropical after encountering a polar front and the final warning was issued at 0600 on the 1st.

TYPHOON DOT, NOVEMBER 9-15

On the 8th a series of pilot reports along the Guam-Wake Island track disclosed the existence of an area of severe weather. A subsequent reconnaissance investigation substantiated this and found its source to be a fully-developed typhoon. The name Dot was assigned and the first warning was issued at 0000 on the 9th. It is doubtful that Dot would have been detected even at this advanced stage, had formation not taken place near a route used by trans-Pacific aircraft. Even at the time the first warning was issued there was little evidence on any synoptic chart that would support a system of this intensity.

Dot's track for the first 2 days of warning life was a nearly straight line toward the west. At 0000 on the 11th Dot reached maximum intensity of 140 kt. and started a gradual turn northward. The storm weakened slightly, and at 0000 on the 12th showed a sudden increase in curvature, completing a turn of 90 degrees in the next 12 hr. This was apparently caused by a trough passing north of the typhoon and the subsequent southerly movement of the western portion of the ridge line. After this sharp recurvature, Dot continued in a near-straight line, this time toward the east-northeast. The storm followed this track for 3 days while slowly accelerating. Dot weakened to tropical storm intensity at 1800 on the 14th and continued weakening slowly until 1800 on the 15th when the final warning was issued.

TYPHOON ELLEN, DECEMBER 5-13

Typhoon Ellen's origin was the same as that of several late season cyclones which did not develop to storm intensity. It can be traced back to the vicinity of Truk Island, where there was sufficient data to support the existence of a closed circulation. As it moved westward into the "no data" area south of Guam, its presence could only be substantiated by persistency. Many similar cyclones have failed to reappear in the Yap-Koror area, but this was not the case with Ellen; it arrived in the western Carolines "on schedule" with a well-defined circulation of slight intensity. The first tropical depression warning was issued at 0600 on the 5th when the system showed signs of possible development.

Tropical depression warnings were continued for 2 days while the system became progressively better defined. Finally at 0600 on the 7th the first tropical storm warning on Ellen was issued, based on a reconnaissance fix which reported 45-kt. surface winds. Ellen then intensified rap-

idly reaching typhoon strength at 1200 and attaining maximum intensity of 130 kt. at 1200 on the 8th. It had been moving in a near-straight line toward the west-northwest until this time, passing near Catanduanes Island shortly after 0000 on the 9th and then turning north-northeastward. After this turn Ellen's track became irregular, showing several minor heading changes while maintaining a constant 6-kt. speed of movement. This is considered typical of a typhoon which recurves through the subtropical ridge line into an area of weak zonal flow. After reintensifying to 125 kt. Ellen started to weaken, dropping below typhoon intensity at 1200 on the 12th and dissipating entirely shortly after 1800 on the 13th.

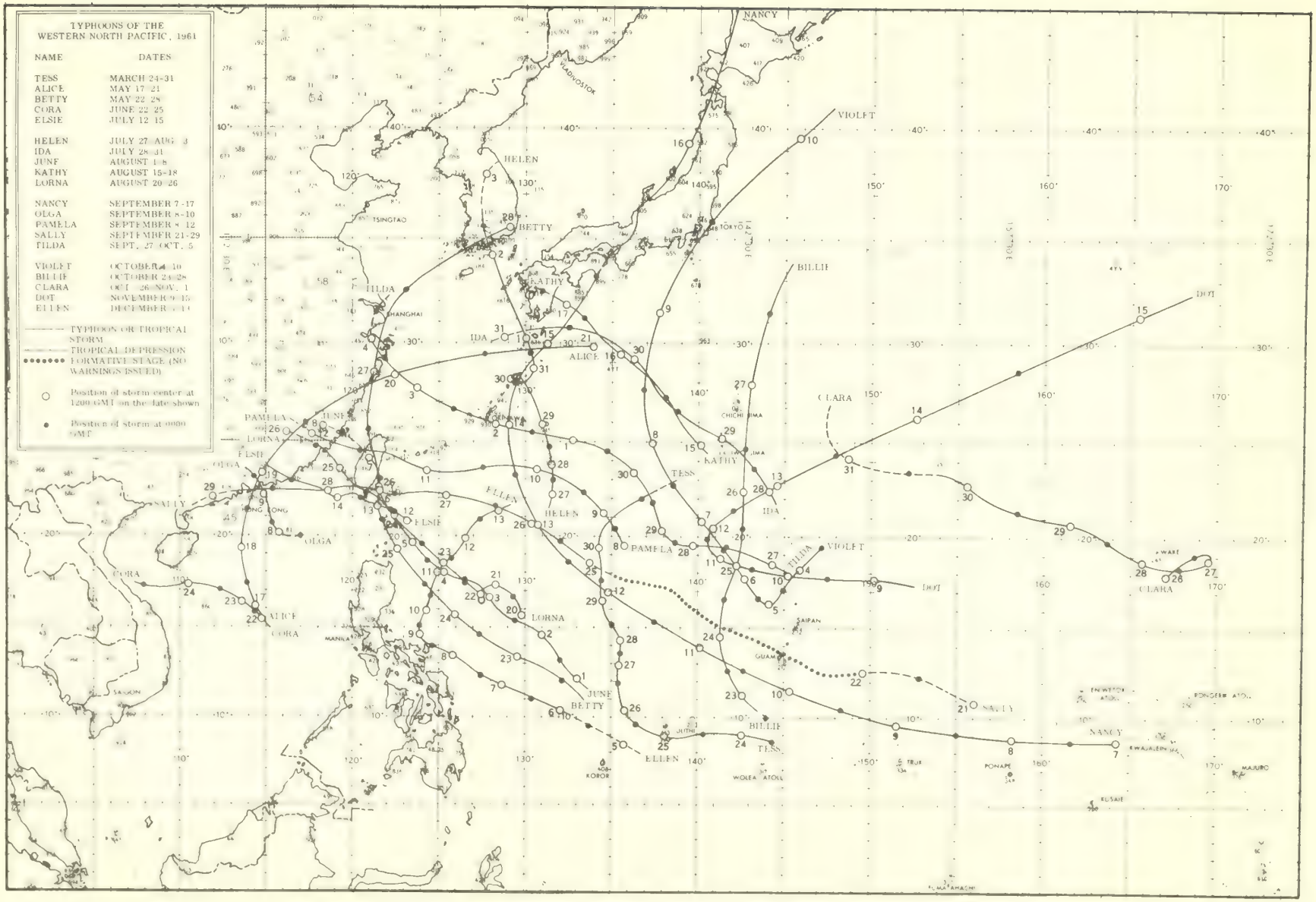


Fig. 1 Typhoons of the Western North Pacific, 1961.

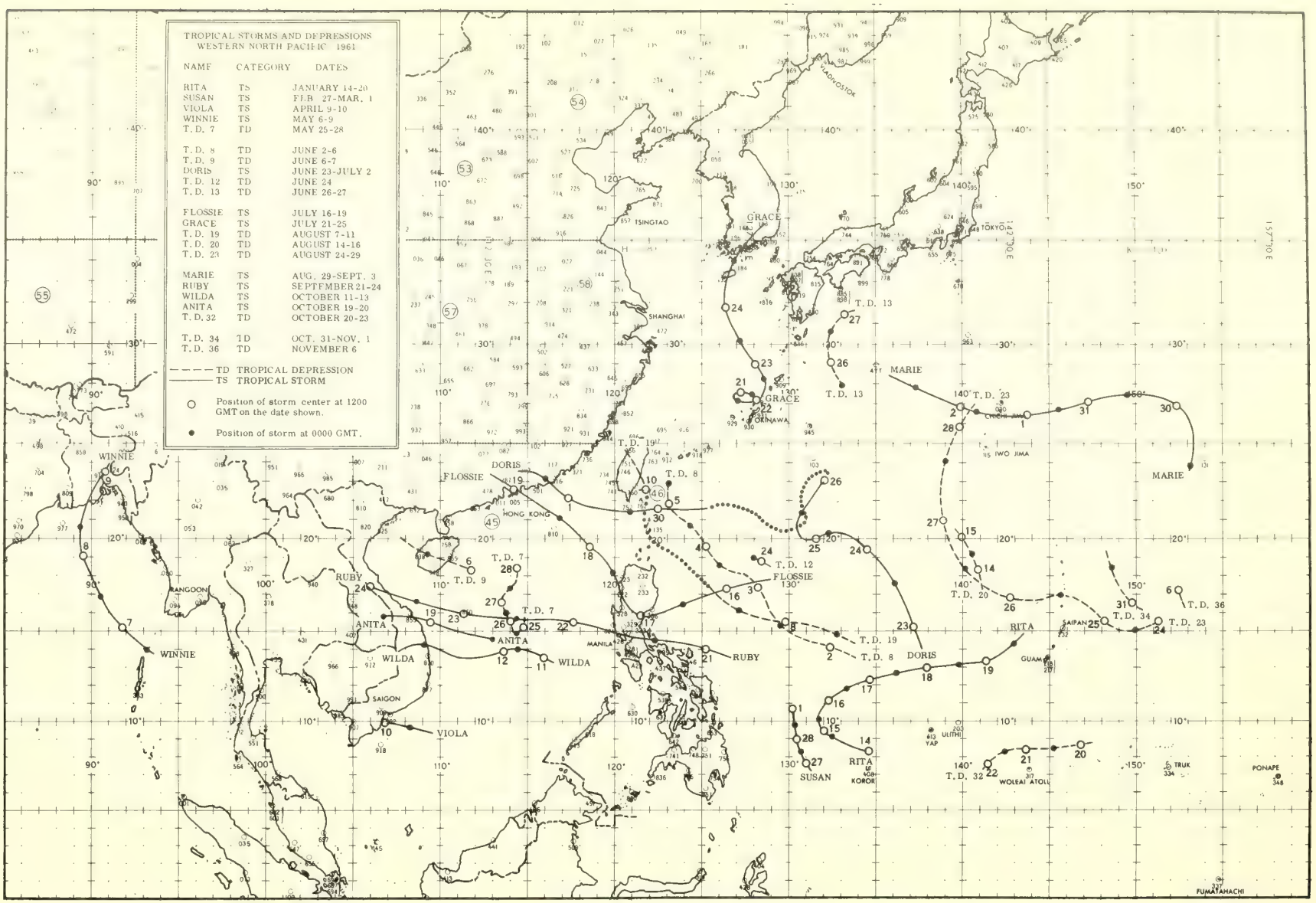


Fig. 2 Tropical Storms and Depressions Western North Pacific, 1961.

GENERAL SUMMARY OF FLOOD LOSSES FOR 1960

Monetary losses from floods in the United States during 1960, estimated at $92,976,200, was, as in 1959, the lowest flood loss since 1956. However, in comparison with the flood loss of $141,254,500 in 1959 it was about one-third less. The national average flood loss based on the 10-year period 1949-1958 (adjusted to the 1958 price index) is $350,000,000. In comparison with the national average, the loss in 1960 was about 26 percent.

The total loss of life in 1960 was 32, compared to 25 in 1959. This was the second lowest loss of life reported from floods since 1946.

The savings resulting from the flood forecasting and warning service was, as compiled from fragmentary information, approximately $12,000,000. This figure represents only about 15 percent of the river systems where flooding was reported during the year.

The most important floods during 1960 were the severe snowmelt floods in the Midwest in the Upper Mississippi and Lower Missouri Basins during the latter part of March and early April. Record to near record crests were reported along several tributary streams in Iowa, Nebraska, Illinois, and Missouri, and along the main stem of the Mississippi in the reach from Keithsburg, Ill., to Winfield, Mo. The damages from these floods were estimated near $35 million, which was about 37 percent of the total flood loss reported in continental United States during 1960.

ESTIMATED FLOOD LOSSES FOR 1960 (PROPERTY LOSSES IN THOUSANDS OF DOLLARS)

River and drainage	Urban Property: Residential: Fixed	Urban Property: Residential: Movable	Urban Property: Commercial: Fixed	Urban Property: Commercial: Movable	Urban Property: Public	Rural Property: Crops: Growing	Rural Property: Crops: Stored	Rural Property: Livestock	Rural Property: Other: Fixed	Rural Property: Other: Movable	Other Property: RR's, bridges, Highways, etc.	Other Property: Public Utilities	Miscellaneous	Unclassified	Total Loss	Lives Lost	Savings to [illegible]
ST. LAWRENCE DRAINAGE																	
Lakes Superior and Michigan																	
Bad River	24.0	7.8				1.0			3.0		54.0		1.6		91.4		50.0
Montreal River	11.5	6.0			2.5						4.5	3.0	2.0		29.5		1.5
Streams in Upper Michigan Peninsula	33.5	13.0			0.5				258.0	145.0	1,037.4	16.9	87.0		1,591.3	2	
Fond Du Lac River	10.0														10.0		
Grand River	111.0	28.0	2.0	6.0	1.0				2.0		3.0	1.5	10.0		164.5		200.0
Total	190.0	54.8	2.0	6.0	4.0	1.0			263.0	145.0	1,098.9	21.4	100.6		1,886.7	2	
Lakes Erie and Ontario																	
Streams of Northern Erie County (N.Y.)											45.0				45.0		
Canaseraga Creek (New York)						10.0									10.0		
Total						10.0					45.0				55.0		
ATLANTIC SLOPE DRAINAGE																	
Merrimack River														6,500.0	6,500.0		
Connecticut River														750.0	750.0		
Mohawk River and Tributaries	A 98.0		B 205.0		1,319.0	F 100.0						25.0		431.0	D 2,178.0	1	
Hudson River	A 9.0		23.0	50.0	30.0	F 24.0								27.0	D 163.0		
Small Streams Near Philadelphia														48.5	48.5	1	
West Branch Susquehanna River	7.9		4.0		2.0	1.0			1.0		24.3	0.5	3.0		43.7		18.4
Chemung and Susquehanna Rivers	163.7	6.2	11.4	119.0	7.5	133.0		1.0	13.5		85.7		38.7	4,800.5	5,380.2		413.4
Chickahominy and Tributaries near Richmond, Virginia														200.0	200.0		
James River						10.6	0.5								11.1		
Small Streams in Randolph County North Carolina														100.0	100.0		
Lynches River						0.5									0.5		
Pee Dee River				5.0				2.0			4.5				11.5		
Catawba River						0.5									0.5		
Santee River						6.1					3.5		50.0		59.6		515.0
Total	278.6	6.2	243.4	174.0	1,358.5	275.7	0.5	3.0	14.5		118.0	25.5	91.7	12,857.0	15,446.6	2	
EAST GULF OF MEXICO DRAINAGE																	
Hillsborough River	A 626.0					F 400.0					50.0			6,835.0	D 7,911.0		
Withlacoochee River	A 205.0					F 1,530.0					40.0	25.0		2,152.0	D 3,952.0		
Suwannee River						15.0	1.5	0.5	2.0	1.0	5.0				25.0		
Flint River and Tributaries	55.0	15.0	10.0	12.0	15.0	95.0	10.0	30.0	35.0	12.0	12.0	1.0	6.0		308.0		
Chattahoochee River	5.0	2.0	1.5	1.8	2.5	60.0	15.0	35.0	26.0	7.0	7.0		1.0		163.8		
Apalachicola River	0.5	0.5	1.5	1.0	5.0	10.0	2.5	5.0	1.5	0.5	1.5	0.5	41.0		71.0		
Pea River	A 3.0					F 30.0					5.0				38.0		
Choctawhatchee River	A 9.0					F 95.0					12.0				116.0		
Conecuh River	A 1.5					F 58.0					8.0				67.5		
Alabama River						F 73.0					8.0				81.0		
Black Warrior River						F 182.8					5.9				188.7		
Tombigbee River						F 277.3					59.3				336.6		
Pearl River	A 10.0				101.0	F 361.0					G 50.0				522.0		
Total	915.0	17.5	13.0	14.8	123.5	3,187.1	29.0	70.5	64.5	20.5	263.7	26.5	48.0	8,987.0	13,780.6	0	
MISSISSIPPI SYSTEM																	
Upper Mississippi Basin																	
Le Sueur and Blue Earth Rivers					200.0	5.0	1.0		1.0						207.0		
Minnesota River					0.2							1.0	3.0		4.2		459.0
Zumbro River					0.2								0.1		0.3		
Wisconsin River	62.0	3.0	0.4	1.4					2.0		3.3		4.2		76.3		10.5
Turkey River					5.0						60.0				65.0		
Maquoketa River											26.0				26.0		50.0
Wapsipinicon River	5.0	0.5			38.5	0.7	1.5		2.0	0.3	375.0		1.5		425.0		
Rock River	61.0	25.0		10.0	75.0	52.5			40.0	0.8	120.5		9.9		394.7		500.0
Cedar River	50.0		20.0		5.0				140.0		75.0		35.0		325.0		
Iowa River	10.0		10.0		25.0				600.0		288.0		30.0		963.0		
Skunk River									180.0		100.0		25.0		305.0		
Raccoon River	5.0								100.0		75.0		5.0		185.0		
Des Moines River	50.0		25.0		25.0				350.0		200.0		50.0		700.0		
Fabius, Fox, North, Salt, and South Rivers	16.0	0.5	3.0	2.0	1.0	102.6			19.0	3.0	80.0				227.1		
Fox River (Illinois)	100.0	10.0	55.0	10.0	265.0						0.5	2.0	14.5		457.0		
Spoon River						10.0	5.0		13.2	1.0	20.0				49.2		
Sangamon River						320.0			30.0	15.0	13.0		3.0		381.0		
La Moine River					0.5	6.0				1.0					7.5		
Illinois River	48.5	23.1	26.0	11.5	97.2	88.0	11.0		45.5	16.0	187.0	27.0	34.1		614.9		

See reference notes at end of table.

ESTIMATED FLOOD LOSSES FOR 1960 (PROPERTY LOSSES IN THOUSANDS OF DOLLARS)

River and drainage	Urban Property					Rural Property					Other Property		Miscellaneous	Unclassified	Total Loss	Lives Lost	Savings as a result of warnings
	Residential		Commercial		Public	Crops		Livestock	Other		RR's, bridges, Highways, etc.	Public Utilities					
	Fixed	Movable	Fixed	Movable		Growing	Stored		Fixed	Movable							
MISSISSIPPI SYSTEM (Continued)																	
Upper Mississippi Basin (Continued)																	
Kaskaskia River						380.0					5.0				385.0		
Mississippi River	925.9	12.2	258 0	2.9	116.9	1,047.7	47.5	2.4	959.0	103.0	1,269.0	90.0	2,267.9		7,102.4	2	150.0
Total	1,333.4	74.3	397.4	37.8	854.5	2,012.5	66.0	2.4	2,481.7	140.1	2,897.3	120.0	2,483.2		12,900.6	2	
Missouri Basin																	
Minor Tributaries in Montana and North Dakota						3.0			8.0						11.0		
Yellowstone River	1.0	4.0	5.0	5.0	4.5	5.0	3.0	1.5	10.0	4.0	2.5		5.5		51.0		
Heart River		25.0	55.0									50.0			130.0		
Minor Tributaries in South Dakota and Nebraska	28.0	50.0	20.0	20.0	135.0	34.0			50.0		300.0	10.0	50.0		697.0		
James River	40.0	12.0	45.0	15.0	150.0	75.0	250.0		90.0		280.0	9.0	70.0		1,036.0		150.0
Vermillion River	15.0		5.0		30.0	150.0	60.0		50.0		350.0		45.0		705.0	1	
Big Sioux River	450.0	75.0	125 0	35.0	260.0	110.0	275.0	13.0	285.0	40.0	950.0	15.0	118.0		2,751.0	1	350.0
Floyd River	30.0	25.0	25.0	210.0	16.0		38.0		42.0	4.0	30.0	7.0	67.0		494.0		50.0
Little Sioux River	38.0					23.0			310 0		83 0				454 0		
Loup River	87 0					7.0		1.5	151 5		80.0				327.0	1	
Elkhorn River and Tributaries	256 8	80 0	50.0	30.5	276.2	400.3	111.5	11.7	156.0	17.5	412.4	118 9	138 1		2,059 9	1	405.0
Salt Creek						6.0			62 0		14.0				82.0	1	
Platte River	484 0					54.0		32.0	1,218.0		731 0				2,519.0	1	
Papillion Creek and Tributaries	350 0		222 0			F 117.0									689 0		
Nishnabotna River						12.0			61.0		182.0				255.0		
Nemaha River	0 7					51 0					54.4				106.1		
Nodaway River	1 7					45.3					14.4		26 0		87 4		
Platte River (Missouri)	9 3					279 3					85.9		20.5		395.0		
Beaver Creek	3.5	11 0	1 5	3.0	2.0	1,007	0.5	0.4	7.0	1.0	6 0	0.5			1,043.4	2	
Republican River					14.2	76 9	7.0		3.8	0.5	34.3		0.3		137 0		
Saline River	2.0	0.2	0 4	0 3	2.0	41.0			1 0	1.5	1.0	0.5	5.0		54.9		
Solomon River	12 5	5 0	9.0		112.3	72.5	2 0	2.5	10.5	5 5	80.0				311.8		
Little Blue River	2 5	2.4			42.7	17.0	0.5	0.1	8 5		92.9		6 2		172 8		
Big Blue River	44 3	3.8	81.1	4.0	72.5	39.5	5.0	24 5	18.7	1.0	147 7	16.5	11 7		470 3		
Smoky Hill River					1.0	6.4			0.5				2.0		9.9		
Kansas River and Minor Tributaries	3.0	0.1	2 0	0.5	0.5	15.0	1.0	0.5	4.0	0 5	5.0	0.5	2.0		34.6		
Grand River and Tributaries	A 2 0					F 2,761 5					G 81.4				D 2,844 9		
Chariton River						585.0					42.5		57.0		684.5		
Lamine River						42.0					1.1				43 1		
Blackwater River						25.0					2.8				27 8		
South Grand River				1 0		3.0			1.2	0.1	1.0				6 3		
Marais Des Cygnes River						5.0									5 0		
Osage River	2 0					35.5					9.7				47.2		
Missouri River	15 0					7,386.0		5.0	1,312.0		342.0		302 0		9 362.0		
Total	1 878.3	293.5	646 0	324.3	1,118.9	13,490.2	753.5	92.7	3,860.7	75 6	4,417.0	227.9	926.3		28,104 9	8	
Ohio Basin																	
Monongahela River														24 7	24.7		7,405 7
Allegheny River														2 170 7	2 170 7		
Beggs and Sewell Creeks (Greenbrier County West Virginia)					41 0								1 0		42.0		
Wabash and White Rivers						1,500.0	1.5		1 0	0.5	3.0	3 5	23 0	2 999 0	4 531 5	1	1 050.0
Ohio River	0 9		0 4	0.3	5.7	8.5	0.5		4.1	0 5	25 5	0 4	0.3	703 2	750 3		50 0
Total	0 9		0 4	0 3	46.7	1,508.5	2.0		5 1	1 0	28 5	3 9	24 3	5 897 6	7 519 2	1	
White Basin																	
Black River						20.0									20 0		
Little Red River						49.5									49 5		
White River						382.1			10.0	25 0					417 1		
Total						451.6			10 0	25 0					486 6	0	
Arkansas Basin																	
White Water and Walnut Rivers					2.1										2 1		
Chisholm Creek	14 8	1 0	3 0			4 2			4 4				2 0		D 29 4		
Little Arkansas River					20 0	78.0			60 0						D 158.0		
Gypsum and Dry Creeks near Wichita Kansas	A 350 0														D 350 0		
Illinois River						15.0		12 0	3.0		3.0				33 0		
Poteau River and Tributaries														218 0	D 218.0		
Arkansas River and Minor Tributaries						117.4	7.6	1 6	5.0	25.0	2,005.9	25.0	15.1		2 202 6	1	
Total	364 8	1 0	3 0		22 1	214.6	7.6	13.6	72.4	25.0	2,008 9	25 0	17 1	218 0	2 993 1	1	

See reference notes at end of table

ESTIMATED FLOOD LOSSES FOR 1960 (PROPERTY LOSSES IN THOUSANDS OF DOLLARS)

River and drainage	Urban Property					Rural Property					Other Property		Miscellaneous	Unclassified	Total Loss	Lives Lost	Savings as a result of warnings
	Residential		Commercial		Public	Crops		Livestock	Other		RR's, bridges, Highways, etc.	Public Utilities					
	Fixed	Movable	Fixed	Movable		Growing	Stored		Fixed	Movable							
Red River Basin																	
Kiamichi and Little Rivers in Pushmataha County, Oklahoma	...	...	...	...	...	100.0	...	50.0	25.0	10.0	10.0	5.0	10.0	...	210.0	...	...
Ouachita River	...	...	...	...	...	6.0	...	...	...	1.0	...	...	...	...	7.0	...	...
Minor Tributaries of the Red River in Texas and Louisiana	...	...	...	...	5.0	...	...	0.7	3.0	...	...	...	...	...	8.7		
Total	...	...	...	...	5.0	106.0	...	50.7	28.0	11.0	10.0	5.0	10.0	...	225.7	0	...
Lower Mississippi River Basin																	
Yazoo River	1.2	...	...	...	...	7.8	...	...	...	...	...	...	...	...	9.0	...	...
Big Black River	20.0	...	...	...	...	157.0	...	...	...	...	...	...	...	...	177.0	...	...
Mississippi River	...	...	...	...	...	160.0	...	...	...	120.0	...	20.0	10.0	...	310.0	...	...
Total	21.2	...	...	...	...	324.8	...	...	...	120.0	...	20.0	10.0	...	496.0	0	...
WEST GULF OF MEXICO DRAINAGE																	
Upper Trinity River and Tributaries	...	...	...	2.0	2.0	50.0	...	9.5	1.0	...	1.0	...	22.0	...	87.5	...	...
Cypress Creek	30.0	...	...	...	...	120.0	...	...	...	...	...	...	...	...	150.0	6	...
Brazos River	198.0	7.0	300.0	15.0	40.0	170.0	...	...	...	...	...	...	168.0	...	898.0	...	...
Colorado River of Texas (At Austin)	...	...	...	...	...	...	...	...	...	...	...	...	...	2,500.0	2,500.0	2	...
Lavaca and Navidad Ribers and Tributaries	10.0	11.0	12.5	5.0	15.0	185.0	5.0	5.0	36.5	15.0	21.0	33.5	4.5	...	359.0	...	...
Guadalupe River and Tributaries	27.0	16.5	11.4	...	39.0	149.7	...	1.0	12.5	1.0	5.0	...	11.0	...	274.1	2	...
San Antonio River	360.0	104.7	101.6	220.0	107.1	65.0	3.0	...	150.0	53.0	108.0	12.0	45.0	...	1,329.4	2	...
West Nueces and Upper Nueces Rivers	...	...	...	...	...	...	...	...	...	...	1.0	...	...	...	1.0	2	...
Medio Creek	A 200.0	...	...	...	...	1.0	...	1.0	10.0	5.0	50.0	5.0	25.0	...	297.0	...	...
Miscellaneous Streams in Texas Counties of Aransas, Kleberg, Nueces, Refugio and San Patricio	91.0	71.0	10.5	22.0	307.0	334.0	5.0	1.0	20.0	11.2	500.0	7.0	20.5	...	1,400.2	...	...
Nueces and Frio Rivers	...	...	...	...	...	20.0	...	...	20.0	...	75.0	...	...	...	115.0	...	...
Los Olmos Creek	330.0	78.8	8.3	75.0	42.5	200.0	...	10.0	12.5	5.0	5.0	6.5	20.0	...	793.6	...	...
Total	1,246.0	289.0	444.3	339.0	552.6	1,294.7	13.0	27.5	262.5	90.2	766.0	64.0	316.0	2,500.0	8,204.8	14	...
PACIFIC SLOPE DRAINAGE																	
Coastal Streams																	
Dominquez Creek (Los Angeles, California)	16.0	...	...	...	...	...	...	...	...	...	...	...	...	...	16.0	1	...
Santa Rosa Creek (San Francisco, California)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	23.1
Eel River (Eureka, California)	25.0	...	...	...	400.0	25.0	50.0	...	...	...	...	...	...	...	500.0	1	30.0
Total	41.0	...	...	...	400.0	25.0	50.0	...	...	...	...	...	...	...	516.0	2	...
Columbia Basin																	
Tributaries of the Willamette River	48.0	6.0	8.0	0.8	55.8	153.0	0.5	0.3	1.3	0.7	75.0	...	11.0	...	360.4	...	...
Total	48.0	6.0	8.0	0.8	55.8	153.0	0.5	0.3	1.3	0.7	75.0	...	11.0	...	360.4	0	...
Grand Total	6,317.2	742.3	1,757.5	897.0	4,541.6	23,054.7	922.1	260.7	7,063.7	654.1	11,728.3	539.2	4,038.2	30,459.6	92,976.2	32	12,381.6

A. Includes all residential
B. Includes all commercial
C. Includes public utilities, public property, streets and highways
D. By U.S. Engineers
E. Includes all urban
F. Includes all rural
G. Includes public utilities

GENERAL SUMMARY OF RIVER AND FLOOD CONDITIONS

YEAR 1961

The most damaging floods during 1961 were the record to near record floods in the Upper Mississippi Basin in March and the hurricane Carla floods in September. Preliminary estimates indicate that flood damages in the Cedar Basin in Iowa during March were in excess of $50 million. The hurricane Carla floods in September were especially severe in north-central and eastern Kansas and in western and northern Missouri.

The most important flooding during January occurred in eastern Texas. It was the wettest January on record at Waco and Abilene, Tex., and the wettest January since 1919 at San Angelo, Tex. Some moderate flooding was reported in the Puget Sound Drainage, northwestern Washington.

Moderate to severe floods occurred in Georgia, Alabama, and Mississippi during February. Record to near record stages were reported in many streams. Property damage was high and at least four lives were lost. Widespread flooding occurred in the Willamette River Basin in Oregon. The crests along the Willamette were generally the highest since 1953. Major flooding occurred in the Snohomish and Stillaguamish Basins in western Washington.

Record to near record stages occurred in the Upper Mississippi Basin on the Shell Rock and Cedar Rivers in Iowa in March. Preliminary estimates of damage in the Cedar Basin are in excess of $50 million. Severe flooding occurred on the Kickapoo River in Wisconsin. Parts of two counties in western Wisconsin were declared flood disaster areas.

Severe flooding occurred on Canaseraga Creek in New York during April. This flood was described by some as the worst flood they have ever witnessed. In western New York State the worst flash-flooding in over 30 years was reported at Salamanca, N. Y. Considerable flooding occurred in streams in the Wabash Basin in Indiana. At Centerton, Ind., the White River equalled the previous highest stage of record.

The most extensive flooding since the record year of 1951 occurred on the lower portions of the Solomon, Saline, and Smoky Hill Rivers in Kansas, as well as in the Marais des Cygnes Basin and in the upper Kansas River during May. Record stages were reached in the Marais des Cygnes Basin on Big Sugar Creek and on the Little Osage River in Kansas in the Missouri Basin, and on the Big Muddy River in Illinois in the Upper Mississippi Basin. Near record stages were reached on other streams. Widespread flooding occurred in the Ohio Basin, which was particularly destructive in the smaller tributaries. Crests along the Salt River in Kentucky were the highest in at least 20 years. Pigeon Creek in the Evansville, Ind., area was the highest since 1937. The worst floods in 24 years occurred at a number of points in the Wabash Basin in Indiana. At one or two points flood crests were within a few tenths of a foot of the alltime highest stages of record. Record flash-flooding occurred in the Howard-Longton, Kans., area in the Arkansas Basin and produced widespread major flooding along the lower Verdigris with the second highest stages of record. severe flooding occurred on tributary streams of the Ouachita in the Red Basin with record flooding on the Caddo River in Arkansas. Record high flooding occurred on the Kootenai River in Idaho during the latter part of May.

Heavy flooding occurred in June for the second consecutive month on the Solomon River in Kansas. Flooding was a little heavier on the North Fork than in May. Serious flooding occurred on the Kootenai River at Bonners Ferry, Idaho, during the last 2 weeks of May and the first 2 weeks of June. Previous floods have caused more damage but none have lasted as long. The flood crest on the Tanana River near Tanacross, Alaska, was the highest since records began in 1953.

Severe flash-floods occurred in the Ohio Basin during July. Twenty-two persons lost their lives in the flash-flood at Charleston, W. Va. This was one of the worst disasters to strike this city in its 167-year history. A record-breaking flash-flood occurred on Paint Creek in Johnson County, Kentucky, in Paintsville area early on Sunday morning, July 30, causing property damage in excess of $1 million. Hundreds of families were left homeless. Other flash-floods occurred in Elkhorn City, Ky., and Haysi, Va. Flooding along main streams was relatively minor.

The most important flooding during August were the flash-floods in the Missouri and Ohio Basin and in the Great Basin. Two lives were lost in the flash-flood on the Little Sioux River in Iowa which resulted from an 11-inch rain. Heavy damage resulted to truck farming from the flood along the tributaries of the French Broad River in North Carolina. Flash-floods were frequent throughout the Great Basin. Three deaths resulted from a flash-flood in the Tucson, Ariz., area.

Severe floods occurred in north-central and eastern Kansas and in western and northern Missouri during September from heavy rains associated with hurricane Carla. The flooding in the Marais des Cygnes Basin was the most severe and widespread since the record flood of July 1951. Some tributaries experienced the greatest flood of record. Flash-floods in southern Utah caused six deaths. Some streams were the third highest in about 60 years of record.

Record flooding occurred on Stranger Creek in the Kansas River Basin in Kansas during October. There was some heavy flooding in adjacent areas of the lower Delaware River Basin and moderate flooding along the Marais des Cygnes. Flooding in the upper James Basin in Virginia was comparable to the floods of 1942, 1954, and 1955; and in the lower James it exceeded all flooding since the fall of 1944. Flooding reported elsewhere was mostly light to moderate.

Moderate flooding occurred on the Marais des Cygnes in Kansas on two occasions during November. The lower portion of the main channel was at flood stage from 9 to 12 days. Flood damages in the Missouri Basin were minor since higher levels were recorded in September and October. Athough flooding lasted mostly from a few hours to a couple of days in the Arkansas Basin, the Neosho-Grand River at Commerce, Okla. was in flood for 9 days. The highest stage of the year was reported on the Salt Fork at Tonkawa, Okla. Flooding reported elsewhere was mostly minor.

Severe flooding occurred in the Tombigbee, Pearl, and Pascagoula Basins in Mississippi, Alabama, and Louisiand during December 1961. Record to near record stages were reported. Two to three thousand persons were evacuated from flooded areas along the Pearl River in the Jackson, Miss., area. Considerable damage resulted from flooding of small streams in Autauga, Clark, Chilton, Dallas, Elmore, and Wilcox Counties in Alabama. Some heavy flooding was reported in the Lower Mississippi Basin on the Big Black River in Mississippi. Flooding reported elsewhere was mostly light, except for scattered flash-flooding which in some cases was quite severe.

SOLAR RADIATION DATA

Average daily values (direct and diffuse) received on a horizontal surface, tabulated in langleys.

YEAR 1961

Station	January	February	March	April	May	June	July	August	September	October	November	December	Annual
Albuquerque, N. Mex.	315	416	485	671	734	769	740	---	550	488	306	279	---
Ames, Iowa	205	253	290	375	493	604	553	517	322	317	170	147	354
Annette, Alaska	61	103	195	339	468	466	608	422	319	121	60	30	266
Apalachicola, Fla.	267	329	437	607	644	635	634	454	489	462	338	273	464
Astoria	106	104	246	338	472	586	508	424	388	227	135	68	300
Atlanta, Ga.	267	240	335	493	491	481	554	439	446	399	243	---	---
Barrow, Alaska	#4	51	190	441	482	523	373	238	119	41	†11	---	---
Bethel, Alaska	30	157	286	437	473	401	314	274	168	133	51	29	229
Bismarck, N. Dak.	166	262	320	466	558	636	563	534	337	280	166	137	369
Blue Hill Obs., Mass.	234	234	295	336	436	493	464	433	359	222	160	124	316
Boise, Idaho	178	206	311	507	623	685	703	529	436	442	43	138	400
Boston, Mass.	185	211	331	356	465	507	481	467	359	216	157	124	322
Brownsville, Texas	213	323	399	465	538	545	551	475	415	414	233	241	401
Canton Island, Pacific	615	657	586	602	540	509	537	605	631	671	634	637	602
Cape Hatteras, N. C.	298	317	479	593	630	585	669	548	485	400	302	237	462
Caribou, Me.	170	226	395	405	457	524	521	466	304	194	104	101	322
Charleston, S. C.	258	265	411	543	536	509	560	441	453	401	273	242	408
Cleveland, Ohio	117	161	223	304	587	530	467	430	362	227	---	---	---
Columbia, Mo.	235	238	269	402	502	591	570	559	403	348	191	269	381
Corvallis, Oreg.	109	134	263	399	484	613	644	504	407	237	124	83	333
Davis, Calif.	139	298	408	574	671	735	731	600	519	386	244	156	455
Dodge City, Kans.	297	324	404	534	554	636	652	519	458	404	238	231	438
El Paso, Texas	307	450	570	697	729	735	712	630	565	482	307	307	541
Ely, Nev.	264	311	427	575	647	702	667	512	532	376	269	233	460
Fairbanks, Alaska	17	73	205	312	485	504	433	307	166	73	33	6	218
Flaming Gorge, Utah	266	288	405	519	530	623	566	498	420	348	257	214	411
Ft. Worth, Texas	277	338	404	548	549	551	601	537	463	381	226	239	426
Fresno, Calif.	134	276	401	525	570	605	623	515	454	335	229	112	398
Gainesville, Fla.	275	393	505	660	613	671	597	529	496	442	333	294	484
Glasgow, Mont.	158	217	345	400	504	667	618	532	358	253	161	128	362
Grand Junction, Colo.	285	334	401	513	516	---	655	607	402	431	293	257	---
Great Falls, Mont.	121	196	319	389	494	656	599	500	341	252	156	104	344
Greensboro, N. C.	254	241	353	466	551	546	512	383	467	405	244	192	385
Griffin, Ga.	---	290	393	578	575	566	628	509	522	483	301	218	---
Hilo, Hawaii	---	---	448	431	448	574	534	490	452	339	302	263	---
Indianapolis, Ind.	209	222	269	362	516	559	497	462	404	291	164	120	340
Inyokern China Lake, Calif.	356	453	643	773	858	886	837	728	654	463	355	317	610
Ithaca, N. Y.	183	214	234	290	413	525	447	402	389	273	---	---	---
Lake Charles, La.	224	290	380	502	544	490	465	477	448	396	249	212	390
Lander, Wyo.	253	309	433	514	561	631	591	518	407	331	246	209	417
East Lansing, Mich	164	218	267	318	549	577	537	440	372	254	147	101	329
Laramie, Wyo (U. of Wyoming)	249	307	427	465	530	580	555	497	365	304	220	189	391
Las Vegas, Nev.	306	390	514	659	719	761	664	618	586	423	327	269	520
Lemont, Ill.	185	188	260	337	473	585	474	437	325	221	123	99	309
Lexington, Ky.	249	249	325	432	558	663	579	578	507	415	195	176	411
Little Rock, Ark.	280	274	369	523	561	585	564	487	455	365	241	176	407
Los Angeles, Calif. (U)	287	381	441	565	582	618	647	604	472	367	278	233	456
Los Angeles, Calif.	277	386	479	581	613	590	612	574	479	370	280	224	455
Madison, Wis.	202	250	288	393	581	685	615	537	359	268	162	133	373
Manhattan, Kans.	237	226	279	444	435	560	555	476	338	311	176	157	350
Matanuska, Alaska	32	88	244	331	500	507	399	316	186	114	41	19	231
Mauna Loa Obs., Hawaii	509	460	585	584	605	749	712	609	---	382	437	453	---
Medford, Oreg.	140	183	284	505	554	674	711	568	465	277	175	87	385
Miami, Fla.	322	414	510	581	540	523	577	522	514	436	356	338	469
Midland, Texas	254	354	472	591	620	579	596	572	498	425	249	259	456
Nashville, Tenn.	219	212	282	458	511	496	519	448	424	322	185	123	350
Newport, R. I.	202	248	336	380	438	528	496	418	381	248	174	139	332
New York, N. Y.	163	191	273	341	360	472	---	---	---	---	---	---	---
North Omaha, Neb.	225	257	320	465	504	631	---	531	344	279	171	149	---
Oak Ridge, Tenn.	219	217	268	399	474	468	449	431	421	313	188	137	332
Oklahoma City, Okla.	294	299	392	531	580	564	606	546	451	396	226	203	424
Page, Ariz.	304	383	464	620	699	707	652	558	502	400	301	245	486
Phoenix, Ariz.	282	421	514	682	717	698	648	567	529	429	305	259	504
Portland, Me.	196	252	371	386	505	554	---	478	382	236	142	---	---
Pullman, Wash.	117	148	304	444	550	745	706	558	446	250	148	93	376
Prosser, Wash.	---	---	---	---	---	754	719	565	489	282	176	114	---
Rapid City, S. Dak.	210	296	372	511	475	655	559	543	371	302	211	158	389
Riverside, Calif.	310	417	478	606	590	668	630	574	496	363	272	231	470
St. Cloud, Minn.	181	226	340	398	524	591	532	519	316	269	154	120	348
Salt Lake City, Utah	228	258	413	558	636	784	659	580	460	334	212	180	442
San Antonio, Texas	255	346	434	502	522	533	549	547	457	373	248	220	416
Santa Maria, Calif.	295	394	528	640	663	713	696	602	509	406	295	257	500
Ste. St. Marie, Mich.	161	228	342	438	534	530	548	518	314	208	104	86	334
Sayville, N. Y.	171	247	350	406	409	500	450	398	344	220	163	144	317
Seattle, Wash. (U. of W.)	88	102	230	296	451	577	574	469	376	197	112	63	295
Seattle-Tacoma, Wash.	97	103	248	329	486	616	603	515	374	211	126	67	315
Shreveport, La.	231	254	354	504	528	471	471	476	412	356	193	165	368
Spokane, Wash.	109	124	282	422	491	691	653	533	428	243	139	82	350
State College, Pa.	193	225	309	368	448	567	537	469	400	304	149	133	342
Stillwater, Okla.	231	268	363	476	505	555	574	510	398	363	192	170	384
Swan Island, W. I.	371	427	491	559	531	---	468	509	401	296	370	270	---
Tampa, Fla.	321	388	507	589	586	564	532	501	474	446	363	315	466
Tucson, Ariz. (U. of Tucson)	301	458	551	722	771	760	688	611	580	476	347	248	543
Wake Island, Pacific Area	---	516	519	594	652	620	---	---	---	---	---	---	---
Washington, D. C.	225	222	324	432	507	554	550	474	421	307	197	162	365

Note: Langley is the unit to denote one gram calorie per square centimeter.
(U) Indicates Urban sites.
Sun below horizon from Jan. 1 through 24.
† Sun below horizon from Nov. 18-30.

Chart I. Departure from Normal of Annual Temperature (°F) at Surface, 1961.

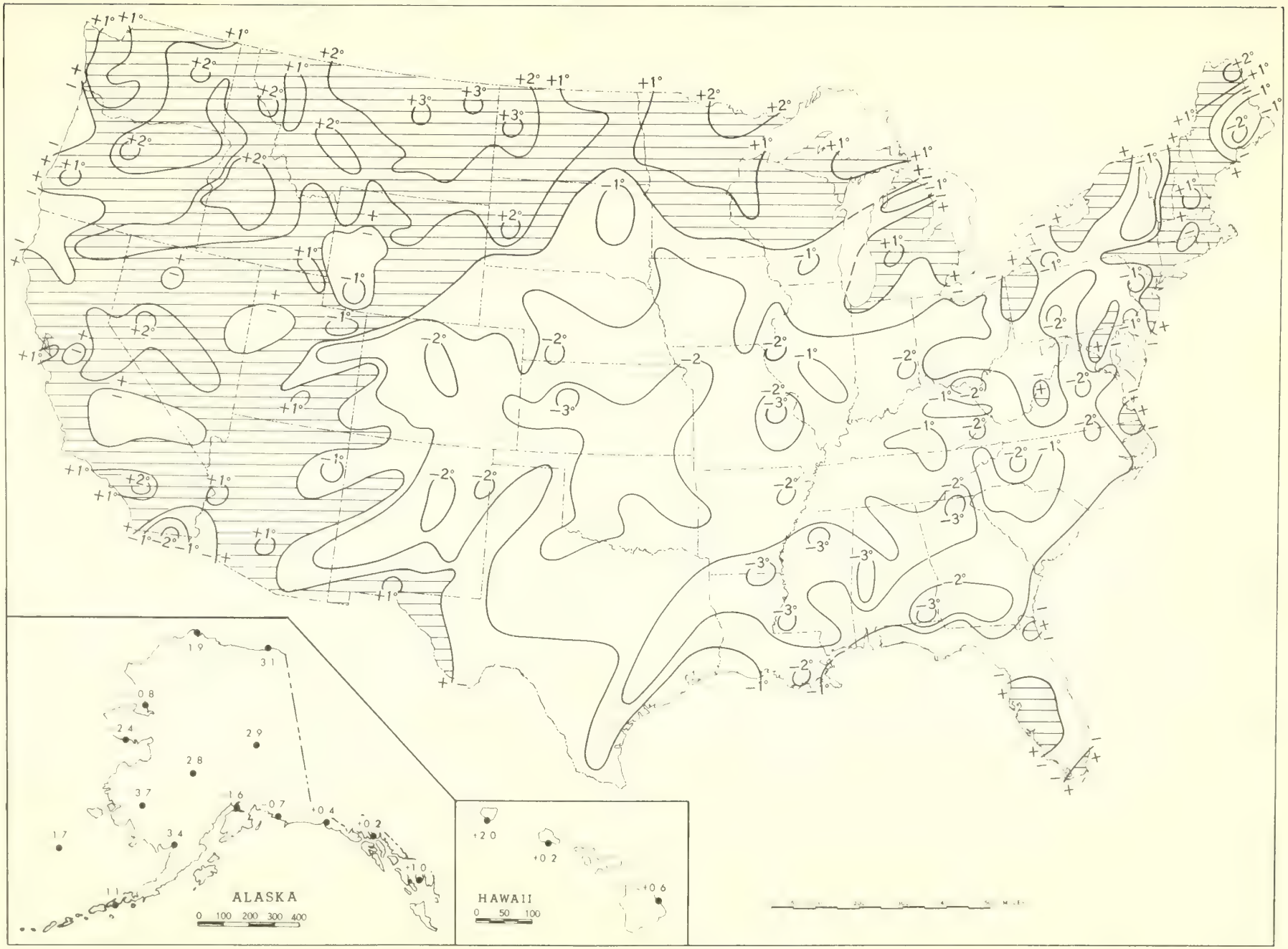


Chart II. Total Annual Precipitation (Inches), 1961.

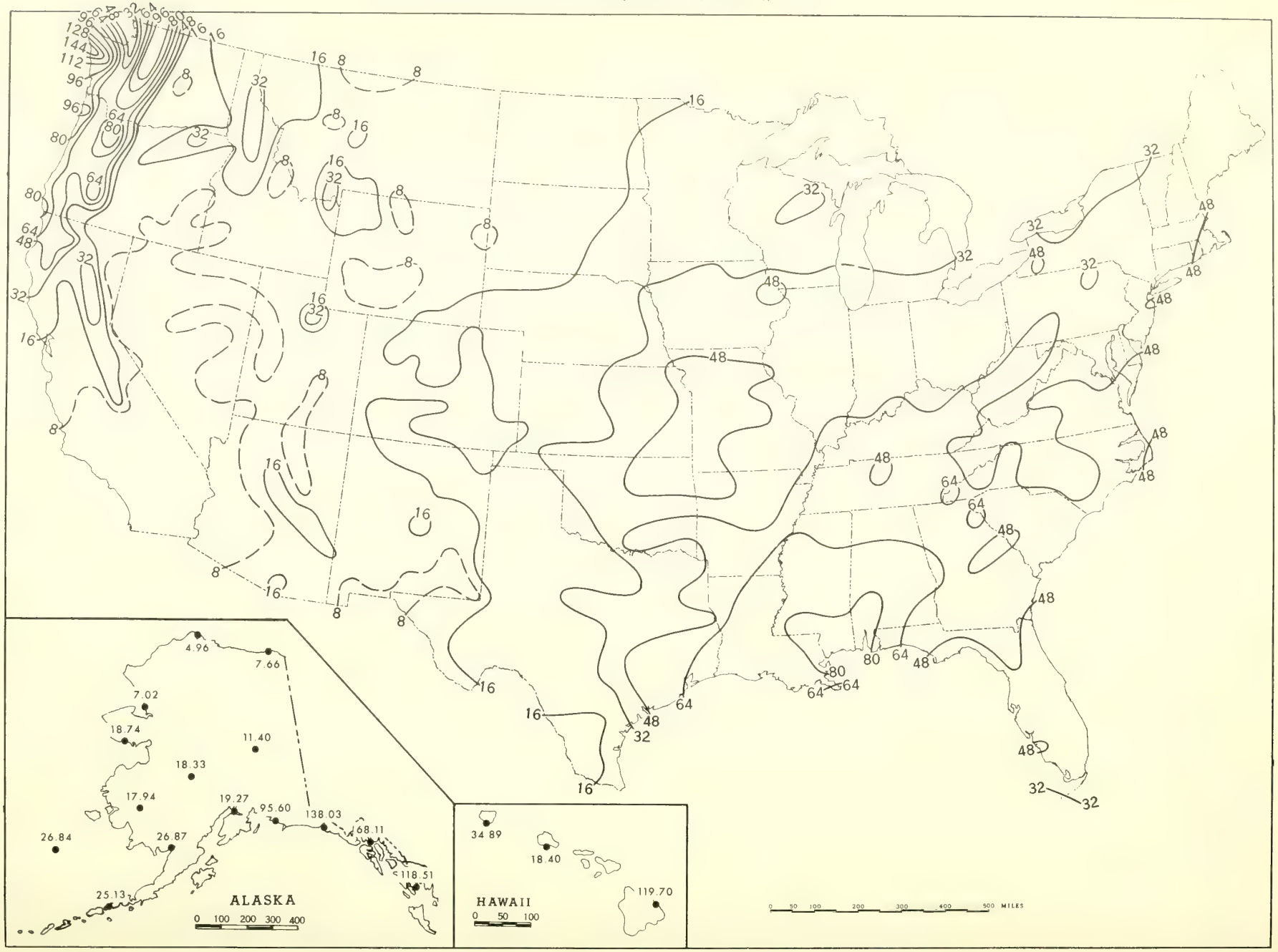


Chart III. Percentage of Normal Annual Precipitation, 1961.

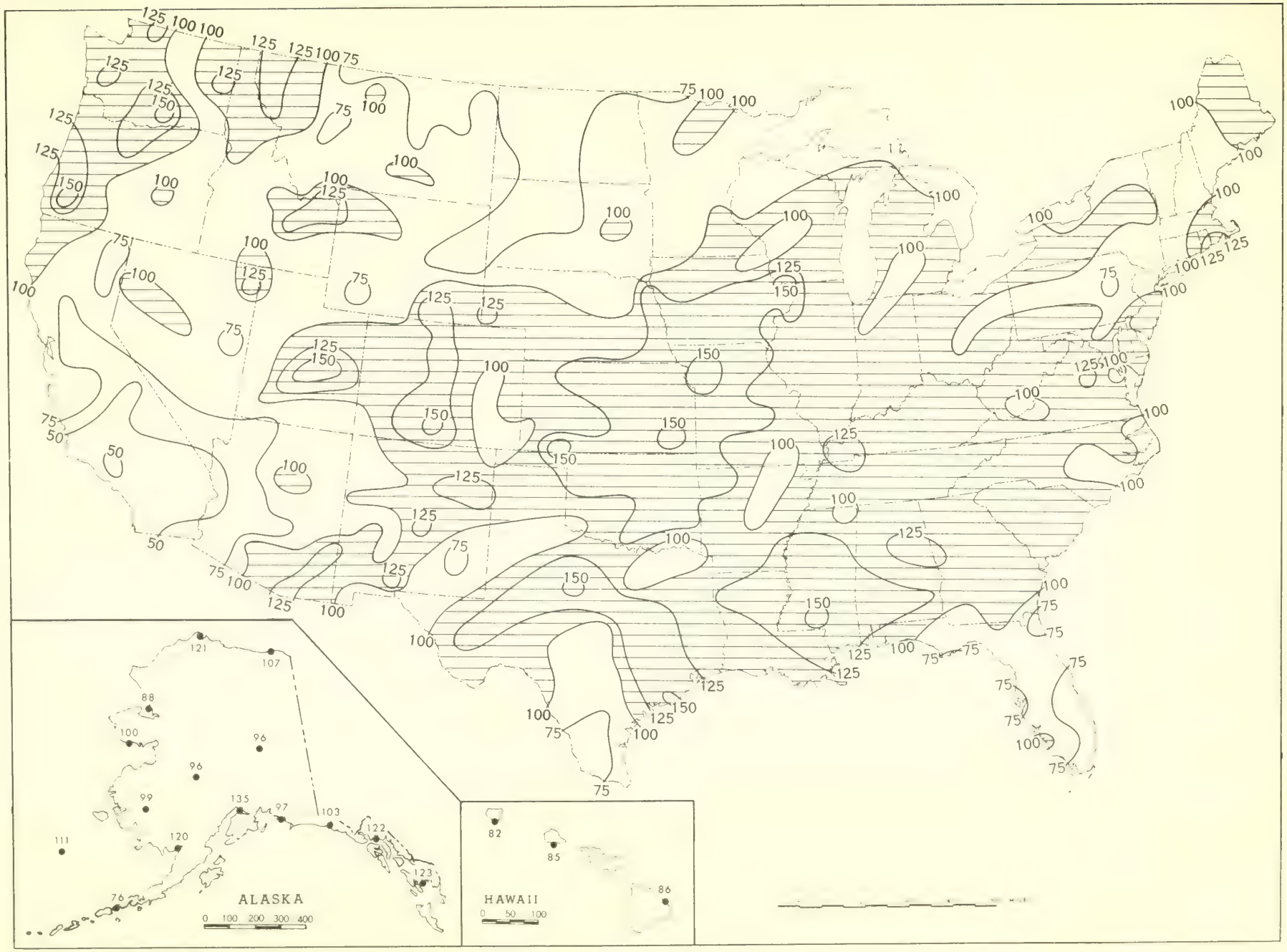


Chart IV.

TRACKS OF TORNADOES, 1961

USCOMM-WB-Asheville - 6/26/62 - 2125